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# TABLES

OF

# LIFETIMES, ANNUITIES, AND PREMIUMS.

# ENGLISH LIFE TABLE.

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# TABLES

OF

# LIFETIMES, ANNUITIES, AND PREMIUMS.

WITH

AN INTRODUCTION

BY

**WILLIAM FARR, M.D., F.R.S., D.C.L.**

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# LETTER to the REGISTRAR GENERAL.

SIR,

I BEG to lay before you some observations on the new English Life Table, which has been calculated at this office, from the returns of two Censuses, and 6,470,720 deaths registered in 17 years.

The Tables are so constructed as to show the value of annuities on the life of a male or of a female; and on *two lives*,—namely, two males; two females; one male and one female,—at all the various combinations of age.

From the given logarithms of all the combinations of $D_{x,\,y,}$ and the logarithms of $l_x$ and $l_{y,}$ the values of annuities and insurances on three lives, or on any number of lives, of various ages, are readily deducible.

Several of the series were calculated by Scheutz's machine, which, at your instance, Her Majesty's Government purchased*; and thus encouraged the inventors, while it gave us an opportunity of testing its working powers in England, where Mr. Babbage explained the principles, and first demonstrated the practicability of performing certain calculations, and printing the results by machinery.

These Tables will, I trust, be found useful in exhibiting the probabilities of English life; and the values of money depending upon its duration under a great variety of circumstances. They are particularly applicable to Life Insurance, and may be used by liberal companies with confidence.

The public can also learn the mathematical values of sums insured, and the premiums for which they can be provided; due additions being allowed for expenses of management, and for contingencies.

The various assets and liabilities of Insurance Companies can be valued satisfactorily by the general and subsidiary Tables.

I have the honour to be,
Sir,
Your obedient Servant,
W. FARR.

1864.

---

* The machine at the General Register Office was manufactured by the Messrs. Donkin.

## PART I.—CONSTRUCTION OF THE ENGLISH LIFE TABLE No. 3.

This Life Table is based upon the observed *rates of mortality* at different ages in England and Wales.

### *The Annual Rate of Mortality.*

The rate of mortality—or, in a technical sense, the mortality—expresses the ratio between three elements : (1) men living ; (2) time ; and (3) men dying.

The men living, and the *time expressed in years*, multiplied into each other, produce the years of life with which the deaths are compared. A *year of life* is the lifetime unit. It is represented by one person living through a year. Any number of persons living, one at a time, *in continuous succession* through a year, yield also one year of life. There are 525,949 minutes in a year; and 525,949 persons living through one minute also enjoy *one year* of life.

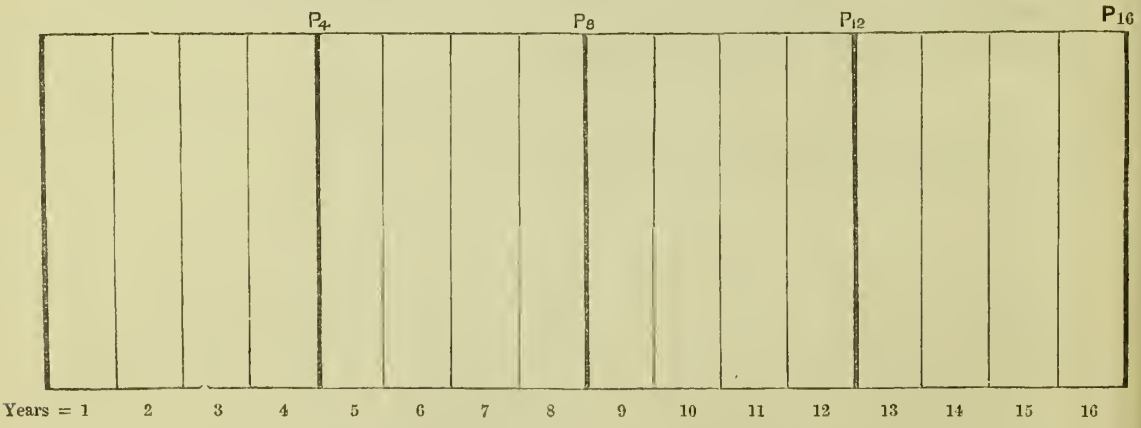
The years of life are determined by enumerating the population at certain points of time, and thence deducing the numbers living through the time.

The following four cases may be distinguished :—

1. The population is known or is assumed to be *stationary*. Thus a population of *ten thousand* living through *two years*, yields *twenty thousand years of life* Let the population be P, and the years of life $y$ ; then in $x$ *years*, $y = x$P in all these cases. Here $x$ may be an integer or a fraction.

2. The population increases by equal numbers in equal times ; that is, it increases in *arithmetical progression*. If the population is 4,000 at the beginning,

DIAGRAM 1.—Stationary Population.

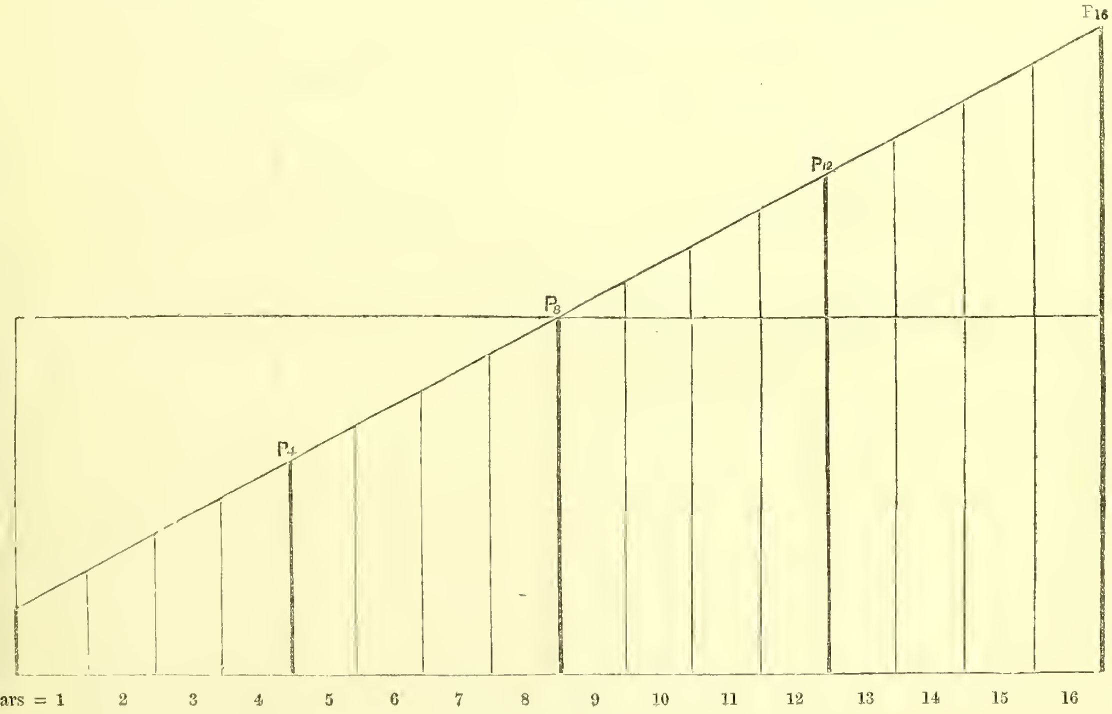


Represents a stationary population by the vertical lines, which remain of the same length. Population stationary $= P_0 = 5{\cdot}41$, and $n = 16$ : so $5{\cdot}41 \times 16 = 86{\cdot}56$ years of life $= y_n$.

and 6,000 at the end of a period, the mean population will be the sum of these numbers divided by 2, that is, 5,000; which will also be the population in the middle of the period. 5,000 multiplied by the intervening years gives the years of life. Thus if $P_0$ is the population at the beginning, and $P_x$ the population at the end of $x$ years; $r = \frac{P_x - P_0}{x} =$ *annual* increase; for the increase ($r$) is equal in equal times by hypothesis. The population at the end of any time is $P_x = P_0 + rx$. And $dy = P_0\,dx + rx\,dx$ is the differential of the lifetime, from which we have by integration $y_x = x\,P_0 + r\,\frac{x^2}{2} =$ the years of life = the population in the middle of the period $P_0 + r\,\frac{x}{2}$ multiplied by the years $x$ over which the observation extends.

3. If the population fluctuates much, and frequent enumerations are made, the mean of each successive couple of enumerations, multiplied by the time, expressed in years and fractions of a year, will give nearly the years of life. When the numbers at the beginning and at $n$ equal intervals of time are ascertained, the half of the extremes added to the intermediate terms makes a sum which, divided by one less than the number ($n + 1$) of enumerations, gives the mean population,

DIAGRAM 2.—POPULATION increasing in ARITHMETICAL PROGRESSION.



Represents a population increasing in arithmetical progression.

Mean of population at beginning and end of period, $\frac{(1 + 9{\cdot}82)}{2} = 5{\cdot}41$ = population in middle of period, and $5{\cdot}41 \times 16 = 86{\cdot}56$ years of life $= y_n$.

Annual increase, 0·55.

So $y_x = \frac{x}{n} (\frac{1}{2} P_0 + P_1 + P_2 \ldots + \frac{1}{2} P_n)$ = years of life. Or, by Simpson's rule,

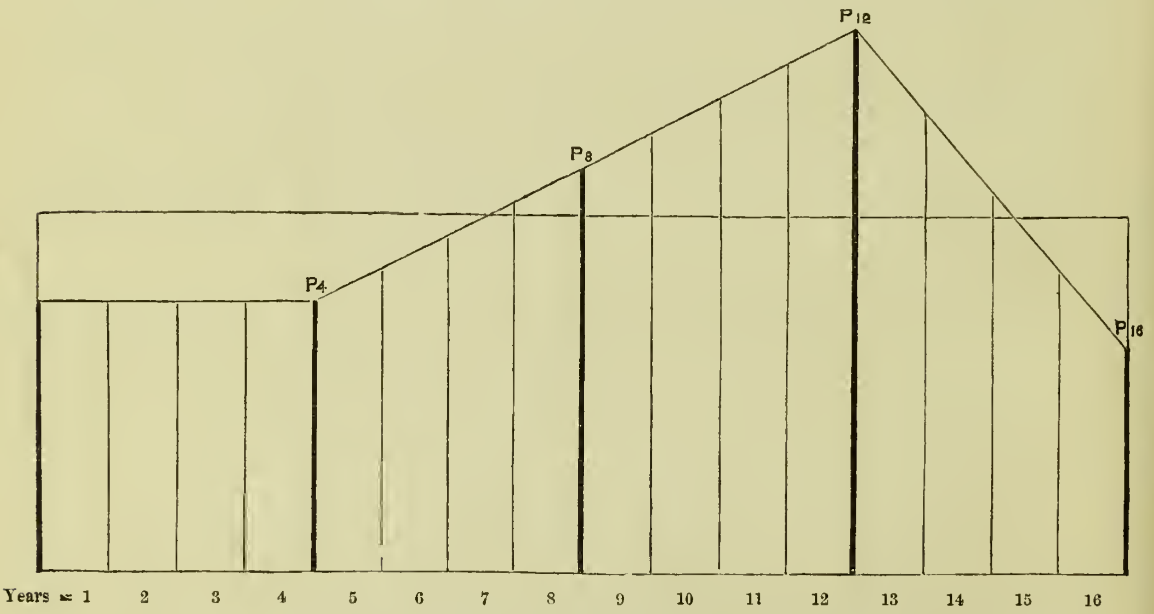
$$y_x = \frac{x}{3n} \left\{ P_0 + 4 (P_1 + P_3 + P_5 \ldots\ldots) + 2 (P_2 + P_4 + P_6 \ldots\ldots) + P_n \right\};$$

$x$ being the time in years.

4. The population of a country naturally increases in equal proportions in equal times, or in geometrical progression; for this is a necessary result if the increase also increases. Thus, let a population represented by 1 become $1 + i$ in the first year; then $1 : 1 + i :: 1 + i : (1 + i)(1 + i) = 1 + 2i + i^2$. Thus the increment of $(1 + i)$ is $i + i^2$; the $i$ growing out of the population represented by 1, and $i^2$ growing out of the population represented by $i$. The population in two successive equal intervals of time will be in the ratio $1 : 1 + i : 1 + 2i + i^2$; and the arithmetical mean of the first term and the third term $= 1 + i + \frac{i^2}{2}$; which in a short time, or when $i$ is a small fraction, differs inappreciably from the middle term $(1 + i)$, for the $\frac{i^2}{2}$ may be neglected. And so it is if the mean of several terms is taken. The result, therefore, in such cases, differs little from the result which is obtained under the second head.

The population increases naturally, so that if the lines representing it are drawn at short equal intervals, they will touch a regular curve. Thus, let the population

DIAGRAM 3.—FLUCTUATING POPULATION.



Represents a fluctuating population, found to be 4, 4, 6, 8, and 3·28 at five equidistant enumerations.

Here the mean population $= \frac{(\frac{4}{2} + 4 + 6 + 8 + \frac{3 \cdot 28}{2})}{4} = \frac{(21 \cdot 64)}{4} = 5 \cdot 41$ = mean population, and $5 \cdot 41 \times 16 = 86 \cdot 56$ years of life $= y_n$.

be conceived as standing on a straight line at the beginning of the year, and passing at a uniform rate through the year; as the population is increasing incessantly, its line of march will be constantly extending; then, if the ground that it passes over in the first year be represented by the area marked 1 year in the diagram, the ground that it passes over, at the same rate of progress, in the second year will

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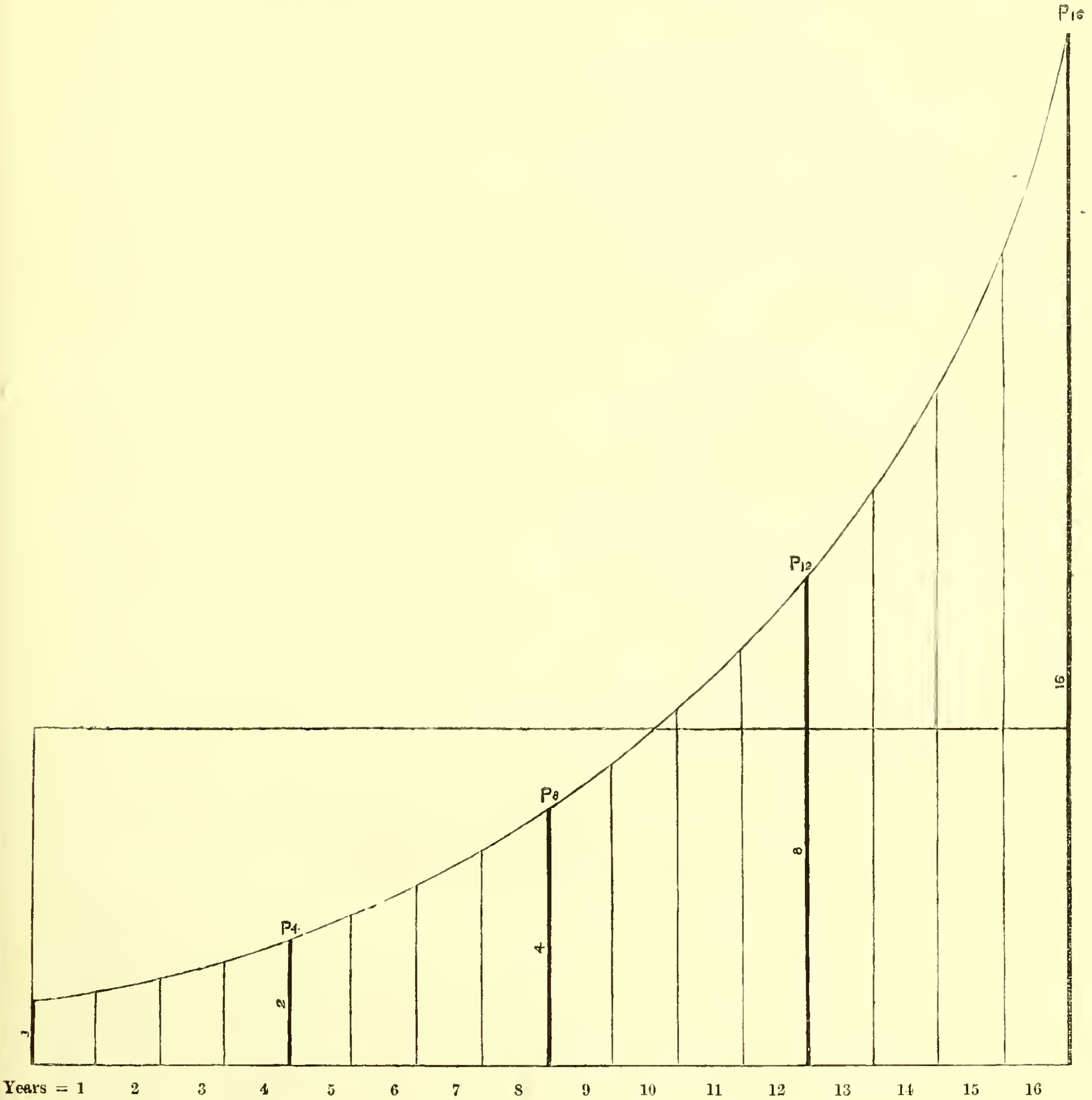
DIAGRAM 4.—POPULATION increasing in GEOMETRICAL PROGRESSION.



The vertical lines (*ordinates*) represent a population increasing in the same proportion in the same time, or in geometrical progression; the base line (*abscissa*) represents the flowing time; the space enclosed by the lines represents the lifetime.

$P_x$ = population in each year.

$n$ = 16 years during which the deaths in the population have been recorded.

$y_n$ = 86·56 = years of life represented by area.

Annual rate of increase, 18·92 per cent. $r = 1 + i = 1 + \cdot 1892$; and $P_0 = 1$; $P_4 = 2$; $P_{16} = 16$.

be represented by the area marked 2 years; and so, as the line of march extends, the covered area will increase every year. The ordinate represents the *population*; the base line—abscissa—represents the *time* in years; the area represents the *years of life*. Put the population $y = P_0\, r^x$ at any given moment; then in the next moment it will be $y + dy$, where $dy$ represents the increase of $y$ in the infinitely short time $dx$; and the mean of these two quantities $y = \frac{2\,y + dy}{2} = y + \frac{dy}{2}$, which, multiplied by the interval of time $(dx)$ is $= ydx + dy\, dx$; or passing to the limit $= ydx$, which is, as we know, $= P_0\, r^x\, dx$. Such is the amount of lifetime generated in an instant, and represented by the extension of area of which it is the differential. The sum of all the years of lifetime enjoyed in the $x$ years is given by the definite integral $y_x = P_0 \int_0^x r^x\, dx = \frac{k\ P_0}{\lambda\ r}\,(r^x - 1) =$ the years of life: $r = 1 + i$, being the assumed ratio of increase, $\lambda\ r$ its logarithm, $k$ the modulus of the common logarithm, $P_0$ the population at the beginning of the period, and $x$ the time in years.

$$\lambda\, y_x = \lambda\, P_0 + \lambda\, k + \kappa\, (\lambda\, r) + \lambda\, (r^x - 1)$$

$$\lambda\, y_{17} = \lambda\, P_0 + \lambda\, k + \kappa\, (\lambda\, r) + \lambda\, (r^{17} - 1)$$

Here in the expression $\kappa\ (\lambda\ r)$, the quantity $(\lambda\ r)$ is treated as a number, and $\kappa\ (\lambda\ r)$ is the complement of the logarithm of that number. In dealing with the English population—determined for the middle of the years 1841 and 1851 from two enumerations—the population was carried back to the beginning of the year 1838 by the formula; $P_0 = \lambda\ P_{3\frac{1}{2}} - 3\frac{1}{2}\ \lambda\ r$. Here $P_0$ is the population at the beginning of 1838; $\lambda\ r$ is the logarithm of the rate of increase deduced from $P_{41}$ the population of 1841, and $P_{51}$ the population of 1851; thus $\lambda\ r = \frac{\lambda\ P_{51} - \lambda\ P_{41}}{10}$; and $P_{3\frac{1}{2}}$ stands for the population of 1841. The years of lifetime enjoyed by males and females during the 17 years 1838 to 1854 were deduced separately for each of twelve ages by the formula.

TABLE I.—POPULATION of ENGLAND and WALES estimated to the Middle of the Years 1841 and 1851.

| AGES. | PERSONS. | | MALES. | | FEMALES. | |
|---|---|---|---|---|---|---|
| | 1841. | 1851. | 1841. | 1851. | 1841. | 1851. |
| All Ages - | 15,929,492 | 17,982,849 | 7,784,883 | 8,808,662 | 8,144,609 | 9,174,187 |
| 0 – | 2,107,008 | 2,355,345 | 1,048,270 | 1,180,430 | 1,058,738 | 1,174,915 |
| 5 – | 1,865,856 | 2,098,808 | 953,235 | 1,053,510 | 912,621 | 1,045,298 |
| 10 – | 1,772,913 | 1,919,255 | 880,567 | 967,007 | 892,346 | 952,248 |
| 15 – | 3,145,541 | 3,418,488 | 1,511,602 | 1,671,634 | 1,633,939 | 1,746,854 |
| 25 – | 2,450,322 | 2,740,919 | 1,174,473 | 1,323,621 | 1,275,849 | 1,417,298 |
| 35 – | 1,778,737 | 2,089,629 | 875,874 | 1,017,018 | 902,863 | 1,072,611 |
| 45 – | 1,270,178 | 1,516,324 | 617,113 | 734,314 | 653,065 | 782,010 |
| 55 – | 832,692 | 1,010,973 | 399,490 | 482,788 | 433,202 | 528,185 |
| 65 – | 483,593 | 579,187 | 224,310 | 268,052 | 259,283 | 311,135 |
| 75 – | 190,443 | 220,618 | 86,736 | 97,008 | 103,707 | 123,610 |
| 85 – | 30,541 | 31,754 | 12,635 | 12,745 | 17,906 | 19,009 |
| 95 and upwards | 1,668 | 1,549 | 578 | 535 | 1,090 | 1,014 |

**Note.**—The Ages are read thus: 0 and under 5, 5 and under 10, 10 and under 15, &c.

The number $\frac{y_x}{x} = P_0 =$ the stationary population, which in $x$ years would enjoy the years of life $y_x$. It is evident from the nature of the curve that $\frac{y_x}{x}$ represents the mean length of an infinite number of ordinates, drawn at equidistant points of the abscissa, and that while it is less than the arithmetical mean of the first and last ordinates of the series, it is greater than the geometrical mean proportional, that is, greater than the middle ordinate; so that the true mean population, which multiplied by $n$ is equal to the years of life, is less than the mean of the populations living at the beginning and end; more than the population living in the middle, of the period.

The division of the average annual deaths by the arithmetical mean population of the extremes, understates the mortality $\left(\frac{d}{P} = m\right)$, which varies inversely as the

---

TABLE II.—DEATHS registered in ENGLAND and WALES in the 17 Years 1838–54.

| AGES. | PERSONS. | MALES. | FEMALES. |
|---|---|---|---|
| All Ages - | 6,470,720 | 3,283,255 | 3,187,465 |
| 0– | 2,555,659 | 1,373,318 | 1,182,341 |
| 5– | 308,596 | 157,004 | 151,592 |
| 10– | 165,477 | 81,111 | 84,366 |
| 15– | 467,406 | 222,420 | 244,986 |
| 25– | 453,575 | 212,063 | 241,512 |
| 35– | 419,699 | 206,424 | 213,275 |
| 45– | 406,171 | 212,644 | 193,527 |
| 55– | 468,814 | 238,699 | 230,115 |
| 65– | 570,736 | 279,894 | 290,842 |
| 75– | 490,078 | 230,486 | 259,592 |
| 85– | 152,614 | 65,027 | 87,587 |
| 95 and upwards | 11,895 | 4,165 | 7,730 |

TABLE III.—ENGLAND and WALES. LOGARITHMS of (1) YEARS OF LIFE, (2) DEATHS, and (3) AVERAGE ANNUAL RATE OF MORTALITY of MALES and FEMALES AT DIFFERENT AGES in the 17 Years 1838–54.

| **Ages.** | LOGARITHMS of the YEARS of LIFE. | | LOGARITHMS of the DEATHS. | | LOGARITHMS of the AVERAGE ANNUAL RATE of MORTALITY. | |
|---|---|---|---|---|---|---|
| | $\lambda y_x$ | | $\lambda\, 17 d_x$ | | $\lambda m$ | |
| | MALES. | FEMALES. | MALES. | FEMALES. | MALES. | FEMALES. |
| 0– | 7·2774449 | 7·2784078 | 6·1377714 | 6·0727429 | $\bar{2}$·8603265 | $\bar{2}$·7943351 |
| 5– | 7·2318934 | 7·2211795 | 5·1959109 | 5·1806772 | $\bar{3}$·9640175 | $\bar{3}$·9594977 |
| 10– | 7·1960112 | 7·1952993 | 4·9090815 | 4·9261659 | $\bar{3}$·7130703 | $\bar{3}$·7308666 |
| 15– | 7·4322693 | 7·4584160 | 5·3471730 | 5·3891406 | $\bar{3}$·9149037 | $\bar{3}$·9307246 |
| 25– | 7·3270081 | 7·3596600 | 5·3264641 | 5·3829390 | $\bar{3}$·9994560 | $\bar{2}$·0232790 |
| 35– | 7·2064960 | 7·2250316 | 5·3147606 | 5·3289395 | $\bar{2}$·1082646 | $\bar{2}$·1039079 |
| 45– | 7·0601560 | 7·0862257 | 5·3276527 | 5·2867423 | $\bar{2}$·2674967 | $\bar{2}$·2005166 |
| 55– | 6·8749504 | 6·9122425 | 5·3778498 | 5·3619458 | $\bar{2}$·5028994 | $\bar{2}$·4497033 |
| 65– | 6·6216404 | 6·6855482 | 5·4469936 | 5·4636567 | $\bar{2}$·8253532 | $\bar{2}$·7781085 |
| 75– | 6·1936129 | 6·2859938 | 5·3626444 | 5·4142921 | $\bar{1}$·1690315 | $\bar{1}$·1282983 |
| 85– | 5·3340032 | 5·4965965 | 4·8130919 | 4·9424389 | $\bar{1}$·4790887 | $\bar{1}$·4458424 |
| 95 and upwards | 3·9759058 | 4·2524671 | 3·6196607 | 3·8881772 | $\bar{1}$·6437549 | $\bar{1}$·6357101 |

population. For the same reason the division by the population living in the middle of the period overstates the mortality. The shorter the period the less is the error; indeed the two values approximate indefinitely as the period is shortened, and as the ratio ($r$) recedes to unity. Either divisor may be employed where great precision is unattainable, or is not required.

The mean population existing at the two points equidistant from the two extremes—in 1841 and in 1851—is near the true mean population living through the 17 years 1838–54. By taking these years the error in the years of life is reduced to a minimum.

Thus the mean population of the age 15–25 was by the different methods:—

MALES:—

$\frac{y_{17}}{17} = 1{,}591{,}550 =$ true mean population, on the hypothesis that the population increased in geometrical progression at a uniform rate.

$\frac{P_{41} + P_{51}}{2} = 1{,}591{,}618 =$ arithmetical mean of the population living in 1841 and 1851.

$\frac{P_0 + P_{17}}{2} = 1{,}595{,}424 =$ arithmetical mean of the population living at the beginning and end of the 17 years.

$r^{8\frac{1}{2}} P_0 = 1{,}589{,}606 =$ population living in the middle of the period.

The annual rate of mortality is determined for the several periods of life by dividing the deaths at each age by the contemporaneous years of life out of which they occur. If P represents the years of life enjoyed by men of the age 20 and under 30, and $d$ the corresponding deaths, then $\frac{d}{P} = m =$ the annual rate of mortality among the men of that age. $100\,m =$ the annual rate *per cent.*

TABLE IV.—AVERAGE ANNUAL RATE of MORTALITY in ENGLAND and WALES in the 17 Years 1838–54.

| AGES. | PERSONS. | MALES. | FEMALES. |
|---|---|---|---|
| All Ages - | ·02245 | ·02328 | ·02165 |
| 0– | ·06738 | ·07250 | ·06228 |
| 5– | ·00916 | ·00920 | ·00911 |
| 10– | ·00527 | ·00517 | ·00538 |
| 15– | ·00838 | ·00822 | ·00853 |
| 25– | ·01028 | ·00999 | ·01055 |
| 35– | ·01277 | ·01283 | ·01270 |
| 45– | ·01715 | ·01851 | ·01587 |
| 55– | ·02992 | ·03183 | ·02816 |
| 65– | ·06319 | ·06689 | ·05999 |
| 75– | ·14027 | ·14758 | ·13437 |
| 85– | ·28820 | ·30136 | ·27915 |
| 95 and upwards | ·43501 | ·44031 | ·43223 |

The rate of mortality at each age is thus deduced from the deaths registered at that age, and from the population of corresponding ages enumerated at the Censuses. Now it is generally admitted that the ages of a certain number of women are understated; and I had to consider what correction was necessary upon this ground.

The probable extent of the error in the statements of women's ages it was shown, in the Census Report for 1851, is not considerable; but as the effect of the error is not always understood, some explanation is necessary.

The English Life Table is not deduced from the population or from the deaths alone, but from the ratio the one bears to the other at different ages; and to display the effect of transfers from one age to the other, assume that the following numbers represent the exact numbers living and dying at the three ages 25, 35, and 45.

| Age. | Females. | | Annual Rate of Mortality. |
|---|---|---|---|
| | Living. | Dying in a Year. | |
| $(x)$ | $P_x$. | $d_x$. | $m_x$. |
| 25 | 313,095 | 3,024 | ·00966 |
| 35 | 281,506 | 3,279 | ·01165 |
| 45 | 247,434 | 3,555 | ·01437 |

The mortality, it will be observed, increases as age advances; so that if all the women of 35 were returned as ten years younger than they are, the mortality at the

---

TABLE V.—ANNUAL DECREMENTS in the first 5 Years of Life.

| — | BIRTHS.* | | — |
|---|---|---|---|
| | MALES. | FEMALES. | |
| 17 Years.<br>1837½–53½ | 4,973,401 | 4,745,485 | 17 Years.<br>1837½–53½ |
| AGES. | DEATHS. | | YEARS. |
| Years. | | | |
| 0–1 | 813,626 | 639,276 | 1838–54 |
| 1–2 | 267,463 | 254,246 | 1839–55 |
| 2–3 | 138,151 | 136,290 | 1840–56 |
| 3–4 | 89,534 | 89,834 | 1841–57 |
| 4–5 | 65,301 | 64,110 | 1842–58 |

* Corrected for estimated Number of Births unregistered.

**Note.**—The Deaths are the successive annual decrements of the Births of which the Number is given in the first line of figures in the Table, which may be read thus—Out of 4,973,401 boys born at the same time, 813,626 die in the first year of life, 267,463 in the second, and so on. From these facts the survivors over each of the 1st, 2d, 3d, 4th, and 5th years of life were calculated as given in the Male Life Table. These results were compared with those deducible from the mortality rate at age 0–5.

age 25 would be overstated; the excess being $\cdot 00199$. But there is less chance of women of 35 at death being returned as 25 than there is of their being so returned at the Census; and the corrective effect of this excess in the proportion of women at the Census transferred to the earlier ages is apparent, on inspection of the formulas below. $d$ represents the deaths, P the population, $m$ the mortality, and $r^{10}$ the increase of the rate of mortality between the ages 25 and 35. Thus $\frac{d_{25}}{P_{25}} = m_{25}$; $\frac{d_{35}}{P_{35}} = r^{10} m_{25}$ $\therefore$ $\frac{d_{35}}{r^{10} P_{35}} = m_{25} = \frac{r^{-2} d_{35}}{r^{8} P_{35}} = m_{25}$. It is evident that an increase in the population and a decrease in the relative deaths transferred from 35 to 25 might reduce the error to insignificance. From the numbers living at several periods of age a series representing the numbers living at each year of age was obtained by the method of finite differences; and from these numbers again the living at the ages 25–35, 35–45, . . . . . were obtained. The residuary errors affecting the values $m_x$ are, it is believed, inconsiderable.*

Upon comparing the female rates of mortality with those of males, and the rates of progression in the mortality of the two sexes, I have come to the conclusion, after carefully weighing the facts, that this correction is adequate; that the rates of mortality represent very nearly the mortality of the female population; and that the probabilities of female life, deducible from the mortality, are substantively true.

The rates of female mortality are in singular accordance with those deducible from observations on males; the mortality of females being slightly higher at the ages 10 to 35 than the mortality of males at home in England.

TABLE VI.—DEATHS registered in ENGLAND and WALES in the 17 Years 1838–54, under One Year of Age.

| AGES. | PERSONS. | MALES. | FEMALES. |
|---|---|---|---|
| Months.<br>0– | 451,952 | 260,333 | 191,619 |
| 1– | 167,118 | 93,688 | 73,430 |
| 2– | 118,363 | 65,679 | 52,684 |
| 0–3 | 737,433 | 419,700 | 317,733 |
| 3–6 | 278,763 | 155,124 | 123,639 |
| 6–12 | 436,706 | 238,802 | 197,904 |
| TOTAL under One Year of Age - | 1,452,902 | 813,626 | 639,276 |

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* See Census Reports, 1851 and 1861.

### *The Probability of living a Year after any age x.*

Let $m$ = the annual rate of mortality at the precise age $x$. The mortality at the age 20 = $m$ is represented by the mortality ruling from the age $19\frac{1}{2}$ to $20\frac{1}{2}$. Put $r$ = the rate at which the *rate of mortality increases* or decreases, then $\lambda\, p_x = \frac{k^2 m}{\lambda\, r}(1 - r)$. Here $k$ is the modulus of the common logarithm; and $\lambda\, r$ is the common logarithm of $r$; while $p_x$ is the probability of living a year after the age $x$, and $\lambda\, p_x$ is its common logarithm; $\kappa\, (\lambda\, r)$ is the complement of the

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TABLE VII.—LIFE TABLE for EACH MONTH of the FIRST YEAR of Age.

| **Age.** | **Living** at 0 and at the end of each Month of Age. | | | **Deaths** in each Month of Age. | | |
|---|---|---|---|---|---|---|
| | $l_{\frac{x}{12}}$ | | | $d_{\frac{x}{12}}$ | | |
| $x$ (Months.) | PERSONS. | MALES. | FEMALES. | PERSONS. | MALES. | FEMALES. |
| 0 | 1,000,000 | 511,745 | 488,255 | 46,503 | 26,787 | 19,716 |
| 1 | 953,497 | 484,958 | 468,539 | 17,195 | 9,640 | 7,555 |
| 2 | 936,302 | 475,318 | 460,984 | 12,178 | 6,758 | 5,420 |
| 3 | 924,124 | 468,560 | 455,564 | 10,100 | 5,598 | 4,502 |
| 4 | 914,024 | 462,962 | 451,062 | 9,550 | 5,320 | 4,230 |
| 5 | 904,474 | 457,642 | 446,832 | 9,033 | 5,044 | 3,989 |
| 6 | 895,441 | 452,598 | 442,843 | 8,547 | 4,771 | 3,776 |
| 7 | 886,894 | 447,827 | 439,067 | 8,087 | 4,498 | 3,589 |
| 8 | 878,807 | 443,329 | 435,478 | 7,657 | 4,229 | 3,428 |
| 9 | 871,150 | 439,100 | 432,050 | 7,253 | 3,959 | 3,294 |
| 10 | 863,897 | 435,141 | 428,756 | 6,872 | 3,691 | 3,181 |
| 11 | 857,025 | 431,450 | 425,575 | 6,518 | 3,424 | 3,094 |
| 12 | 850,507 | 428,026 | 422,481 | — | — | — |

This Table was calculated from the corrected Births (Table V.) and from the Deaths under 1 year of age (Table VI.) Of 1,000,000 Children born, 953,497 were living at the end of the first month of age, 46,503 having died in the interval, of whom 26,787 were Males and 19,716 were Females; 936,302 were living at the end of the second month, and the deaths in that month were 17,195, of whom 9,640 were Males and 7,555 were Females.

**Note.**—In determining the decrements of life in the *first year* for FEMALES two series of observations have been used.

The first series extends over 17 years (1838–54), and represents the deaths at three periods of age under 1 year; viz., 317,733 under 3 months, 123,639 at 3 and under 6 months, and 197,904 at 6 months and under 1 year.

In apportioning the deaths at 0 and under 1 month, 1 and under 2 months, and 2 and under 3 months for the Life Table, the 317,733 deaths under 3 months were proportionally distributed by means of the deaths in each of the first three months of age abstracted for 8 years (1839–46): the results obtained were 191,619 deaths at 0 – 1 month, 73,430 at 1 – 2 months, and 52,684 at 2 and under 3 months.

By subtracting the deaths (317,733, 123,639, and 197,904) thus obtained for the 17 years 1838–54 successively from the Total Births for the 17 years $1837\frac{1}{2}$–$1853\frac{1}{2}$ (= 4,745,485), the numbers living at 0 – 3, 3 – 6, 6 – 12, and 12 months are ascertained. The logarithms of these numbers living ($\lambda\, l_{\frac{3}{12}}$, $\lambda\, l_{\frac{6}{12}}$, $\lambda\, l_1$, and $\lambda\, l_{1\frac{1}{4}}$) were used to interpolate the numbers living at 9 months ($= \lambda\, l_{\frac{9}{12}}$); then starting with the basis of the Female Life Table ($\lambda = 5{\cdot}6886465$) at age 0, the numbers living ($l_x$) were obtained at 3, 6, and 9 months by applying the logarithms inserted in the Quarterly Life Table.

To obtain the deaths in each of the first three months of life, where the observations only extended over a period of 8 years (1839–46), the 317,733 deaths in the 17 years 1838–54 under 3 months of age have been proportionally distributed from the observations for the said 8 years, 1839–46, and subsequently by interpolation the numbers living at each month under 1 year of age were obtained.

The decrements of life in the *first year* for MALES were determined in a precisely similar manner.

logarithm of $(\lambda\ r)$. If the operation be by logarithms, $\lambda\ (\lambda\ p_x) = \lambda\ k^2 + \lambda\ m + \kappa\ (\lambda\ r) + \lambda\ (1-r) =$ the logarithm of $(\lambda\ p_x)$; from which the logarithm of $p_x$ and $p_x$ itself are immediately found.

Example.—*Females.*—Age 20 :—

$$\begin{aligned} \lambda\ k^2 &= \bar{1}\cdot2755686 \\ \lambda\ m_{20} &= \bar{3}\cdot9307246 \\ \kappa\ (\lambda\ r) &= 2\cdot0336048 \\ \lambda\ (1-r) &= \bar{2}\cdot3324385 \\ \hline \lambda\ (\lambda\ p_{20}) &= \bar{3}\cdot5723365 \\ \lambda\ p_{20} &= -\cdot0037354 = \bar{1}\cdot9962646, \text{ and } p_{20} = \cdot99144. \end{aligned}$$

In some cases the following formula is applicable:—$p_x = \dfrac{1 - \frac{1}{2}\ m}{1 + \frac{1}{2}\ m} = \dfrac{2 - m}{2 + m}$; and when the $m$ is a small quantity, the resulting $p_x$ is nearly identical with that obtained by the other method.

The values $p_0,\ p_1,\ p_2,\ p_3,\ p_4,$ were obtained from the deaths out of the births, and out of the numbers attaining the ages 1, 2, 3, 4.

The Table (VII.) shows the number of children surviving in each month of the first year.

Table VIII.—The several Values of $\lambda\ p_x$ on which the ENGLISH LIFE TABLE No. 3. is based; also the corresponding Values of $p_x$ and of $1-p_x$.

| Age | Logarithms of the Probability of Living One Year after the Age $x$. | | Probability of Living a Year. | | Probability of Dying in a Year. | |
|---|---|---|---|---|---|---|
| | $\lambda p_x$ | | $p_x$ | | $\mu_x = 1 - p_x$ | |
| $(x)$ | Males. | Females. | Males. | Females. | Males. | Females. |
| 0 | $\bar{1}\cdot9224164$ | $\bar{1}\cdot9371604$ | ·83640 | ·86529 | ·16360 | ·13471 |
| 1 | $\bar{1}\cdot9711377$ | $\bar{1}\cdot9722410$ | ·93570 | ·93808 | ·06430 | ·06192 |
| 2 | $\bar{1}\cdot9843053$ | $\bar{1}\cdot9843554$ | ·96451 | ·96462 | ·03549 | ·03538 |
| 3 | $\bar{1}\cdot9895169$ | $\bar{1}\cdot9893710$ | ·97615 | ·97582 | ·02385 | ·02418 |
| 4 | $\bar{1}\cdot9921913$ | $\bar{1}\cdot9922523$ | ·98218 | ·98232 | ·01782 | ·01768 |
| 7 | $\bar{1}\cdot9960044$ | $\bar{1}\cdot9960392$ | ·99084 | ·99092 | ·00916 | ·00908 |
| 12 | $\bar{1}\cdot9979241$ | $\bar{1}\cdot9977764$ | ·99523 | ·99489 | ·00477 | ·00511 |
| 20 | $\bar{1}\cdot9963874$ | $\bar{1}\cdot9962646$ | ·99172 | ·99144 | ·00828 | ·00856 |
| 30 | $\bar{1}\cdot9956026$ | $\bar{1}\cdot9953847$ | ·98993 | ·98943 | ·01007 | ·01057 |
| 40 | $\bar{1}\cdot9943309$ | $\bar{1}\cdot9944199$ | ·98703 | ·98723 | ·01297 | ·01277 |
| 50 | $\bar{1}\cdot9917376$ | $\bar{1}\cdot9929018$ | ·98116 | ·98379 | ·01884 | ·01621 |
| 60 | $\bar{1}\cdot9856433$ | $\bar{1}\cdot9872859$ | ·96748 | ·97115 | ·03252 | ·02885 |
| 70 | $\bar{1}\cdot9697520$ | $\bar{1}\cdot9728573$ | ·93272 | ·93941 | ·06728 | ·06059 |
| 80 | $\bar{1}\cdot9335660$ | $\bar{1}\cdot9394234$ | ·85816 | ·86981 | ·14184 | ·13019 |
| 90 | $\bar{1}\cdot8667581$ | $\bar{1}\cdot8760443$ | ·73580 | ·75170 | ·26420 | ·24830 |

**Note.**—Age $x$ is in this Table the precise age. Age 12 is applied frequently to all persons of the age of 12 and under the age of 13; but in this Table it applies only to persons of the precise age of 12 years, neither more nor less. The $\lambda p_7$ was in both cases derived from the formula $\left(\frac{2-m}{2+m}\right)$. The $\lambda p_{12}$, deduced from this formula, is for males $\bar{1}\cdot9989608$, and for females $\bar{1}\cdot9988868$; which may be regarded either as the constant or the mean values of $\lambda p_{10}$, $\lambda p_{11}$, $\lambda p_{12}$, $\lambda p_{13}$, and $\lambda p_{14}$; but as these are the terminations of an ascending and a descending series, it is probable, and quite in conformity with other observations, that one, two, or more of these values will exceed the mean value. The logarithms of $p_{12}$ adopted are given above. The mean yearly deaths at the ages 10–15 in England, as returned in the Registrar General's First Annual Report (p. 53) for the year 1837–8, are, for Males 837·6, and for Females 899·2. The deaths at age 13 of Males are 774; the mean deaths at ages 11 to 13 of Females are 855. The mortality at the precise age $12\frac{1}{2}$ (10–15) of Males has therefore been reduced in the proportion of $\frac{774}{837\cdot6}$, and the Females in the proportion of $\frac{855}{899\cdot2}$; and the correction resulting brings the $\lambda p_{12}$ for Males to $\bar{1}\cdot9979241$, and for Females to $\bar{1}\cdot9977764$.

The values of $\lambda p_{20}$, $\lambda p_{30}$ .... are derived from the formula $y_x = 10^{\frac{k2m}{\lambda r}(1-r^x)}$, by making $x = 1$.

## *Interpolation.*

When the $\lambda\, p_x$ was calculated for the given ages, the intermediate values were interpolated. The following formulas were used; they are applicable even when the intervals between the given points of a curve are unequal.

To find the differences $\delta^1_0$, $\delta^2_0$, $\delta^3_0$, (the latter constant) for interpolating a series of $z+1$ terms, of which four consecutive terms are given, $u_0$, $u_x$, $u_y$, $u_z$, subtract the value of $u_0$ from each of the four terms. By this operation $u$ is reduced to zero, and may be rejected; while the differences of the terms remain unchanged. These new values may be used instead of the original ones. The following equations supply the first of each of the orders of differences:—

$$\delta^3 = \frac{6\left\{(y-x)\dfrac{u_z}{z} - (z-x)\dfrac{u_y}{y} + (z-y)\dfrac{u_x}{x}\right\}}{(y-x)\{(z-1)(z-2)-(y-1)(y-2)\}-(z-y)\{(y-1)(y-2)-(x-1)(x-2)\}}$$

$$\delta^2 = \frac{2}{y-x}\left\{\frac{u_y}{y} - \frac{u_x}{x} - \{(y-1)(y-2)-(x-1)(x-2)\}\frac{\delta^3}{6}\right\}$$

$$\delta^1 = \frac{u_x}{x} - (x-1)\frac{\delta^2}{2} - (x-1)(x-2)\frac{\delta^3}{6}$$

When the terms are equidistant $y = 2\,x$ and $z = 3\,x$; and by substituting these multiples of $x$ for $y$ and $z$ in the equations, the following equations of a simpler form are obtained:—

$$\delta^3 = \frac{u_{3x} - 3\,u_{2x} + 3\,y_x - u_0}{x^3}$$

$$\delta^2 = \frac{u_{2x} - 2\,u_x + u_0}{x^2} - (x-1)\,\delta^3$$

$$\delta^1 = \frac{u_x - u_0}{x} - (x-1)\frac{\delta^2}{2} - (x-1)(x-2)\frac{\delta^3}{6}.$$

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### TABLE IX.—TABLE of FACTORS of the form $(x-1)\,(x-2)$.

| $x$. | $(x-1)(x-2)$. | $x$. | $(x-1)(x-2)$. | $x$. | $(x-1)(x-2)$. | $x$. | $(x-1)(x-2)$. |
|---|---|---|---|---|---|---|---|
| 20 | 342 | 30 | 812 | 40 | 1482 | 50 | 2352 |
| 21 | 380 | 31 | 870 | 41 | 1560 | 51 | 2450 |
| 22 | 420 | 32 | 930 | 42 | 1640 | 52 | 2550 |
| 23 | 462 | 33 | 992 | 43 | 1722 | 53 | 2652 |
| 24 | 506 | 34 | 1056 | 44 | 1806 | 54 | 2756 |
| 25 | 552 | 35 | 1122 | 45 | 1892 | 55 | 2862 |
| 26 | 600 | 36 | 1190 | 46 | 1980 | 56 | 2970 |
| 27 | 650 | 37 | 1260 | 47 | 2070 | 57 | 3080 |
| 28 | 702 | 38 | 1332 | 48 | 2162 | 58 | 3192 |
| 29 | 756 | 39 | 1406 | 49 | 2256 | 59 | 3306 |

These factors can always be immediately obtained from a Table of Squares, for let $x = 21$, then $(x-1)(x-2) = 20^2 - 20 = 380$.

General Equation to find smaller differences ($\theta$) from greater ones ($\delta$). Intervals equal. Four orders.

(1.) Let $\delta^1_{u0}$, $\delta^2_{u0}$, $\delta^3_{u0}$, $\delta^4_{u0}$, be the differences when the interval from one term to another is unity (1).

(2.) And let $\theta^1_{u0}$, $\theta^2_{u0}$, $\theta^3_{u0}$, $\theta^4_{u0}$, be the differences when the interval from term to term is $\frac{1}{m}$, then these differences can be deduced from the others by means of the following equations :—

$$\theta^4 = \frac{\delta^4}{m^4}$$

$$\theta^3 = \frac{\delta^3}{m^3} - \frac{3}{2}\left(\frac{m-1}{m^4}\right)\delta^4$$

$$\theta^2 = \frac{\delta^2}{m^2} - \frac{m-1}{m^3}\delta^3 + \left(\frac{11\,m^2 - 18\,m + 7}{12\,m^4}\right)\delta^4$$

$$\theta^1 = \frac{\delta^1}{m} - \frac{m-1}{2\,m^2}\delta^2 + \left(\frac{2\,m^2 - 3\,m + 1}{6\,m^3}\right)\delta^3 - \left(\frac{6\,m^3 - 11\,m^2 + 6\,m - 1}{24\,m}\right)\delta^4.$$

## *Construction of the Column $l_x$.*

By making the logarithm of $p_x = (\lambda\ p_x)$ the first difference, the series $\lambda\ l_x$ is readily calculated by the method of finite differences. The values of the fundamental logarithms ($\lambda\ p^x$), as they are derived directly from the observations, will be found in the Table VIII. (page xxiv), and by the method of interpolation they occur unaltered, in their proper tabular position. The values of $\lambda\ l_x$ are most conveniently calculated, by dividing the series into five sub-series with four orders of differences; the first with three differences commencing at $l_0$, and the four others at $l_3$, $l_7$, $l_{20}$, and $l_{51}$ for males; $l_3$, $l_7$, $l_{20}$, and $l_{54}$ for females. These may be called points of origin. (See the Table of differences, page cxlv.)

The series of the fundamental columns of the Male and of the Female Life Table are calculated by twice five settings of the Calculating Machine.

The series $\lambda\ v^x + \lambda\ v^{x+1} + \lambda\ v^{x+2}$ . . . is calculated by taking $\lambda\ v^1$ as the first constant difference, consequently the series $\lambda\ (v^x\ l_x) + \lambda\ (v^{x+1}\ l_{x+1}) + \lambda\ (v^{x+2}\ l_{x+2})$ . . . $= \lambda\ \mathrm{D}_x + \lambda\ \mathrm{D}_{x+1} + \lambda\ \mathrm{D}_{x+2}$ . . . is readily calculated by adding the appropriate $\lambda\ v^1$ to the first difference of the first order of each sub-series. The $\lambda\ v = \lambda\left(\frac{1}{1{\cdot}03}\right)$ when the interest of money is 3 per cent.; and it varies with every rate of interest.

## *Construction of the Joint Life Table.*

For the determination of the values of Life Annuities and of Life Insurances, we require the series $l_x\ l_y + v^1\ l_{x+1}\ l_{y+1} + v^2\ l_{x+2}\ l_{y+2}$ . . . $+ v^{x+n}\ l_{x+n}\ l_{y+n}$. If $\omega$ be the limiting age of the Life Table, and $l_\omega = 0$, then $x$ and $y$ may be 0 or $\omega$, or any intermediate ages; but the series terminates whenever either life $x + n$, or $y + n$ becomes $l_\omega = 0$.

The series is rendered more useful by multiplying each term by $v^{\frac{x+y}{2}}$; it then becomes $v^{\frac{x+y}{2}}\ l_x\ l_y + v^{\frac{x+y}{2}+1}\ l_{x+1}\ l_{y+1} + v^{\frac{x+y}{2}+2}\ l_{x+2}\ l_{y+2}$ . . . $+ v^{\frac{x+y}{2}+n}\ l_{x+n}\ l_{y+n}$;

which is written more concisely in the Tables $D_{x\,y} + D_{(x\,y)+1} + D_{(x\,y)+2} + \dots D_{(x\,y)+n}$.

Thus, if age of first life $x = 20$, and age of second life $y = 40$; then

$$\frac{v^{30}\,l_{20}\,l_{40} + v^{31}\,l_{21}\,l_{41} \dots + v^{99}\,l_{89}\,l_{109}}{v^{30}\,l_{20}\,l_{40}} = \frac{D_{20,\,40} + D_{21,\,41} + D_{22,\,42} + D_{23,\,43} \dots + D_{89,\,109}}{D_{20,\,40}} = \frac{N_{20,\,40}}{D_{20,\,40}} = A_{20,\,40};$$

the value of an annuity of £1, payable at the beginning of every year of the Joint Lives.

Let $x$ be the age of the male life, and $y$ the age of the female life; then the series $l_x\,l_y$ has to be calculated for every possible combination of the ages, in order to determine the values of joint annuities on male and female lives of every age. But for obvious reasons the series cannot be conveniently calculated in this form by the machine, as the points of origin will cross each other, and new sets of differences will be required for the variations of age. The following arrangement was, after some consideration, adopted; the $\lambda\,l_0$ of the Female Table was added to the $\lambda\,l_0$ of the Male Table, and then the whole series was calculated with the differences of the Male Table, incorporating $\lambda\,v^{\frac12}$, and the $(\lambda)$ series $l_0\,l_0 + v^{\frac12}\,l_1\,l_0 + v^1\,l_2\,l_0 + v^{1\frac12}\,l_3\,l_0 + v^2\,l_4\,l_0$ to the end was obtained in vertical columns. The $\lambda\,l_1$ of the Female Table was added in the same manner to $\lambda\,v^{\frac12}\,l_0$ of the Male Table, and a second vertical series was obtained; thus all the 12,100 combinations $(=110 \times 110)$ of $\lambda\,(v^{\frac{x+y}{2}}\,l_x\,l_y)$ were calculated, $x$ varying from 0 to 109, and $y$ varying to the same extent. The annexed scheme will make the method clear; the male $l_x$ being in black type, the female $l_y$ in red type.

JOINT LIVES :—MALE AND FEMALE.

| **Age of Male** ($x$). | **Age of Female** ($y$). | | | | | | |
|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| 0 | $l_0\ l_0$ | $v^{\frac12}\ l_0\ l_1$ | $v^1\ l_0\ l_2$ | $v^{1\frac12}\ l_0\ l_3$ | $v^2\ l_0\ l_4$ | $v^{2\frac12}\ l_0\ l_5$ | $v^3\ l_0\ l_6$ |
| 1 | $v^{\frac12}\ l_1\ l_0$ | $v^1\ l_1\ l_1$ | $v^{1\frac12}\ l_1\ l_2$ | $v^2\ l_1\ l_3$ | $v^{2\frac12}\ l_1\ l_4$ | $v^3\ l_1\ l_5$ | $v^{3\frac12}\ l_1\ l_6$ |
| 2 | $v^1\ l_2\ l_0$ | $v^{1\frac12}\ l_2\ l_1$ | $v^2\ l_2\ l_2$ | $v^{2\frac12}\ l_2\ l_3$ | $v^3\ l_2\ l_4$ | $v^{3\frac12}\ l_2\ l_5$ | $v^4\ l_2\ l_6$ |
| 3 | $v^{1\frac12}\ l_3\ l_0$ | $v^2\ l_3\ l_1$ | $v^{2\frac12}\ l_3\ l_2$ | $v^3\ l_3\ l_3$ | $v^{3\frac12}\ l_3\ l_4$ | $v^4\ l_3\ l_5$ | $v^{4\frac12}\ l_3\ l_6$ |
| 4 | $v^2\ l_4\ l_0$ | $v^{2\frac12}\ l_4\ l_1$ | $v^3\ l_4\ l_2$ | $v^{3\frac12}\ l_4\ l_3$ | $v^4\ l_4\ l_4$ | $v^{4\frac12}\ l_4\ l_5$ | $v^5\ l_4\ l_6$ |
| 5 | $v^{2\frac12}\ l_5\ l_0$ | $v^3\ l_5\ l_1$ | $v^{3\frac12}\ l_5\ l_2$ | $v^4\ l_5\ l_3$ | $v^{4\frac12}\ l_5\ l_4$ | $v^5\ l_5\ l_5$ | $v^{5\frac12}\ l_5\ l_6$ |
| 6 | $v^3\ l_6\ l_0$ | $v^{3\frac12}\ l_6\ l_1$ | $v^4\ l_6\ l_2$ | $v^{4\frac12}\ l_6\ l_3$ | $v^5\ l_6\ l_4$ | $v^{5\frac12}\ l_6\ l_5$ | $v^6\ l_6\ l_6$ |

The *diagonal series* beginning with the centre, where the ages are equal, $= l_0 \, l_0 + v^1 \, l_1 \, l_1 + v^2 \, l_2 \, l_2 \ldots$ represents the series $D_{0,0} + D_{1,1} + D_{2,2}$.

Thus all the cases are provided for, whether the male is 0, 1, 2, 3 . . . . . 109 years older than the female, or the female 0, 1, 2, 3 . . . . . 109 years older than the male.

It is evident that Tables for two Male lives may be calculated in the same way as the Table for Male and Female Lives; but while $l_7 \,.\, l_1$ and $l_1 \,.\, l_7$ will differ in the latter case, the factors will be identical in the case of the Table for Two Males. It was decided, however, to calculate the double series of Male Joint Lives, which is equivalent to a calculation in duplicate with a variation in the operation, for $l_{40} \, l_{18}$ in the Male Table is not derived from the same differences as $l_{18} \, l_{40}$. The Female Table was calculated on the same plan; and the results bear testimony to the accuracy of the machine, which the reader himself has the means of testing by comparing in the Male columns $\lambda \, D_{x,y}$ the various combinations of $\lambda \, D_{x,y}$ with $\lambda \, D_{y,x}$ of the Male Joint Life series.

# PART II.—DESCRIPTION OF THE TABLES.

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## (1.) MONETARY TABLES.

### *Table of Shillings, Pence, and Farthings reduced to the Decimal Parts of £1.* (pp. 2–5.)

English money at present consists of the sterling pound (£ 1) unit ; of which the standard weighs 123·27447 grains, consisting of 11 parts fine gold, and 1 part alloy or 113·00161 Troy grains of fine gold and 10·27287 grains of alloy. The gram, = 15·432349 Troy grains, is the unit of the metrical weights. The weight of a standard sovereign is 7·980855 *grams* = 7·318444 *grams* of *fine gold*, and ·662411 *gram* of alloy.[*] By raising the alloy to ·681556 *gram*, or only ·019145 *gram* more than the alloy now used, the standard English £1 would be represented by a gold coin weighing exactly 8 *grams*. The proportion retains all the advantages in use of the English alloy ($\frac{1}{12}$) over the French alloy of $\frac{1}{10}$. A kilogram of *standard* gold would be coined into 125 sovereigns, and 1,000 sovereigns would weigh 8 kilograms. A crown or a dollar of the fourth part of £ 1, = 5*s*. in value, would weigh two grams ; and a *gram of standard gold* would be worth half-a-crown.

Subordinate units are required for measuring small values ; and in England these units are not yet decimally related to each other, so that to pass from a value expressed in shillings, pence, and farthings to the decimal parts of £ 1, a Table is useful. This Table is due to John Smart.[†]

It will be observed that if English accounts were kept in £, florins of 10, and mils of 1,000 to the £ 1, this Table would be unnecessary ; and ordinary accounts would possess the advantages which are enjoyed by using a single unit in scientific investigations.

The subsequent Tables represent the relative values in any coin, such as sterling pounds, French francs, Austrian florins, or Prussian dollars ; for if the annuity is expressed in any given coin, its value is expressed by the Tables in the same coin.

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[*] Annuaire publié par le Bureau des Longitudes, 1861, p. 114.

[†] Reprinted from Smart's Tables of Interest, Discount, &c.—Edition of 1726.

### *Logarithms of the Present Value of £1, payable at the end of every Year, at different Rates of Interest* $= \lambda v^x$. (pp. 6–11.)

The interest of the unit of value being $i$ in one year; $\frac{1}{1+i}$ £1 $= \frac{1}{r} = v =$ the present value of £1; and $\frac{1}{(1+i)^x} = \frac{1}{r^x} = v^x =$ the present value of £1 to be received at the end of $x$ years. The logarithms of all the values of $v^x$ from $v^0$ to $v^{109}$ are given for 12 rates of interest; namely, 3 per cent., $3\frac{1}{4}$, $3\frac{1}{3}$, $3\frac{1}{2}$, $3\frac{3}{4}$, 4, 5, 6, 7, 8, 9, and 10 per cent. The arithmetical complement of $\lambda v^x$ is evidently $\lambda r^x$, the $r^x$ being the amount of £1 at compound interest for $x$ years. All these series of logarithms were calculated and stereoglyphed by Scheutz's machine; each series having only one order of differences.

[NOTE.—*The direct machine work in the Volume is all in the characteristic type of this Table.*]

### *Present Value of £1, payable at the end of every Year, at different Rates of Interest* $= v^x$. (pp. 12–15.)

The numbers in the Table were all taken out to six figures from the logarithms; and afterwards—at all except the rates $3\frac{1}{4}$, $3\frac{1}{3}$, and $3\frac{3}{4}$—compared with Smart's Table, which was found so far to be correct. This is satisfactory, as I am not aware that the Tables of this great computist have ever been entirely recalculated.*

### *Present Value of £1 per Annum, payable at the end of every Year, at different Rates of Interest* $= V_x - 1$. (pp. 16–19.)

If the series $v^x$ be summed up from $v^0$ to $v^x$ the value may be expressed by $V_x = 1 + v + v^2 + v^3 \dots + v^{x-1} + v^x$. And $V_x - 1 = v^1 + v^2 + v^3 \dots + v^{x-1} + v^x$. This Table has been compiled (except for the rates $3\frac{1}{4}$, $3\frac{1}{3}$, and $3\frac{3}{4}$) from Smart's work. The value of the perpetuity, from which the $V_{109} - 1$ differs little, may be expressed by $V_\infty - 1$, or simply by $V - 1$ when the annuity is first payable *at the end of one year*, and by $V_\infty$ or $V$ when the first payment is due at the time of valuation.

The values of the $v$ to eight places of decimals corresponding to various rates of interest, of its logarithms ($\lambda\ v$) to fifteen places, also of $1 - v = d = \frac{i}{1+i} =$ discount of £1, as it has been called, and its logarithms, are given at page 20.

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* Since the above was written, Mr. Chisholm, in answer to an inquiry, has informed me that the Table of $v^x$ given in his Commutation Tables was calculated by his own computers expressly for the work.

## (2.) TABLES FOR SINGLE LIVES.

### *Yearly Table.—Persons, Males, and Females.* (pp. 22–33.)

The English Life Table No. 3. consists of three parts, or three Life Tables, each of seven columns ; the first part for Persons consisting of such proportions at each age of the two sexes as are produced by the births ; the second part for Males ; and the third part for Females. The base of the (1) Table for Persons is 1,000,000 children born alive ; and as boys and girls were born in England during the period of observation in the proportions of 511,745 boys to 488,255 girls, these numbers were made respectively the bases of (2) the Male Life Table, and (3) of the Female Life Table.

In the Synoptical Table (p. 24), the numbers of the males and females living and dying at each year of age are given as they would exist in a population under the law of birth and mortality, found by direct observation to prevail in England and Wales, undisturbed by emigration, by excess of births over deaths, or by any other element of that kind.

The males, we find, if there is no emigration, exceed the females in number in infancy, in childhood, and in manhood up to the age of 53, when the women after the age of childbearing enjoy a firmer hold on life, and die at a lower rate than the men ; so that the number of women of 53 and upwards exceeds the number of men of the corresponding ages. The males are to the females of all ages as 20,426,138 to 20,432,046 ; thus proving decisively that the disparity in the numbers of the two sexes of the English population is due exclusively to emigration.

The Male and Female Life Tables were constructed independently ; that of the Persons was obtained by combining the other two in one.

The column $d_x$ expresses the deaths which occur in the years after the ages $x$ ; thus, by the Table, 5,583 persons die in the year after the precise age 20, so they are all of the age 20 and under 21, or in their 21st year.

The number in the column ($d_{20}$) is derived from $l_{0,}$ the basis with which it is connected by the law of mortality prevailing at that and in all preceding ages.

The Table represents a generation of 1,000,000 persons, and it will be observed that in the first year 149,493 die, in the second 53,680, the numbers decreasing every year until the age of 13 ; 3,382 die in their 14th year (13–14) ; after the age of puberty the deaths at each year of age increase, until 15,469 die in the year 73–74. Great numbers die after that age, but the deaths at the advanced ages decrease rapidly, and 92 die at the age of 100, *one* at the age 108. So 109 years ($\omega$) is the limit of age by this Table.

The column $l_x$ is taken from the machine logarithms $\lambda\, l_x$; it is the sum of the column $d_x$ added up from the bottom; so $d_x$ is always the difference of $l_x$ and $l_{x+1}$. Thus $l_{x+1} + d_x = l_x$; $d_x = l_x - l_{x+1}$. The values $d_x$ were deduced from the primary column $l_x$.

$L_x$ is the sum of the series $l_x$; and $L_x = l_x + L_{x+1}$.

$P_x$ is usually taken to represent the tabular population living at the age $x$ and under $x + 1$; thus by this Table 600,615 is the normal population of the age 30 and under 31; and it is usually taken as the mean of the numbers by the Table living to 30 and 31; that is, $P_x = \frac{l_x + l_{x+1}}{2} = l_{x+1} + \frac{d_x}{2}$. The series $\lambda\, l_x$ by the machine was calculated with the proper differences, to give the logarithms of the values $l_x$, $l_{x+\frac{1}{4}}$, $l_{x+\frac{1}{2}}$, $l_{x+\frac{3}{4}}$, and $l_{x+1}$; thus, by the Male Table, $l_{30} = 304{,}534$; $l_{30\frac{1}{4}} = 303{,}770$; $l_{30\frac{1}{2}} = 303{,}004$; $l_{30\frac{3}{4}} = 302{,}236$; $l_{31} = 301{,}466$. Here $\frac{304{,}534 + 301{,}466}{2} = 303{,}000$; which differs little at this age from $l_{30\frac{1}{2}} = 303{,}004$. At other ages where the series $d_x$ is varying rapidly, the values $\frac{l_x + l_{x+1}}{2}$ differ more from the value of $l_{x+\frac{1}{2}}$; but the difference is never considerable, so that no error of consequence can be committed by taking $\frac{l_x + l_{x+1}}{2}$ to represent the numbers living through the year of age following $x$. The $l_{x+\frac{1}{2}}$ is, however, preferable to the other, and is probably the most correct; for its logarithm is calculated by the machine as part of the series. The symbol $l_{x+\frac{1}{2}}$ and $P_x$ may for practical purposes be used indiscriminately.

See all the values of the logarithms and numbers of $l_x$, and $l_{x+\frac{1}{4}}$, $l_{x+\frac{1}{2}}, = P_x$, $l_{x+\frac{3}{4}}$ and $l_{x+1}$; the logarithms at pp. 130–133, and the numbers at pp. 146–149.

The number of deaths decreases rapidly in each month after birth. The Table VII. (page xxiii) of living and the deaths at the end of each month of the first year of life is in itself interesting; it was obtained for each of the first three months directly from the returns; from the aggregate deaths in the second quarter, and in the last two quarters; so the deaths in each of the other nine months were interpolated. The particular value $P_0$ was deduced directly from the 13 values, $l_0 + l_{\frac{1}{12}} + l_{\frac{2}{12}} \ldots\ldots + l_1$.

$Q_x$ is the sum of the column $P_x$; and in all cases $Q_x = P_x + Q_{x+1}$, and $P_x = Q_x - Q_{x+1}$. The column represents—to the basis 1,000,000—(1) the tabular *numbers living* of every age $x$ and upwards; also (2) the *number of years* of life which the $l_x$ persons of the age will enjoy; so that $\frac{Q_x}{l_x}$ = the mean afterlifetime at the age $x$.

$Y_x$ is a column which I have added to the Life Table, to extend its use to the solution of problems involving the ages of the living.

$Y_x = Y_{x+1} + Q_{x+1} + \frac{1}{2} P_x$; and $\frac{Y_x}{Q_x}$ = the mean *afterlifetime* of all the persons of the *age x and upwards;* also $x + \frac{Y_x}{Q_x}$ = *the mean age* of the persons living of the age $x$ and upwards. Thus the men of the age of 40 *and upwards* are of the average age of 56·26; they will live 16·26 years longer, and die at the average age 72·52 years.

The numbers and logarithms of the columns $l_x$, $Q_x$, and $Y_x$ are given for males (pp. 28–29) and females (pp. 32–33).

### *Yearly Table.—Mortality of Males and Females at different Ages.* (pp. 34–35.)

The *annual rate of mortality* $\frac{d_x}{P_x}$ = at all ages after the first $\frac{d_x}{l_{x+\frac{1}{2}}} = m_x$ was calculated for males and females; and 100 $m_x$ or the mortality per cent. is printed. The reciprocal $\left(\frac{P_x}{d_x}\right)$ gives the number living at the age $x$ to $x+1$ out of which *one death* occurs annually. Thus at the age 20 (and under 21) the mortality is at the rate of one death in 120 men; or $(100\ m_{20})$ = ·832 per cent. By inserting two ciphers after the decimal point we have $m_{20}$ = ·00832; and on passing the decimal point *one* to the right, 8·32 is the mortality per 1,000, which is a convenient unit for several of the intermediate ages of life.

Two columns of the same Table show the rate of mortality among males and females of the age $x$ and upwards; thus, males of the age of 20 and upwards die at the rate of 1 in 39·48 annually; women of the age of 60 and upwards die at the rate of 1 in 14·34.

1 in 39·91 males and 1 in 41·85 females of all ages die annually in a stationary population, under the English law of mortality.

### *Yearly Table.—Mean Afterlifetime of Males and Females; Mean Age of the Living; and Mean Age at Death.* (pp. 36–39.)

These numbers also represent the *mean lifetime* ($E_x$), which is 39·91 years for males, and 41·85 years for females, when $x = 0$. The *afterlifetime* is usually called the Expectation of Life at the age $x$; but this common expression of three words is admitted to be open to objection. The mean *afterlifetime* is obtained by dividing the tabular years of life ($Q_x$) which are enjoyed after any age $x$, by the tabular numbers $l_x$ living at that age.

$Q_x$ is the sum of the values $l_{x+\frac{1}{2}}$, from any given age after $x = 1$, to the end of the Table; and $L_x = l_x + l_{x+1} + l_{x+2} + l_{x+n} \ldots . l_\omega$. Now it has been shown that $l_{x+\frac{1}{2}}$ differs little at any age from $\frac{l_x + l_{x+1}}{2}$ $\therefore$ $L_x - \frac{1}{2} l_x = \frac{1}{2} l_x + l_{x+1} + l_{x+2} \ldots + l_\omega$, differs little from $Q_x$; and $E_x = \frac{Q_x}{l_x} = \frac{L_x}{l_x} - \frac{1}{2}$ nearly; these two are the limits of the expression for the afterlifetime, which for persons is 40·86 at birth by the first, and 40·89 by the last formula. The deaths in *each year of age* are by the last formula assumed to take place at equal intervals, and the living during that short interval to decrease in arithmetical progression; while in the former formula the living in the *middle of the year* are taken to represent the mean numbers living *through the year.* The lifetime in years is not greater than the one, nor less than the other number.

| Age | MEAN AFTERLIFETIME OF MALES DEDUCED FROM | | |
|---|---|---|---|
| ($x$) | $\left(\frac{L_x}{l_x} - \frac{1}{2}\right) = E_x$ | $\left(\frac{_4L_x}{4\,l_x} - \cdot125\right)^* = E_x$ | $\frac{Q_x}{l_x} = E_x$ |
| 0 | 39·86 † | 39·92 | 39·91 |
| 1 | 46·67 | 46·66 | 46·65 |
| 14 | 43·97 | 43·97 | 43·97 |
| 28 | 34·10 | 34·10 | 34·10 |
| 42 | 24·73 | 24·73 | 24·73 |
| 56 | 15·86 | 15·86 | 15·86 |
| 70 | 8·46 | 8·46 | 8·45 |
| 84 | 3·97 | 3·96 | 3·95 |
| 98 | 1·91 | 1·87 | 1·85 |

* $_4L_x$ = sum of Column $l_x$ in Quarterly Male Table (pp. 146–7) from the bottom up to $l_x$, and $\frac{_4L_x}{l_x} - \cdot125 = 4\,E_x$.

† This number is corrected for the excess of deaths in the first months of the first year of age. (See Table VII. p. xxiii.)

The Table (pp. 36–37) shows the mean *afterlifetime* of males of the age $x$ and upwards; that is, of males of the age of $x$, and of every higher age. At birth it is 31·77 years; and that is also the *mean age* of the living in a normal population having equal numbers of births and of deaths, subject at all ages to the English law of mortality.

The equation $E'_0 = \frac{Y_0}{Q_0}$ *represents the mean ages of the living,* for $Y_0$ is the sum of the series $\frac{1}{2}\,Q_0 + Q_1 \ldots + Q_\omega$; which is again, as may be found by substituting for $Q_x$ its values in $P_x$, the equivalent of $\frac{1}{2}\,P_0 + 1\frac{1}{2}\,P_1 + 2\frac{1}{2}\,P_2 + 3\frac{1}{2}\,P_3 \ldots + (n + \frac{1}{2})\,P_n$ carried to the extreme limits of the Table. Now the mean age of the living at the age 0 and under 1 is nearly $\frac{1}{2}\,P_0$; at 1 and under 2 it may be taken at $1\frac{1}{2}$ years; consequently $1\frac{1}{2} \times P_1$ = the number of years that the persons of the age 1 and under 2 have lived. The same reasoning will apply at 20, or at any other age $n$; and the sum of the series $(n + \frac{1}{2})\,l_{n+\frac{1}{2}}$, in which $n$ is made to vary from 0 to 109, will be $= Y_0 =$ sum of the number of years that the whole normal population has lived. But the numbers who have lived $Y_0$ years are $Q_0$; and $\frac{Y_0}{Q_0}$ = the average age. In like manner it may be shown that $Y_x = \frac{1}{2}\,l_{x+\frac{1}{2}} + 1\frac{1}{2}\,l_{x+1\frac{1}{2}} + 2\frac{1}{2}\,l_{x+2\frac{1}{2}} + 3\frac{1}{2}\,l_{x+3\frac{1}{2}} + 4\frac{1}{2}\,l_{x+4\frac{1}{2}} \ldots\ldots$ to tabular limit = the number of years that all the persons ($Q_x$) have lived over age $x$. And $xQ_x + Y_x$ = the total number of years that the $Q_x$ persons have lived; $\therefore \frac{xQ_x + Y_x}{Q_x} = x + \frac{Y_x}{Q_x} = x + E'_x$ = mean age of all the persons living of the age of $x$ and upwards.

$Y_x$ also represents the number of years of life that $Q_x$ persons of the tabular ages will live; and $\frac{Y_x}{Q_x}$ = their mean *afterlifetime.* It has been shown that $Q_x$ = the number of years that $l_x$ persons of the age $x$ will live; and $Q_{x+1}$ = the number of years that $l_{x+1}$ persons will live; $\therefore (l_x + l_{x+1})$ persons will live $(Q_x + Q_{x+1})$ years; and $\frac{1}{2}(l_x + l_{x+1})$ persons $= P_x$ will live $\frac{1}{2}(Q_x + Q_{x+1})$ years. In like manner it may be shown that $\frac{l_{x+1} + l_{x+2}}{2} = P_{x+1}$ persons will live $\frac{1}{2}(Q_{x+1} + Q_{x+2})$ years; and as the sum of the series $P_x$ from any given age to the end of the Table is $Q_x$, so the sum of the series $\frac{1}{2} Q_x + Q_{x+1} + Q_{x+2} + Q_{x+3} \ldots . + Q_\omega = Y_x$ = the number of years of life that the $Q_x$ persons will enjoy; $\therefore E'_x = \frac{Y_x}{Q_x}$ = the mean *afterlifetime* of all the persons of the ages $x + \frac{Y_x}{Q_x}$. By adding their *afterlifetime* to *the age,* the mean age at death is found to be $x + 2\,E'_x = x + 2\frac{Y_x}{Q_x}$.

The constituent individuals of a population are its elements; and the population is normal when its elements, arranged in corresponding groups, are in the same proportions as the elements of the Life Table. The births = deaths in the same time; to a given number born, the living at each year of age are in the same proportion as $P_x$ to $l_0$; the rates of mortality are the same; the population lives a number of years after each age, represented by the calculated lifetime.

In a normal population there is an indissoluble connexion between (1) the numbers living, (2) the mean lifetime, (3) the births, (4) the deaths, (5) the rate of mortality, (6) the probable duration of life. Thus by the Life Table of Persons 1,000,000 annual births imply 1,000,000 annual deaths; sustaining a population of 40,858,184, of whom 20,426,138 are males, 20,432,046 are females; half of the persons living 45 years = the probable lifetime; and the mean lifetime being 40·858184 or nearly 41 years; that is = the mean age at death = the number of years of life falling to the share of the children born. To 41 persons living there is *one* birth, *one* death, annually; the rate of mortality is 1 in 41; and 41 is the mean duration of life.

It has been shown that the *rate of mortality* involves three elements,—time, numbers living, numbers dying; thus, if out of 102 living men of a given age, 4 die at equal intervals in the year, 98 will live to the end of the year; so $\frac{98}{102}$ = the probability of living a year; $\frac{4}{102}$ = the probability of dying in the same time; and by hypothesis the 102 men in the year enjoy among them $\frac{102 + 98}{2}$ = 100 years of life; now the years of life to be passed by the survivors in the next year will, if 4 die in the year, be 96, and thus the years of life will accumulate year by year, until the last life shall expire. All the years of life belong to the 102 men; and dividing the said years of life by 102 the mean afterlifetime is determined. Thus the units of the numbers that express living men, men dying, and years of life, are produced by men living a definite number of years and then dying.

By retaining one unit of time, and one living, in all cases, the variations of the *m* express the variations in the rate of mortality. By fixing the numbers living, and taking the death as a unit, the mean interval of time—which varies—between each death, will express the velocity of dying in the scale of time, under different conditions; and by making the living man a unit, the death becomes a unit, and the variations in the years of lifetime express the different degrees of longevity. By making the time a unit (one year), and the death a unit, the variations in the *numbers living*, out of which 1 death occurs annually—or the relative amount of resistance to death by life is expressed—under the given conditions. One death in *one* year to 41 *living*, implies a mean lifetime of 41 years. It was shown before that 41 persons living through *one year* enjoy the same number of *years of life* as *one person* living *forty-one years*.

In a population which is disturbed by emigration, by immigration, by varying excesses of births over deaths or of deaths over births, or by pestilence, the *mean age of the dying* ($G_0$) can be determined from the registers by arranging the deaths consecutively in a column ($d_x$) at the various ages, and drawing up from this column the columns corresponding to $l_x$ and $L_x$ or even to $Q_x$. The Table thus constructed gives the mean age of the dying in the year or years, as this property depends solely on the fact that when the figures are so arranged and related, $G_0 = \frac{L_0}{l_0} - \frac{1}{2} = \frac{Q_0}{l_0} = \frac{1}{l_0}\left(\frac{1}{2}\, d_0 + 1\frac{1}{2}\, d_1 + 2\frac{1}{2}\, d_2 + 3\frac{1}{2}\, d_3 \ldots + (\omega + \frac{1}{2})\, d_\omega\right)$
$= \frac{1}{l_0}(d_1 + 2\, d_2 + 3\, d_3 + 4\, d_4 \ldots \omega d_\omega) + \frac{1}{2}$.

The two latter series ($d_x$) express evidently the number of years lived by the persons dying at all ages $= l_0$. But people are born in one place, die in another, and moreover the number of births is scarcely ever the same as the number of deaths. So there is no necessary connexion between the ages of these persons at death, the rate of mortality, the probability of living, or the mean duration of the lives of children born and living in precisely the same circumstances. The results nearly coincide sometimes with those deduced, on correct principles, from a Life Table; and the early Life Tables of Halley, Simpson, Dr. Price, and others, were constructed from the Burial Registers of Breslau, London, and Northampton, without any reference to the living. The errors of such Tables are illustrated in the Appendix to the 8th Report of the Registrar General, where the old incorrect Northampton Table is compared with a new Table for Northampton constructed on nearly the same plan as the English Table.

The mean age of those who died in England in the 17 years 1838–54 was 29·4; whereas the mean lifetime of children born in England during the same period is 40·9 years by the Life Table. This reduction of the age at death, 11·5 years below the mean lifetime, is the result of the introduction of an excess of young lives; as in addition to the 380,631 births to balance the 380,631 deaths, 191,068, making 571,699 children in the whole, were born annually and thrown into the population. The mean age of the dying = the mean age to which people live in a normal population; but as our population is increasing, the mean age of the dying in a limited time is 11·5 years less than the mean lifetime. The mean age of the population of England was 26·4 years in 1851, instead of 32·1 years; so the excess of young people reduces the age of the nation by 5·7 years, or by half the difference $\left(=\frac{11\cdot5}{2}\right)$ between the age at death (29·4) and the mean lifetime (40·9). Instead of living as long as they have lived (26·4 years), they will live about 35·6 years ($= E_{26\cdot4}$).

*Yearly Table.—Males and Females. Logarithms of the Probability of living One Year after Age* $x = \lambda p_x$. (p. 40.)

The logarithms of the probability of living one year after each age ($x$) are deduced from the Male and Female Life Tables. Thus $\frac{l_{x+1}}{l_x} = p_x$; and $\lambda p_x = \lambda l_{x+1} - \lambda l_x$. The probability at age $x$ of *dying in the year following* is immediately deducible from the probability of living to the end of the year. Thus $\mu_x = 1 - p_x = \frac{l_x - l_{x+1}}{l_x} = \frac{d_x}{l_x}$. And $\lambda \mu_x = \lambda d_x - \lambda l_x$. For the Table of the $\lambda d_x$ at all ages, see Table 3., p. cxlviii.

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## (3.) TABLES FOR SINGLE LIVES. (WITH INTEREST.)

*Yearly Table.—Males.* (pp. 42–74.)

Values of the series $\lambda D_x = \lambda (v^x l_x)$, when $x$ = age varies from 0 to 109, and when in $v = \frac{1}{1+i}$ the $i$ is taken to represent 12 rates of interest, namely, 3, 3¼, 3⅓, 3½, 3¾, 4, 5, 6, 7, 8, 9, 10 per cent.

[Note.—*All the values* $\lambda D_x$ *were calculated and stereoglyphed by the machine.*]

The $D_x$ and $N_x$, as well as $\lambda D_x$ and $\lambda N_x$, are given in order for every rate of interest; from which the value of the life annuity, temporary or deferred, is immediately deduced.

The full Tables of six columns are given for the 3, 4, and 5 per cent. rate of interest. The relations of the columns are evident on inspection:—

$$N_x = D_x + D_{x+1} + D_{x+2} \ldots + D_\omega = v^x l_x + v^{x+1} l_{x+1} \ldots\ldots$$

$$S_x = N_x + N_{x+1} + N_{x+2} \ldots + N_\omega$$

$$= D_x + 2 D_{x+1} + 3 D_{x+2} + 4 D_{x+3} \ldots + (n+1) D_{x+n} \ldots + (\omega+1-x) D_\omega$$

$$S_{x|n} = N_x + N_{x+1} + N_{x+2} \ldots + N_{x+n-1}$$

$$M_x = C_x + C_{x+1} + C_{x+2} \ldots + C_\omega = v^{x+1} d_x + v^{x+2} d_{x+1} \ldots\ldots$$

$$R_x = M_x + M_{x+1} + M_{x+2} \ldots + M_\omega; \; R_{x+n} = M_{x+n} + M_{x+n+1} \ldots\ldots\ldots$$

$$= 1\, C_x + 2\, C_{x+1} + 3\, C_{x+2} \ldots + (n+1)\, C_{x+n} \ldots + (\omega + 1 - x)\, C_\omega$$

$$R_{x|n} = M_x + M_{x+1} \ldots + M_{x+n-1} = 1\, C_x + 2\, C_{x+1} + 3\, C_{x+2} \ldots\ldots + n C_{x+n-1} + n M_{x+n}.$$

The columns $D_x = v^x l_x$; and $C_x = v^{x+1} d_x$; the columns $N_x$ and $S_x$ bearing precisely the same relations to $D_x$ as the columns $M_x$ and $R_x$ bear to $C_x$.

The logarithms $\lambda\,D_x$, $\lambda\,N_x$, $\lambda\,A_x$, and $\lambda\,M_x$ for 3, 4, and 5 per cent. interest are given in convenient juxtaposition for use (see pp. 50–51 for example); and $\lambda\left(\frac{M_x}{D_x}\right) = \lambda\,\Pi_x$; and $\lambda\left(\frac{M_x}{N_x}\right) = \lambda\,\pi_x$ for 3 per cent. are added.

For 3 per cent. interest, the values of Life Annuities of £1 $= A_x$; of $\frac{1}{A_x} = a_x$; of $\frac{D_x}{C_x}$; of $\frac{D_x}{M_x} = \Sigma_x$; of $\frac{N_x}{M_x} = s_x$; of $\frac{C_x}{D_x}$; of $\frac{M_x}{D_x} = \Pi_x$; and of $\frac{M_x}{N_x} = \pi_x$, are given in comprehensive Tables (see pp. 52–53).

Two curious Tables are given at pp. 54–55, and 68–69, for determining the values of annuities on the whole of a contemporaneous population, in the normal proportions, at two rates of interest, 3 and 5 per cent.

*Yearly Table.—Females.* (pp. 76–108.)

The set of Tables for Females exactly corresponds with that for Males, which has just been enumerated.

*Half-yearly and Quarterly Tables.—Males and Females.*
(pp. 110–174.)

The interest of money is assumed to be convertible half-yearly, so $v = \frac{1}{1+\frac{i}{2}} = \frac{1}{1{\cdot}015}$; and as the unit of age ($x$) in the series $D_x$ is the half-year, $D_{41} = l_{20\frac{1}{2}}\,v^{41} = l_{20\frac{1}{2}}\left(\frac{1}{1+\frac{i}{2}}\right)^{41}$. The logarithms of the probability of living half a year ($p_x$) after the age $x$, $x\frac{1}{2}$ . . . . . . , as well as the logarithms of the values ($v\,p_x$), are given at the pages 110–113. These Tables and the corresponding Quarterly Tables will be of use. In the Quarterly Tables $v = \frac{1}{1+\frac{i}{4}} = \frac{1}{1{\cdot}0075}$; and $D_{81} = v^{81}\,l_{81} = v^{81}\,l_{20\frac{1}{4}}$. Here interest is convertible quarterly.

The two series $\lambda\,l_x$, pp. 130–133, give the logarithms calculated and stereoglyphed by the machine, for each age $l_x$, $l_{x+\frac{1}{4}}$, $l_{x+\frac{1}{2}}$, $l_{x+\frac{3}{4}}$, $l_{x+1}$. Thus $\lambda\ l_{20\frac{1}{2}}$ is the logarithm of the numbers living by the Life Table at the age $20\frac{1}{2}$; it is therefore $= \lambda\,P_{20}$. All the values of $\lambda\ l_x$, $\lambda\ l_{x+1}$ will be found in this Table under numbers $4\,x$, $4\,x + 4$ . . . . Thus $\lambda\ l_{30} = \lambda\ l_{4\times 30}$ in Quarterly Table $= 5{\cdot}4836359$; by the Male Table, page 130.

Interest taken at the rate of 3 per cent., or at the rate of £1 interest for every £ $33{\cdot}33\dot{3}$ invested, implies that the value of the correlative annuity of £1 payable at the end of every year is worth $33{\cdot}33\dot{3}$ years' purchase. In like manner an annuity of £ $0{\cdot}5$ half-yearly is worth £ $33{\cdot}33\dot{3}$, interest being convertible half-yearly. If the annuity (£1) is due and payable at the beginning of the year, it is worth £ $34{\cdot}33\dot{3}$; if the annuity (£$\cdot$5) is due at the beginning of every *half-year* in perpetuity, it is worth $33\cdot 83\dot{3}$. The difference in the value of the two annuities so payable is ˙5 ; and it is in favour of the yearly annuity.

The value of a life annuity of £1 on a man age 20, first payment at that age, is £22˙0612 ; and if the first payment is only due at the end of the year, it is worth £1 less, or £21˙0612.

A similar annuity, at age 20, payable by half-yearly instalments, is worth £21˙7277, and £21˙2277 ; for if the £˙5 instalment is paid only at the end of the first half-year, it implies a clear deduction to that amount from the first value.

As some Life Annuities are paid half-yearly, and as interest is in the case of dividends and rents and mortgages also paid half-yearly, and is therefore convertible half-yearly, it appeared desirable to construct a Half-yearly Life Table ; for half-yearly and quarterly premiums are used for insurance purposes by many offices ; and the policies have to be valued periodically, at intervals, between the periods of the payments. Half-yearly and Quarterly Tables will therefore afford the actuary assistance in the solution of some practical as well as theoretical questions.

The Half-yearly Table of Annuities gives the values of £1 payable at the beginning of *every half-year* of the life's existence ; thus at the age 20 that value is £43˙4554 ; and the value of £˙5 half-yearly, £1 annually, so paid is £$21\cdot 7277 = \frac{43\cdot 4554}{2}$; which is reduced to 21˙2277 by striking off the first instalment.

The Quarterly Table gives the value of £1 payable at the age $x$, and at the beginning of every quarter of a year that the life shall exist. This value at the age 20 is £86˙2445, and $\frac{86\cdot 2445}{4} = 21\cdot 5611$ is the value of quarterly instalments of £˙25 so payable. Deducting the first payment, the value is reduced to £21˙3111.

It will be observed that the yearly life annuity exceeds in value the half-yearly, and still more the value of the quarterly, when the first payment is due at any age $x$ ; for instance, at the age 20 the excess over the half-yearly is £˙3335, over the quarterly £˙5001.

When the first payment is at the end of the year, half-year, or quarter, the yearly annuity so payable is worth less than the half-yearly annuity by £˙1665 at the age 20, and less by £˙2499 than the £1 annuity in quarterly payments.

The effect of half-yearly and quarterly payments on annuities and premiums at all ages is shown in the Tables, or in a succinct form in Table X. on the next page.

### TABLE X.—VALUES OF ANNUITIES, OF PREMIUMS, AND OF POLICIES, BY ANNUAL, HALF-YEARLY, AND QUARTERLY TABLES FOR MALE LIVES.

| AGE. $(x)$ | LIFE ANNUITY OF £1. (Interest 3 per Cent.) | | | | | |
|---|---|---|---|---|---|---|
| | Payable at the *Beginning* of every Period. | | | Payable at the *End* of every Period. | | |
| | Yearly $A_x$ | Half-yearly Instalments $\frac{{}_2A_x}{2}$ | Quarterly Instalments $\frac{{}_4A_x}{4}$ | Yearly $A_x - 1$ | Half-yearly Instalments $\frac{{}_2A_x - 1}{2}$ | Quarterly Instalments $\frac{{}_4A_x - 1}{4}$ |
| | £ | £ | £ | £ | £ | £ |
| 15 | 23·1052 | 22·7632 | 22·5922 | 22·1052 | 22·2632 | 22·3422 |
| 20 | 22·0612 | 21·7277 | 21·5611 | 21·0612 | 21·2277 | 21·3111 |
| 21 | 21·8743 | 21·5423 | 21·3766 | 20·8743 | 21·0423 | 21·1266 |
| 30 | 20·0143 | 19·6972 | 19·5389 | 19·0143 | 19·1972 | 19·2889 |
| 31 | 19·7840 | 19·4686 | 19·3112 | 18·7840 | 18·9686 | 19·0612 |
| 40 | 17·4744 | 17·1740 | 17·0243 | 16·4744 | 16·6740 | 16·7743 |
| 41 | 17·1916 | 16·8928 | 16·7439 | 16·1916 | 16·3928 | 16·4939 |
| 50 | 14·4242 | 14·1395 | 13·9978 | 13·4242 | 13·6395 | 13·7478 |
| 51 | 14·0925 | 13·8093 | 13·6683 | 13·0925 | 13·3093 | 13·4183 |
| 60 | 11·0176 | 10·7456 | 10·6106 | 10·0176 | 10·2456 | 10·3606 |
| 61 | 10·6650 | 10·3940 | 10·2595 | 9·6650 | 9·8940 | 10·0095 |
| 70 | 7·6100 | 7·3452 | 7·2144 | 6·6100 | 6·8452 | 6·9644 |
| 71 | 7·2993 | 7·0350 | 6·9044 | 6·2993 | 6·5350 | 6·6544 |

| AGE. $(x)$ | ANNUAL PREMIUM to insure **£100,** payable | | | VALUE of **£100** payable at the *End* of Period in which Death shall occur. SINGLE PREMIUM for **£100.** | | |
|---|---|---|---|---|---|---|
| | Yearly $\pi_x$ | Half-yearly Instalments $2\,({}_2\pi_x)$ | Quarterly Instalments $4\,({}_4\pi_x)$ | Year $\Pi_x$ | Half Year ${}_2\Pi_x$ | Quarter ${}_4\Pi_x$ |
| | £ | £ | £ | £ | £ | £ |
| 15 | 1·4154 | 1·4374 | 1·4488 | 32·703 | 32·720 | 32·728 |
| 20 | 1·6202 | 1·6468 | 1·6604 | 35·744 | 35·780 | 35·798 |
| 21 | 1·6590 | 1·6864 | 1·7004 | 36·288 | 36·328 | 36·348 |
| 30 | 2·0838 | 2·1212 | 2·1404 | 41·706 | 41·782 | 41·820 |
| 31 | 2·1420 | 2·1808 | 2·2008 | 42·377 | 42·457 | 42·498 |
| 40 | 2·8100 | 2·8672 | 2·8964 | 49·104 | 49·239 | 49·307 |
| 41 | 2·9042 | 2·9640 | 2·9948 | 49·927 | 50·070 | 50·142 |
| 50 | 4·0201 | 4·1168 | 4·1664 | 57·987 | 58·208 | 58·319 |
| 51 | 4·1833 | 4·2860 | 4·3388 | 58·954 | 59·184 | 59·300 |
| 60 | 6·1637 | 6·3506 | 6·4468 | 67·910 | 68·240 | 68·405 |
| 61 | 6·4639 | 6·6654 | 6·7696 | 68·937 | 69·279 | 69·451 |
| 70 | 10·2281 | 10·6588 | 10·8836 | 77·835 | 78·290 | 78·518 |
| 71 | 10·7872 | 11·2592 | 11·5060 | 78·739 | 79·207 | 79·441 |

NOTE.—The Table is read thus:—The PRESENT VALUE OF AN ANNUITY OF **£1** payable at the *Beginning* of every Year commencing from Age 20 is £22 1*s.* 3*d.* The same Annuity payable by Two HALF-YEARLY Instalments of 10*s.* each is worth £21 14*s.* 6*d.*; and if payable by Four QUARTERLY Instalments of 5*s.* each it is worth £21 11*s.* 3*d.* If the Annuity be payable at the *End* of each YEAR, HALF YEAR, or QUARTER, it is worth £21 1*s.* 3*d.*, £21 4*s.* 6*d.*, and £21 6*s.* 3*d.*, respectively. The PREMIUM commencing at Age 20 to insure £100 at Death is £1 12*s.* 5*d.* if paid YEARLY; but the Annual Premium becomes £1 12*s.* 11*d.* if it be paid by HALF-YEARLY Instalments of 16*s.* 5½*d.* each, and £1 13*s.* 2*d.* if it be paid by QUARTERLY Instalments of 8*s.* 3½*d.* each. The PRESENT VALUE, at the Age 20, of **£100** payable at the *End* of the YEAR in which Death occurs is £35 14*s.* 11*d.*; if payable at the *End* of the HALF YEAR in which Death occurs its present Value is £35 15*s.* 7*d.*; and if payable at the *End* of the QUARTER in which Death occurs its present Value is £35 16*s.* 0*d.*

In practice the additional work involved in frequent payments has to be taken into account in the loading of the premiums.

As $A_x =$ the value of £ 1 a year for life, first payment at age $x$; so let ${}_nA_x =$ the tabular value of £ 1 at every $n^{\text{th}}$ part of a year of life, first payment at age $x$; and $\frac{{}_nA_x}{n} =$ the value of £$\frac{1}{n}$ paid $n$ times a year under the same conditions. Then $\frac{{}_2A_x}{2} =$ the tabular value of £ 1 a year for life payable by half-yearly instalments of £ 0·5, first payment at age $x$. And $A_x - 1 =$ the value of £ 1 a year for life, first payment at age $x + 1$; and $\frac{{}_2A_x}{2} - \frac{1}{2} =$ the value of the life annuity of £ 1 by half-yearly instalments of £·5, first payment at age $x + \frac{1}{2}$. So also $\frac{{}_4A_x - 1}{4} = \frac{{}_4A_x}{4} - \frac{1}{4} =$ the value at age $x$ of life annuity of £ 1, payable by quarterly instalments of £·25, first payment at age $x + \frac{1}{4}$.

As $A_x > \frac{{}_nA_x}{n}$ ;

Put $z_n = A_x - \frac{{}_nA_x}{n} =$ difference between values of initial annuities.

$y_n = \left(\frac{{}_nA_x}{n} - \frac{1}{n}\right) - (A_x - 1) =$ difference between values of annuity payments deferred for one term.

By addition $z_n + y_n = \frac{n-1}{n} = 1 - \frac{1}{n}$.

$$\frac{{}_nA_x}{n} + z_n = A_x$$

$$\frac{{}_nA_x}{n} = A_x - z_n$$

$z_n = \left(1 - \frac{1}{n}\right) - y_n =$ difference between values of initial annuities paid by *one* and by $n$ annual instalments.

$$y_n = \left(1 - \frac{1}{n}\right) - z_n.$$

So $z_n$ subtracted from $A_x$ gives $\frac{{}_nA_x}{n}$; and $y_n$ added to $A_x - 1$ gives $\frac{{}_nA_x}{n} - \frac{1}{n}$.

EXAMPLE. Males :—

$A_{20} = 22{\cdot}0612$ ; $\frac{{}_2A_{20}}{2} = 21{\cdot}7277$ ; and $22{\cdot}0612 - 21{\cdot}7277 = {\cdot}3335 = z_2$

So $z_2$ *subtracted* from $A_{20} =$ value of half-yearly annuity.

$A_{20} - 1 = 21{\cdot}0612$ ; $\frac{{}_2A_{20}}{2} - {\cdot}5 = 21{\cdot}2277$ ;

$y_2 = 21{\cdot}2277 - 21{\cdot}0612 = {\cdot}1665$ ;

$A_{20} - 1 + {\cdot}1665 = \frac{{}_2A_{20}}{2} - {\cdot}5$ ;

so $y_2$ *added* to the *value* of the life annuity of £ 1, first payment at age $x + 1$, is = the value of the life annuity of £ 1 in half-yearly instalments of £·5, first payment at age $x + \frac{1}{2}$, the part of the latter being paid earlier; the half-yearly annuity is worth more than the yearly annuity, of which the payments are deferred longer.

The value of $z$ in the case of the quarterly annuity at the same age is 22·0612 − 21·5611 = ·5001; and the value of $y =$ 21·3111 − 21·0612 = ·2499. So *subtract* ·5001 from $A_{20,}$ and the initial value of the quarterly annuity is obtained; *add* $y =$ ·2499 to $A_{20} - 1$; and the value of the quarterly annuity, first payment at age $20 + \frac{1}{4}$, is given. This correction differs from the common one, which Mr. Davies shows, when interest is convertible into principal only once a year, at 3 per cent. interest, is $y =$ ·2463 for the half-yearly, and $y =$ ·3704 for the quarterly, or nearly half as much again as $y$.* The interest is assumed in the common method only to be convertible into principal annually; and the results agree nearly with Simpson's rule, which makes $y =$ ·25 for the *half-yearly annuity*; $y =$ ·375 for the quarterly annuity; and $y =$ ·50 for the annuity payable momently; or generally $y = \frac{n-1}{2n}$.

The Tables have been constructed on the principle which Dr. Price asserted†: for the half-yearly Table this procedure is strictly conformable to practice; while that cannot be said of the yearly or quarterly Tables, except in the case of rents and of peculiar investments.

EXAMPLE :—

VALUE at age 20 of Annuity of £1, first payment in all cases at age 20 :

| | | | |
|---|---|---|---|
| *Initial Payments*:— | Yearly - - | 22·0612 | |
| | Half-yearly - | 21·7277 | ·3335 = $z_2$ |
| | Quarterly - | 21·5611 | ·5001 = $z_4$ |

VALUE of Annuity of £1 at age 20, first payment at age $20\frac{1}{4}$ in the case of quarterly, $20\frac{1}{2}$ in the case of half-yearly, and at 21 in the case of the yearly annuity :

| | | | |
|---|---|---|---|
| *Deferred Payments*:— | Quarterly - | 21·3111 | ·2499 = $y_4$ |
| | Half-yearly - | 21·2277 | ·1665 = $y_2$ |
| | Yearly - - | 21·0612 | |

The value of the annuity in one instalment annually is invariably taken as the point of departure; and $y$ is *added to* the value of the annuity of which the first payment is deferred one year (namely, to $A_x - 1$) to obtain the corresponding annuity by half-yearly or by quarterly instalments. This correction is in the form commonly given in books; and it differs accordingly as interest is assumed to be convertible annually, or half-yearly, or quarterly. The $z$ is complementary to $y$, and is subtracted from $A_x$ to obtain the value of the corresponding annuity paid by $n$ instalments annually.

It will be observed that the values of $z$ decline in proportion as the payments of one or more of the $n$ parts of the annuity of £ 1 are deferred; the above reduction in initial values is ·3335 in passing from the yearly to the half-yearly, and ·5001 in passing from the yearly to the quarterly annuity.

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* Davies on Life Annuities, pp. 314–317.

† *See* Price on Annuities, 7th Edition, Vol. I., pp. 237–271.

Commencing at the lowest value of the preceding deferred payments, $21{\cdot}0612$, the addition of $y = {\cdot}1665$ gives the value of the half-yearly annuity, and of $y = {\cdot}2499$ the quarterly annuity.

From $y$ the value of $z$ is easily obtained. For as $z + y = \frac{n-1}{n}$ in each case, $z = \frac{n-1}{n} - y$; or if $n = 2$; $z = {\cdot}5 - {\cdot}1665 = {\cdot}3335$. And if $n = 4$, then $z = {\cdot}75 - {\cdot}2499 = {\cdot}5001$ at age 20.

By Simpson's rule the $z = y = \frac{n-1}{2\,n}$ in all cases, and $\mathrm{A}_x - {\cdot}25 =$ the value of the half-yearly annuity, first payment at age $x$. $\mathrm{A}_x - {\cdot}375 =$ the value of the quarterly annuity, first payment at age $x$. $\mathrm{A}_x - 1 + {\cdot}25 = \mathrm{A}_x - {\cdot}75 =$ the value at age $x$ of the half-yearly annuity, first payment at age $x + \frac{1}{2}$. And $\mathrm{A}_x - 1 + {\cdot}375 = \mathrm{A}_x - {\cdot}625 =$ the value at age $x$ of the quarterly annuity, first payment at age $x + \frac{1}{4}$.

The value of $z$, it will be observed in the Tables, decreases from the age at which $\mathrm{A}_x$ is a maximum, and, conversely, $y$ increases. Thus in the Half-yearly Male Tables, $z$ is ·3566 at the age of 6 years, and ·2648 at the age of 70; while the $y$ is ·1434 at the age 6, and ·2352 at 70.

## (4.) TABLES FOR JOINT LIVES.

### *Male and Female; Two Males; Two Females.*

The Tables from page 176 to page 605 are Tables for the determination of the value of life annuities or insurances, present, temporary, and deferred,—on every possible combination of two male lives, two female lives, and a male and a female life; the male life being either older or younger than the female life.

The first series of Tables for Male and Female Joint Lives (pp. 176–247) contains the logarithms of all the values of $\mathrm{D}_{x,y} = l_x\ l_y\ v^{\frac{x+y}{2}} = l_x\ l_y \left(\frac{1}{1{\cdot}03}\right)^{\frac{x+y}{2}}$ from the stereotypes cast in the stamped machine moulds, and has the advantage of containing no printer's errors, either in the ages of the males in the vertical columns, or in the logarithms.

[NOTE. — 5 *is subtracted from the index of all the values of* $\lambda\ l_x\ l_y\ v^{\frac{x+y}{2}}$ *in the Machine to obtain* $\lambda\ \mathrm{D}_{x,y}$.]

The ages of the females run along the head of the Table in a type differing from the machine type.

The logarithms of the column $N_{x,y}$ taken out in duplicate and carefully read, are inserted against those of column $D_{x,y}$; which will greatly facilitate the use of the Tables.

The second series of Tables (pp. 248–354) shows the numbers corresponding to the logarithms $D_{x,y}$. These numbers were first taken out to seven integral figures; but as the index of the logarithms fell, a certain number of decimals—never more than 4—was preserved.

There has been a tendency to multiply figures in the Tables of the columnar method, and this, besides misleading the student as to the degree of accuracy attainable in determining values by the Northampton and Carlisle Tables, incumbered pages of print, impaired the utility of the method, rendered processes less expeditious, and to some extent increased the chances of error. For this reason the numbers in the column $D_{x,y}$, of which the logarithms were carried down to the age 109 by the machine, have been kept within just limits, and the series has been closed at $D_{x,105}$, or $D_{y,105}$. The numbers at the ages after 100 and up to 105 are of no practical use, and are only inserted because they slightly affect the values of $N_{x,y}$ at the very advanced ages.

The order in which the columns are arranged should be carefully examined to facilitate reference.

The third series of Tables (pp. 356–425), containing the logarithms for the values of $D_{x,y}$ on two Male Lives, were arranged precisely on the same plan as the corresponding logarithms of $D_{x,y}$ on a Male and a Female Life. The logarithm in this set of $D_{20,40} = D_{40,20}$, and this somewhat facilitates reference, besides being an additional guarantee of accuracy.

The fourth series of Tables (pp. 426–479) gives the numbers corresponding to the logarithms $D_{x,y}$ for Two Males. These numbers were taken out to all the logarithms of the Two-Male Table, and the duplicate numbers were carefully compared. But the numbers only appear once in these Tables.

The fifth and sixth series of Tables (pp. 482–605) contain the $\lambda\, D_{x,y}$ and $\lambda\, N_{x,y}$, and also the corresponding numbers $D_{x,y}$ and $N_{x,y}$ for Two Female Lives, arranged in precisely the same order as those for Two Male Lives.

It will be right to mention here the precautions which were taken to secure accuracy. The logarithms of $D_{x,y}$ as produced by the machine were checked at every tenth age before the slips were stereotyped. After they were stereotyped the numbers $D_{x,y}$ corresponding with the logarithms were found, and then copied into the columnar form shown on page 248. The column

$N_{x,y}$ was next obtained, then the logarithms of the $N_{x,y}$, and these were finally copied into the form in which they appear on page 176.

Each of the above operations was performed by two persons working independently. At every successive step a careful comparison of their work was made, and errors were corrected before the next stage was proceeded with.

It is manifest that in so extensive a series of Tables as this volume contains, it would be unreasonable to expect absolute freedom from error; but it may be said, with confidence, that the most complete means available in this Department were used to insure accuracy.

Every figure (excepting those produced by the machine, which were checked at every tenth age) was checked in manuscript; and since the Tables have been in type, they have been twice carefully read with the manuscript.

We have supplied the means of detecting any possible error by giving all the data, and indicating every step of the several processes.

# PART III.—ANALYSIS OF VALUES AS AFFECTED BY TIME, INTEREST, AND CONTINGENCIES OF LIFE OR OF COMMERCE: NOTATION.

### *Capital and its Price.*

I propose now to state and to discuss briefly the fundamental conceptions on which the chief formulas in the subsequent sections are based, to define certain terms, and to explain the parts of the notation which are in any respects novel.

Capital in use naturally increases. Its value varies as well as the value of its increase; and the values are measured by money. The ratio of these values varies; and it is therefore necessary to agree on a scale for its admeasurement.

Let 100*l.*—either in gold, or in securities equally convertible—be the initial sum; then, as it can be immediately exchanged into stock, goods, houses, land, or machinery, which will return a profit, the loan of it is of use, and its services possess a value in the market. The price of its services is determined in the usual way by the parties contracting; and its service is paid for on the instant, or at the end of a stipulated time when the loan is to be repaid. In the former case the price is called *discount,* in the latter *interest.*

If the price of the sum agreed upon is £5 for a year's use, the discount or interest is said to be at the rate of 5 *per cent. per annum.* Now there are in this expression three elements brought into account: the amount of the sum (*per cent.*), the time (1 *year*), and the rate (5). Each of the three may vary; to measure the variation of the rate, the sum and the time must be fixed. The commercial world is agreed upon 100 as the sum, and upon 1 year as the unit of time.

For the sake of simplicity, the sum and the time are further reduced in analysis to absolute units; thus, in England, to *one* pound and *one* year.

The rate, thus modified, may be represented by $i$, which is generally a small fraction of the monetary unit. And the amount of money for which £1 is discounted for a year at the rate $i$ is £ $(1-i)$, which may be named the initial value, the £1 being the terminal value; again, the amount of £1 at interest a year is £ $(1+i)$: so £1 is the initial value, and £ $(1+i)$ the terminal value. The sign £ may be omitted, or it may be replaced by the sign of any other monetary unit.

In discount £ $(1-i)$ is by agreement the *present value* of £1 due at the end of a year; *now* the value of a security of £ $a$ is $a\,(1-i)$; *then* it will be worth £ $a$; while £ $a\,(1-i) = a - ai$; the $ai$ is the discount of $a$; $a$ being any number, integral or fractional.

By agreement, also, £ 1 at interest is *the present or initial value* of £ $(1+i)$ due at the end of the year; and £ $a$ at interest is the initial value of £ $a$ $(1+i)$ due at the end of the year. The borrower agrees to pay £ $a$ $(1+i)$ at the end of the year for £ $a$ in money, which the lender places in his hands, or places to his credit; ∴ as £ 1 down is the value of £ $(1+i)$ payable in 1 year; under the same conditions £ $\frac{1}{1+i}$ will be the initial value of £ 1 to be paid at the end of the year. It will amount at the given rate of interest to $\frac{1}{1+i} \times 1+i = 1$; and in this sense only it is called its present value in the doctrines of interest.

The initial value of a sum to be paid in this sense is determined entirely by the conventional rate of interest; and it varies with the rate of interest.

These expressions occur frequently in the doctrines of interest; and it will be convenient sometimes to put $r = 1+i$; and $\frac{1}{1+i} = v$.

The following expressions are also of frequent use: $d = 1 - v = 1 - \frac{1}{1+i} = \frac{i}{1+i}$. This is the difference between £ 1 due at the end of a year, and its present value. It is the *rebate*. Thus the *rebate* of £ 100, when interest is reckoned at 5 per cent., is £ 4·762; for the initial value of £ 100 is £ 95·238, as at 5 per cent. interest it will amount to £ 100 at the end of the year.

$\frac{1+i}{1+i} = 1 = \frac{1}{1+i} + \frac{i}{1+i} = v + d$. So $d = vi$ = the present value of £ $i$, as $v$ is of £ 1.

The discount of £ 100, as has been explained, is by the universal custom of commerce, when discount is at the rate of 5 per cent., £ 5. So the discounter pays £ 95 for a bill of £ 100. It is singular that writers like Baily, of great acuteness, while admitting that the contracting parties are free to lend money at either 4 or 5 per cent., insist that £ 4·762 is the *true discount* in this case; and assert boldly that to deduct as discount £ 5 from £ 100 is "certainly neither correct nor just"! John Smart has published, and Baily has republished, a set of Discount Tables on this principle; but they are never used.

Now the rate of discount is the price agreed on by the buyer and seller, who understand each other perfectly*; for the rate of discount is expressed in the same simple terms as the rate of interest. The principle of admeasurement and the calculations are different; but they can be worked out in practice with the utmost scientific precision.

The charge of injustice is founded on the confusion arising when we include under rate of interest, the rate of profit arising from investments during the year.

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* In the language of commerce, Foreign Bills of Exchange are said to be *bought* and *sold*; the *discount* being the chief element of the *price*.

d 2

Thus, if interest is at 3 per cent., when it is convertible half-yearly, the profit is $3\cdot0225$; and at 5 per cent., under the same circumstances, the profit is $5\cdot0625$; which Baily calls the true rate of interest, and designates by $\varrho$ in his classical work; while with him $r=i$ is the symbol of what he names the *nominal rate* of interest. It will evidently be simpler to retain $i$, or the increase of £ 1 in one year at simple interest, as the symbol of the rate of interest, rather than $\left(1+\frac{i}{n}\right)^n-1$; and to use some other symbol for the rate of profit.

## *Discount.*

If the rate of discount be $i$, then $1-i$ will, if the security is perfect, be repaid by £ 1 at the end of the year, which is taken for the unit of time. Consequently every £ 1 employed will return $\frac{1}{1-i}$; for the return will be in proportion to the sum employed, and $1-i : 1 :: 1 : \frac{1}{1-i}$.

If the rate of discount is 5 per cent., the rate of profit, by discounting by the year, will be $\cdot05263=p$, or more than $5\frac{1}{4}$ *per cent.* per annum.

Let $1+p=\frac{1}{1-i}$; then, upon developing this expression in a series, it becomes $1+p=1+i+i^2+i^3+\ldots$ And $p=\frac{i}{1-i}=i+i^2+i^3+i^4\ldots$ *ad infinitum.*

To interpret this, assume that £ 1,000,000 is employed in discounting at 4 per cent. per annum: then £ 960,000 will discount £ 1,000,000 of bills; and the £ 40,000 left will discount £ 40,000 and leave £ 1,600, which will discount £ 1,600 and leave £ 64; which will discount £ 64 and leave £ 2·56, which will discount £ 2·56 and leave £ ·1024, &c. &c. The total amount discounted by £ 1,000,000 will be,—

$$
\begin{array}{r}
\pounds\,1{,}000{,}000\cdot\phantom{000000} \\
40{,}000\cdot\phantom{000000} \\
1{,}600\cdot\phantom{000000} \\
64\cdot\phantom{000000} \\
2\cdot56\phantom{0000} \\
\cdot1024\phantom{00} \\
\cdot004096 \\
\cdot000164 \\
\cdot000006 \\
\hline
\pounds\,1{,}041{,}666\cdot666666 \\
\hline
\end{array}
$$

Dividing the sum by 1,000,000, it is seen that each £ 1 realizes £ $1\cdot041\dot{6}$, or, at this rate of four per cent., £ ·96 discounts £ 1; and the £ ·04 discounts £ ·04, leaving £ $\cdot04\times\cdot04$; which discounts £ $\cdot04\times\cdot04$, leaving £ $\cdot04\times\cdot04\times\cdot04$, and so on *ad infinitum;* or universally by hypothesis the sum discounted by £ 1 is $1+i+i^2+i^3\ldots\ldots i^\infty$.

The rate of discount differs from the rate of profit even when the rate $i$ is low; and as it gets higher and usurious the difference grows rapidly; thus at 10 per cent. the profit rate is $11\frac{1}{9}$; for 20 per cent. it is 25 per cent.; at 50 per cent. it is 100 per cent.; and at 90 per cent. $p = \frac{\cdot 9}{1 - \cdot 90} = \frac{\cdot 9}{\cdot 1} = 9$; or the profit, if the security is perfect, will be 900 per cent. The difference between 90 and 900 suffices to show strikingly the difference between the rate of discount and the profit of discounting. From the nature of the case $i$ can never, in discount, exceed 1, when the function is a maximum.

Discount in its first stage probably did not take *time* into account, but now the price is in the scientific sense proportional to the time, the rate, and the sum discounted. Thus the rate ($i$) being always per £1 per annum; and the time scarcely ever exceeding a year, but varying from $\frac{1}{365}$ of a year to $\frac{365}{365}$; the rate for the $x^{\text{th}}$ part of a year is $\frac{i}{x}$; and the sum of money with which £ $a$ is discounted is $s = a\left(1 - \frac{i}{x}\right) = a - \frac{i}{x}a$; of which $\frac{i}{x}a$ is the deducted discount; so $s + \frac{i}{x}\,a = a$.

The discount at different rates is correctly represented for the fractional parts of a year in Smart's Table of Interest.* His Discount Tables are inapplicable to actual transactions.

The annual rate of profit at any rate of discount for any constant term $x$ is deducible from the equation,—

$$+ p = \left(\frac{1}{1 - \frac{i}{x}}\right)^{x} = \left(1 - \frac{i}{x}\right)^{-x} = 1 + \frac{x}{1}\,\frac{i}{x} + \frac{x(x+1)}{1 \cdot 2}\,\frac{i^2}{x^2} + \frac{x(x+1)(x+2)}{1 \cdot 2 \cdot 3}\,\frac{i^3}{x^3} \cdots$$

$$= 1 + \frac{x}{x}\,\frac{i}{1} + \frac{x(x+1)}{x^2} \cdot \frac{i^2}{1 \cdot 2} + \frac{x(x+1)(x+2)}{x^3} \cdot \frac{i^3}{1 \cdot 2 \cdot 3} \cdots\cdots$$

Here $i$ is a fraction; and when $x = 1$ this function is at its maximum, decreasing until $x = \infty$, when it is a minimum, and

$$(1)\quad 1 + p = 1 + \frac{i}{1} + \frac{i^2}{1 \cdot 2} + \frac{i^3}{1 \cdot 2 \cdot 3} + \frac{i^4}{1 \cdot 2 \cdot 3 \cdot 4} \cdots\cdots$$

As $e^i = 1 + \frac{i}{1} + \frac{i^2}{1 \cdot 2} + \frac{i^3}{1 \cdot 2 \cdot 3} \cdots\cdots$ in the Napierian system of logarithms, $i$ is the Napierian logarithm of the sum of the series, and $k$ being the modulus of the common logarithm $ik = i \times \cdot 43429448$ is the common logarithm of $(1 + p)$. Thus $\lambda\,(1 + p) = i \times \cdot 43429448$.

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* Smart's "Tables of Interest," &c., pp. 10–25.

The values of $p$ and $i$ at various rates of discount and interest for successive moments of time can be compared in the annexed Table (XI.)

The longer the term of discount transactions the greater is the profit, when the security is perfect; while, on the contrary, the shorter the terms at which interest is convertible — interest accumulating on interest — the greater is the profit, as is shown in the Table (XII.) The profit on discounting is always greater at the same rates, *cœteris paribus*, than the profit on lending money at interest.

TABLE XI.—ANNUAL RATES OF PROFIT ($p$) per £ 1 at different Rates of DISCOUNT and INTEREST ($i$), when Interest is assumed to be convertible *momently*.

| Rate of Discount or Interest ($i$). | Rate of Profit ($p$). | $\lambda(1 + p)$. |
|---|---|---|
| | £ | |
| ·03 | ·03045 | 0·0130288 |
| ·04 | ·04081 | 0·0173718 |
| ·05 | ·05127 | 0·0217147 |
| ·06 | ·06184 | 0·0260577 |
| ·07 | ·07251 | 0·0304006 |
| ·08 | ·08329 | 0·0347436 |
| ·09 | ·09417 | 0·0390865 |
| ·10 | ·10517 | 0·0434294 |

TABLE XII.—RATES OF PROFIT ($p$) per £ 1 at 3 and 4 per Cent. DISCOUNT or INTEREST ($i$).

| | | Rate of INTEREST *or* DISCOUNT ($i$). | |
|---|---|---|---|
| | | ·03 | ·04 |
| | | Rate of Profit ($p$). | |
| | | £ | £ |
| INTEREST | Convertible YEARLY - | ·03000 | ·04000 |
| | „ HALF-YEARLY | ·03023 | ·04040 |
| | „ QUARTERLY - | ·03034 | ·04060 |
| | „ *Momently* - | *·03045* | *·04081* |
| DISCOUNT | „ QUARTERLY - | ·03057 | ·04102 |
| | „ HALF-YEARLY | ·03069 | ·04123 |
| | „ YEARLY - - | ·03093 | ·04167 |

## *Interest, and the Present or Initial Value of Money at Interest.*

When money is lent out for the $x^{\text{th}}$ part of a year at the rate of interest $i$, the interest in that time is $\frac{i}{x}$; and for every £1 lent the sum repaid is $1+\frac{i}{x}$; now assume that this is reinvested successively at the same rate without any loss of time, and the rate of profit at the end of the $x^{\text{th}}$ period—that is, at the end of the year—is found by the equation,—

$$1+p=\left(1+\frac{i}{x}\right)^{x}=1+\frac{xi}{x}+\frac{x\,(x-1)}{x^2}\cdot\frac{i^2}{1\cdot2}+\frac{x\,(x-1)\,(x-2)}{x^3}\,\frac{i^3}{1\cdot2\cdot3}$$
$$+\frac{x\,(x-1)\,(x-2)\,(x-3)}{x^4}\cdot\frac{i^4}{1\cdot2\cdot3\cdot4}\cdots\cdots\cdots$$

Passing in this case to the limit, if $x=1$, the equation becomes $1+p=1+i$; or making $x$ infinite, the equation becomes, as did Equation 1. (p. xlix)—

$$e^{i}=1+p=1+\frac{i}{1}+\frac{i^2}{1\cdot2}+\frac{i^3}{1\cdot2\cdot3}\cdots\cdots$$

And $\lambda\,(1+p)=i\times k$ as before. So when interest is assumed to be convertible momently, the profit is precisely the same as the profit by discounting momently. This must be so in the nature of the case; as the mathematical difference between payment at the beginning and at the end of a period disappears, when that period is an instant of time.

The six following series, placed in juxtaposition, show the nature of the functions:—

The annual profit on discounting £1 by the year.

$$(1.)\quad \frac{1}{1-i}=1+i+i^2+i^3+i^4\cdots\cdots$$

The annual profit on discounting or lending out at interest £1, assuming the conversions to be momently; $x=\infty$

$$(2.)\quad \left(1+\frac{i}{\infty}\right)^{\infty}=1+\frac{i}{1}+\frac{i^2}{1\cdot2}+\frac{i^3}{1\cdot2\cdot3}+\frac{i^4}{1\cdot2\cdot3\cdot4}\cdots\cdots=e^{i}$$

The present value of £1 to be received at the end of the year, if interest be convertible momently; $x=\infty$

$$(3.)\quad \left(1+\frac{i}{\infty}\right)^{-\infty}=1-\frac{i}{1}+\frac{i^2}{1\cdot2}-\frac{i^3}{1\cdot2\cdot3}+\frac{i^4}{1\cdot2\cdot3\cdot4}\cdots\cdots=e^{-i}$$

When $x=$ any finite number, the series expresses the value of £1 to be received at the end of the year, the interest being convertible $x$ times in the year.

$$(4.)\quad \left(1+\frac{i}{x}\right)^{-x}=1-\frac{x}{1}\,\frac{i}{x}+\frac{x\,(x+1)}{1\cdot2}\cdot\frac{i^2}{x^2}-\frac{x\,(x+1)\,(x+2)}{1\cdot2\cdot3}\cdot\frac{i^3}{x^3}\cdots\cdots$$

The annual profit on £1 by discounting for the $x^{th}$ part of a year, $x$ times.

$$(5.)\quad \left(1-\frac{i}{x}\right)^{-x}=1+\frac{x}{1}\,\frac{i}{x}+\frac{x\,(x+1)}{1\cdot2}\cdot\frac{i^2}{x^2}+\frac{x\,(x+1)\,(x+2)}{1\cdot2\cdot3}\cdot\frac{i^3}{x^3}\cdots\cdots$$

The profit in a year on £1 lent out on interest convertible $x$ times.

$$(6.)\quad \left(1+\frac{i}{x}\right)^{x}=1+\frac{x}{1}\,\frac{i}{x}+\frac{x\,(x-1)}{1\cdot2}\cdot\frac{i^2}{x^2}+\frac{x\,(x-1)\,(x-2)}{1\cdot2\cdot3}\cdot\frac{i^3}{x^3}\cdots\cdots$$

With regard to Equations 2 and 3; put $nx = n\infty$, and the sums of the series are known; for $\lambda\, s = nik$ when $n$ is positive, and $\lambda\, s = -nik$ when $n$ is negative. Thus—

$$\left(1 + \frac{i}{x}\right)^{nx} = 1 + ni + \frac{n^2\, i^2}{1 \cdot 2} + \frac{n^3\, i^3}{1 \cdot 2 \cdot 3} \cdot \cdot \cdot \cdot \cdot$$

$$\left(1 + \frac{i}{x}\right)^{-nx} = 1 - ni + \frac{n^2\, i^2}{1 \cdot 2} - \frac{n^3\, i^3}{1 \cdot 2 \cdot 3} \cdot \cdot \cdot \cdot \cdot$$

$$e^{ni} = 1 + \frac{ni}{1} + \frac{n^2\, i^2}{1 \cdot 2} + \frac{n^3\, i^3}{1 \cdot 2 \cdot 3} \cdot \cdot \cdot \cdot \cdot$$

$$e^{-ni} = 1 - \frac{ni}{1} + \frac{n^2\, i^2}{1 \cdot 2} - \frac{n^3\, i^3}{1 \cdot 2 \cdot 3} \cdot \cdot \cdot \cdot \cdot$$

When the interest is assumed to be reinvested with the capital at the end of every year, the capital increases; and as the amount of £1 is at the end of a year $1 + i$, this increasing in the same ratio becomes $(1 + i)^2$ at the end of two years; $(1 + i)^n$ at the end of $n$ years.

£$a$ in $n$ years will therefore, on this hypothesis, increase to the sum $s = a\,(1 + i)^n$ in $n$ years, and $\frac{s}{(1 + i)^n} = a$, the present value of $s$.

Putting 1 as the value at the beginning, then $(1 + i)^n = r^n$ will be the value at the end of the term of $n$ years; so 1 may be called the initial value, $r^n$ the terminal value. The ratio of the two values is $1 : r^n$; and for the same reasons that 1 becomes $r^n$, the $\frac{1}{r^n}$ will become £1 in $n$ years; here $\frac{1}{r^n} = v^n$ is the initial value, and £1 is the terminal value.

The present value of any sum $s$ payable in $n$ years is $a = v^n\, s$; $a$ being the initial, and $s$ the terminal value. Thus at 3 per cent. interest, the present value of £1,000 due in 23 years is $506 \cdot 692 = \frac{1}{(1 \cdot 03)^{23}}\, s = v^{23}\, s = \cdot 506692 \times 1000$.

Conversely, $\frac{a}{v^{23}} = s$; and making the $a = 1000$, $s = \frac{1000}{\cdot 506692}$. By logarithms $\lambda\, s = \lambda\, 1000 - \lambda\, v^{23}$. As the values of all the most useful terms of $v^n$ up to $v^{100}$, and their logarithms, are given in pp. 6–15; $\lambda\, r^n$ is immediately deduced from $\lambda\, v^n$, as the one is the arithmetical complement of the other; thus—

$$\lambda\, v^{23} = \bar{1} \cdot 7047438 = -\,0 \cdot 2952562$$

$$\lambda\, r^{23} = 0 \cdot 2952562$$

### *Time in which $s = 2a$.*

In what time $n$ will $a$ be doubled $= 2a$ at any rates of discount (by one operation), of simple interest and of compound interest? These values are found by the following equations, as well as the correlative values of $i$ when $n$ is given.

$$(1.)\ \text{Discount}\ \frac{1}{1 - ni} = 2 \quad \therefore n = \frac{1}{2i}\ ;\ \text{and}\ i = \frac{1}{2n}$$

$$(2.)\ \text{Simple Interest}\ (1 + ni) = 2 \quad \therefore n = \frac{1}{i}\ ;\ \text{and}\ i = \frac{1}{n}$$

$$(3.)\ \text{Compound Interest}\ (1 + i)^n = 2$$

$$\therefore n\,\lambda\,(1 + i) = \lambda\,2\ ;\ \text{and}$$

$$n = \frac{\lambda\,2}{\lambda\,(1 + i)}\ ;\ \lambda\,(1 + i) = \frac{\lambda\,2}{n}$$

Discount never extends over such long periods, neither as a rule is simple interest allowed to remain so long dormant; but the values are added for the sake of comparison in the subjoined Table (XIII.), taken, with the exception of the Discount column, from Baily's work.*

The period of doubling at simple interest is $= \frac{1}{i}$; and for all the lower rates of compound interest the period of doubling $= \frac{1}{i} \times \cdot 7$ nearly, while the doubling period by discount is $\frac{1}{i} \times \cdot 5$.

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TABLE XIII.—PERIOD OF DOUBLING CAPITAL AT SIMPLE AND COMPOUND INTEREST, AND AT DISCOUNT.

| Rate ($i$). | Period of doubling Capital. | | |
|---|---|---|---|
| | Simple Interest ($\frac{1}{i}$) | Compound Interest. | Discount (one operation) ($\frac{1}{2i}$) |
| ·02 | 50·000 | 35·003 | 25·000 |
| ·03 | 33·33$\dot{3}$ | 23·450 | 16·66$\dot{6}$ |
| ·04 | 25·000 | 17·673 | 12·500 |
| ·05 | 20·000 | 14·207 | 10·000 |
| ·06 | 16·66$\dot{6}$ | 11·896 | 8·33$\dot{3}$ |
| ·07 | 14·286 | 10·245 | 7·143 |
| ·08 | 12·500 | 9·006 | 6·250 |
| ·09 | 11·11$\dot{1}$ | 8·043 | 5·55$\dot{5}$ |
| ·10 | 10·000 | 7·273 | 5·000 |

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* F. Baily, "Doctrine of Interest," &c., 1808, p. 95.

## *Annuities ; Perpetuities.*

The value of several future payments is readily determined; as it is the aggregate value of each payment taken separately. Thus the value of £ $a$, £ $b$, £ $c$, to be received at the end of 3, 7, and 17 years, is at ($i$) any given rate of interest $\frac{a}{(1+i)^3} + \frac{b}{(1+i)^7} + \frac{c}{(1+i)^{17}}$; which is more concisely expressed by $s = av^3 + bv^7 + cv^{17}$; if $a = b = c$ then $s = a\,(v^3 + v^7 + v^{17})$. If the intervals of time $x$ are equal, $s = a\,(1 + v^x + v^{2x} + v^{3x} \; . \; . \; . \; . \; . \;)$; and the series $v^{nx}$ is a geometrical progression, which can be summed in the usual way. This is a periodical payment, but it is not an annuity.

An annuity is a series of equal payments, made either yearly, half-yearly, quarterly, or in some other fractional part of a year; and it is generally called in the last case an annuity of £ $a$, payable by $n^{ly}$ instalments. Its value varies with its amount, with the rate of interest or its periods of conversion, and with the time during which the annuity is payable wholly or in instalments.

Annuities—like rents—and the government perpetual annuities, are purchased at the time the rents or dividends are due, immediately after they are paid, or at any intervening instant; and as sellers of estates for various reasons generally received the rents before the sale, it became customary to value the annuity immediately after the first instalment was paid. For some purposes this is convenient; for other purposes, and particularly in many logarithmic calculations connected with insurance, the value of the annuity is required immediately before the first instalment is due. By taking all values of annuities at the instant an instalment is due, an annuity deferred $n$ years is an annuity of which the first payment is due at the end of $n$ years. And by deducting 1 from the initial value, the value of the annuity, first payment at the end of the year, is immediately obtained.

In the old style of location an annuity deferred $n$ years was said to be entered on at the end of $n$ years, a phrase requiring a good deal of explanation, and then only intelligible by suggesting that the first instalment is due a year afterwards.

The rate of interest ($i$) being given, the value of $x$ payments of an annuity of £ $a$ for $x$ years is found by summing the series $\frac{1}{(1+i)^x} = v^x$; making $x$ vary from 0 to $x-1$. Thus, $s = a\,(1 + v^1 + v^2 \; . \; . \; . \; . \; v^{x-1}) = \mathrm{V}_{x-1} = a\,\frac{1+i}{i}\,(1-v^x)$. If $a = 1$ this becomes $\frac{1+i}{i}\,(1-v^x) = \mathrm{V}_{\infty}\,(1-v^x) = \mathrm{V}_{x-1}$, the value of the perpetuity, multiplied by the difference between £ 1, and the initial value of £ 1 to be paid at the end of $x$ years: and if, further, $x$ become infinite $= \infty$; $s = \frac{1+i}{i} = \mathrm{V}_{\infty}$.

But $V_{\infty} - v^{x} V_{\infty} = V_{x-1} \therefore V_{\infty} - V_{x-1} = v^{x} V_{\infty}$ ; and consequently the value of an annuity for $x$ years being known, the value of the reversion of that annuity is also known. The first payment of the Reversionary Annuity is made at *the end of the* $x^{th}$ = the *beginning of the* $x + 1^{th}$ *year.* The value of the reversion is also derived directly from the Equation $s = av^{x} \frac{1+i}{i}$.

When the annuity is payable at the end of the first and of each of $x$ years, $s = \frac{a}{i}(1-v^{x})$ ; or if $a = 1$ it becomes $s = \frac{1}{i}(1-v^{x}) = \frac{1}{i} - \frac{v^{x}}{i}$. And when $x = \infty$ the last term disappears, so $s = \frac{1}{i}$ = the value of a perpetuity of £ 1 ; that is, of £ 1 payable at the end of the first and of every future year. The value of the reversion of £ 1 a year so paid for ever is $\frac{1}{i} v^{x}$.

When interest at the rate $i$ is convertible $n$ times in the year, and the annuity of £ $a$ is payable at the same $n$ times, the value of the annuity of £ $a$ for $x$ years is expressed in this series:

$$s = a \left\{ (1 + \frac{1}{1+\frac{i}{n}} + \frac{1}{\left(1+\frac{i}{n}\right)^{2}} \cdots\cdots \frac{1}{\left(1+\frac{i}{n}\right)^{nx-1}} \right\}$$

$$= a \, \frac{n+i}{i} \left\{ 1 - \frac{1}{\left(1+\frac{i}{n}\right)^{nx}} \right\}$$

When $x = \infty$ this gives the values of the perpetuity: $s = a \, \frac{(n+i)}{i} = a \left(\frac{n}{i}+1\right)$. When $a = 1$ the $s = \frac{n}{i} + 1$; and if $a = \frac{1}{n}$ the $s = \frac{1}{i} + \frac{1}{n}$. The $\frac{1}{n}$ is the first instalment, and depends on $n$. Hence it follows that the value of an annuity of £ 1, of which the $n^{th}$ part is payable at the *end of every* $n^{th}$ *part* of a year, is independent of the value of $n$ ; and upon this hypothesis an annuity of £ 1 a year for ever is of the same value, whether it be payable quarterly, half-yearly, or yearly.

Thus, an annuity of £ 2 payable at the end of every half-year is worth 50 half-year's purchase ; and an annuity of £ 4 payable at the end of every year is worth 25 years' purchase. But 2 × 50 = 4 × 25 = 100.

How happens it that if the rents have just been paid, an estate of which the rents are payable yearly is worth the same as the rents of the same estate payable half-yearly; when it is obvious that here the interest on half a year's rents may be realized every year, in addition to the rent itself? The answer to this is, that the value is the sum in both cases of the separate values of each future rent, at the times those rents fall due: upon two distinct hypotheses, each of which, however, leaves out of account any possible future increment derivable from the investment of the rents. In the one case the hypothesis is that £ 100 of value will yield a rent of £ 2 half-yearly; and in the other, that it will yield £ 4 yearly; and in either case it is unallowable to change the hypothesis in interpreting the formula.

This is an illustration of the discrepancies in the doctrines of interest that exist among illustrious mathematicians. Of course the difference does not arise in any question of the mechanism of analysis, but in the original hypotheses, and in the definitions of symbols.

### *Values at constant Risk.*

In annuities certain no contingency is taken into account; and their values are the sums of the initial values of terminal sums—upon the hypothesis of no risk and of a certain rate of increase. If the annuity certain is to continue, if it is deferred, or if it is to intermit—for any definite time—its value is shown by the Tables, or is immediately deduced from the formulas.

Some annuities flow apparently from perennial sources; and the probability of their drying up—in their scientific valuation—is neglected. The English 3 per cent. annuities, and annuities secured by land, are in this category; yet it is well known that their value fluctuates in any periods of public alarm. 5 and 4 per cent. annuities are exposed to the further risk of reduction. And, in fact, no future payments, whether single or periodical, are absolutely certain; and I shall now show how the risk can be either explicitly or implicitly expressed analytically.

Of the moneys advanced at discount or interest on different classes of securities, as well as of all values at risk, the losses can be determined by observation; but such observations have hitherto been registered in few cases; and the risks estimated by the sagacity derived from experience in business, are covered by additions to the rates of discount and interest.

Let the proportional amount per £ 1 per annum that *fails* to be paid out of an expected sum be $f$; then $1 - f = c$ will be the proportional amount per pound to be expected from parties whose *credit* remains unshaken. The reduced value of the sum expected ($s$) will be $(1-f)\ s$.

$c$ will measure the credit of the payer; $f$ will be the fraction of discredit, and will express the probability of failure.

$c$ expresses the probability of payment; and if taken correctly upon a large number of cases the average sum £ $ca$ is almost certainly realized; but in single transactions $ca$ is only the value of the chance of receiving the sum $a$. Thus A discounts £ 100 by advancing £ 95 at the risk $f = \frac{1}{105}$; then, although there are 104 chances in favour of his gaining £ 5, he may lose the expected £100 by the transaction; for there is one chance in favour of his losing.

This speculative element can be investigated; but it is only of importance in its effects on the fortune of the discounter. It does not directly affect the values, which are now in question.

*Discount at Risk.*

Let $s$ be the sum discounted; then at the risk $f$ the value of this sum will be $(1-f)\ s$ = the terminal value of the sum to be realized. But at the rate $i$ the £$s$ is discounted for $(1-i)\ s$. $\therefore \frac{(1-f)\ s}{(1-i)\ s} = 1+p$; the $p$ being the rate of profit on such transactions. Assume that the risk and the interest are exactly proportional to the time; for instance, that $\frac{f}{2}$ = the risk of loss in half a year; as $\frac{i}{2}$ is the discount for half a year; then the annual rate of profit will be found by the general equation,—

$$\left(\frac{1-\frac{f}{x}}{1-\frac{i}{x}}\right)^x = \frac{\left(1-\frac{f}{x}\right)^x}{\left(1-\frac{i}{x}\right)^x} = \left(\frac{x-f}{x-i}\right)^x = 1+p.$$

If the transactions are annual, $x = 1$; and this becomes $\frac{1-f}{1-i} = 1+p$; and if they are assumed to be momently $x = \infty$, so then the equation becomes $\frac{e^{-f}}{e^{-i}} = \frac{e^i}{e^f}$. In the latter case *hyp. log.* $(1+p) = i-f$; or $i-f$ is the hyperbolic logarithm of $1+p$. And $\lambda\ (1+p) = (i-f)\ k$ = the common logarithm. Example: Discount for 1 year: put $1-f = (1+p)\ (1-i) = 1\cdot 03 \times \cdot 95 = \cdot 9785 = 1 - \cdot 0215$ in the equation $\frac{1-f}{1-i} = 1+p$; and $\frac{\cdot 9785}{\cdot 9500} = 1\cdot 03$. Thus, when the risk is 2·15 per cent., the rate of 5 per cent. discount returns on one yearly transaction a probable profit of 3 per cent. on the capital.

If the transactions are assumed to be momently $\lambda\ (1+p) = (\cdot 0500 - \cdot 0215) \times \cdot 43429448 = \cdot 0123774$; and the annual rate of profit is 2·891 instead of 3·000 per cent. The values of $p$ when $x$ is any intermediate number between 1 and $\infty$ lie between the limiting numbers. The more frequent the transactions, even when there is risk, the less is the profit, if the risk remain invariable.

The risk is not constant in personal credit, which fluctuates; and the advantage of frequent transactions is, that the discounter reviews the credit of the names on every bill at the moment of discount; he thus is in the position an insurance office would occupy, if it had every three months, or every week, the power of getting rid of all its policies on sick lives.

The value of $i$ to yield a given rate of profit $p$ at the given risk $f$, in $x$ transactions annually, is immediately deduced from the general equation.

$$\text{If } x = 1 \text{ then } i = \frac{p+f}{1+p}.$$

### *Interest at Risk.*

When money ($a$) is at interest, the rate being $i$, and the risk $f$, the probable sum ($s$) to be received at the end of the year is evidently $a\ (1-f)\ (1+i) = s$. $\therefore (1-f)\ (1+i) = \frac{s}{a} = 1+p$, where $p$, being the probable profit in a year on £ 1, is the rate of profit. And $i = \frac{1+p}{1-f} - 1 =$ the rate of interest, by which the probable rate of profit will be $p$ when the risk is $f$. Let $f = \frac{q}{1+p+q}$,

$$\text{then } c = 1 - f = \frac{1+p}{1+i} = \frac{1+p}{1+p+q}, \text{ and } \therefore\ i = p + q, \text{ or } i - p = q$$

$$f = 1 - c = 1 - \frac{1+p}{1+i} = \frac{i-p}{1+i} = \frac{q}{1+i} = \frac{q}{1+p+q}$$

Thus when the profit rate is only $p = {\cdot}03$, and the interest rate is $i = {\cdot}05 = {\cdot}03 + {\cdot}02$; then $c = \frac{1{\cdot}03}{1{\cdot}05}$; and $f = \frac{{\cdot}02}{1{\cdot}05} = {\cdot}0190476$.

Example: Let £10500 be lent in equal proportions of £100 to 105 persons at 5 per cent. interest; then if none fail to pay, the profit will be £525, or at the rate of 5 per cent. 11025 will be returned; but the risk being $\frac{2}{105}$, there will be a probable loss of £210 by two failures, and the profit will be $525 - 210 =$ £315 $= 10500 \times {\cdot}03$ $=$ to the profit at 3 per cent. interest, when the security is perfect or when $1 - f = c = 1$.

It is evident on inspection, as $c\ (1 + i) = 1 + p$, that to realize a given rate of profit the value of $i$ must vary inversely with $c$. Thus if the profit is to be at the rate of 3 per cent. when the risk of failure is $\frac{1}{104}$, the rate of interest must be 4 per cent; when the risk is $\frac{2}{105}$ the interest must be 5 per cent.; when the risk is $\frac{3}{106}$ the interest must be 6 per cent. For to make $c\ (1 + i) = 1 + p$ it suffices to put $c = \frac{1+p}{1+i} = \frac{1+p}{1+p+q}$; or $f = \frac{i-p}{1+i} = \frac{q}{1+p+q}$.

When interest is convertible $x$ times in the year, the rate of profit is increased; and if the interest and the risk are proportional to the time, the general equation becomes,—

$$1 + p = \left(1 - \frac{f}{x}\right)^x \left(1 + \frac{i}{x}\right)^x$$

This function is at its maximum when $x = \infty$; for when the transactions are momently it becomes $1 + p = \frac{e^i}{e^f}$; and $\lambda\ (1 + p) = (i - f)\ k = (i - f) \times {\cdot}43429448$.

Thus if $f = \frac{\cdot 02}{1 \cdot 05}$, and $i = \cdot 05$, the $\lambda\,(1 + p) = \left(\cdot 05 - \frac{\cdot 02}{1 \cdot 05}\right) k = \frac{\cdot 0525 - \cdot 0200}{1 \cdot 05}$ $\times \cdot 43429448 = \frac{\cdot 0325}{1 \cdot 05} \times \cdot 43429448 = \cdot 0134425$; and $p = \cdot 03144$, so the profit is 3·144 per cent. in the year.

The profit on one transaction in the year at the same rates of interest and of risk is 3 per cent.

*Initial Value of Sums at Risk.*

The initial value of £1 to be paid with certainty when the rate of profit is $p$ is $v_1 = \frac{1}{1 + p}$; which becomes $\frac{1 - f}{1 + p} = v_1 c$, when the rate of risk to which it is exposed is $f$; or dividing each term by $1 - f$ and putting $\frac{1 + p}{1 - f} = 1 + i$, we have the $\frac{1 - f}{1 + p} = \frac{1}{1 + p} - \frac{f}{1 + p} = \frac{1}{1 + i} = v_2$; which includes implicitly the expression both of risk and increase. Here—

$$f = \frac{i - p}{1 + i};\ c = \frac{1 + p}{1 + i};\ p = ci - f.$$

If the profit on £1 is $\frac{p}{x}$ in the $x^{\text{th}}$ part of a year when the risk is $\frac{f}{x}$; the initial value of £1, which is engaged in $x$ transactions during the year, will be $\frac{\left(1 - \frac{f}{x}\right)^x}{\left(1 + \frac{p}{x}\right)^x} = \frac{1}{1 + i}$; which when $x = 1$ is $\frac{1 - f}{1 + p}$. And when $x = \infty$ is $\frac{1}{e^f\, e^p} = e^{-(f + p)} = \frac{1}{1 + i}$; $\therefore$ when the transactions are assumed to be momently, or in this case—

$$\lambda\left(\frac{1}{1 + i}\right) = -\,(f + p)\,k.$$

Putting $f = \cdot 02$, and $p = \cdot 03$; this becomes $-\,(\cdot 05 \times \cdot 43429448) = -\,\cdot 0217147$; and $\lambda\left(\frac{1}{1 + i}\right) = \bar{1} \cdot 9782853$. The $1 + i = 1 \cdot 05127$, and $\frac{1}{1 + i} = \cdot 95123$; and when the transaction is annual the corresponding values are nearly the same for $1 + i = 1 \cdot 05102$; and $\frac{1}{1 + i} = \frac{\cdot 98}{1 \cdot 03} = \cdot 95146$, when $p = \cdot 03$, and $f = \cdot 02$.

*Annuities at constant Risk.*

The annuity being £1, the initial value of the first payment is £1, as $1 - \frac{f}{\infty} = 1$. The initial value of the £1 payable at the end of the *first* year is $\frac{1 - f}{1 + p} = \frac{1}{\frac{1 + p}{1 - f}} = \frac{1}{1 + i} = cv_1$.

The initial value at the beginning of the second year of the £ 1, contingently payable at its end, is $v_1c$; of which the present value at the beginning of the first year is $v_1^2\, c^2$. For in order to pay the second £ 1 the validity of the fund must have survived the two periods, of which the compound chance is $cc$, assuming the risk in each year to be equal. The same kind of reasoning applies to the third year, and to every subsequent year. So $V_n = 1 + cv_1 + c^2 v_1^2 + c^3 v_1^3 \ldots c^n v_1^n$.

Putting $cv_1 = \frac{1+p}{1+p+q} \times \frac{1}{1+p} = \frac{1}{1+p+q} = \frac{1}{1+i} = v$, this becomes the ordinary series—

$$V_{n-1} = 1 + v + v^2 + v^3 \ldots v^{n-1} = \frac{1+i}{i} - \frac{v^n}{i} = \frac{1+p+q}{p+q} - \frac{v^n}{p+q}$$

Hence it follows that an annuity which is assumed to be at *constant risk*, can be valued by the same methods as an annuity certain; it being only necessary to select a rate of interest high enough to cover the risk, and to fulfil the conditions of the equation $v = \frac{1}{1+i} = \frac{1-f}{1+p}$; the $p$ representing the rate of interest when there is no risk, and $f$ the rate of risk.

Thus when $f = \cdot 019048$ we have $q = \cdot 02$ and $p = \cdot 03$, so the $i = \cdot 05$.

$$\frac{\cdot 980952}{1 \cdot 03} = \frac{1}{1+i} = \frac{1}{1 \cdot 05} = \cdot 952381.$$

And the 5 per cent. annuity is the value of an annuity at risk; which if there were no risk would be worth the corresponding values in the 3 per cent. Table.

The Tables $V_x - 1$ at the various rates of interest, therefore, serve to value annuities at several rates of risk and interest. Thus, if the perpetuity, or an annuity certain of £ 1 payable at the end of every year for ever, is worth £ $33\frac{1}{3}$, and $p = \cdot 03$; an annuity at the risk $\frac{\cdot 01}{1 \cdot 04}$ is worth $\frac{1}{\cdot 03 + \cdot 01} = \frac{1}{\cdot 04} =$ £ 25; an annuity of £ 1 at the risk $\frac{\cdot 02}{1 \cdot 05}$ is worth $\frac{1}{\cdot 03 + \cdot 02} = \frac{1}{\cdot 05} =$ £ 20; and the same annuity at the risk $\frac{\cdot 03}{1 \cdot 06}$ is worth $\frac{1}{\cdot 03 + \cdot 03} = \frac{1}{\cdot 06} = 16 \cdot \dot{6}$. Universally, when the risk is $\frac{q}{1+p+q}$ the value of the perpetuity is $\frac{1}{p+q} = \frac{1}{i}$.

So if the rate of interest without risk is $p$, and the risk is $\frac{i-p}{1+i} = f$, the value of the perpetuity is $\frac{1}{p+(i-p)} = \frac{1}{i}$; and the annuity for any term of years is valued by the $(100 \times i)$ per cent. Table, or by the correlative formula. Thus if the rate of interest at no risk is 4 per cent., and the risk is $\frac{\cdot 05 - \cdot 04}{1 \cdot 05} = \frac{\cdot 01}{1 \cdot 05}$, the valuation is by the 5 per cent. Table.

When an annuity of £ 1 a year is worth £ $33\frac{1}{3}$, any annuity of £ $a$ for ever is said to be worth $33\frac{1}{3}$ years' purchase. If $a =$ £ 100, the perpetual annuity is worth £ $3333\frac{1}{3}$; its value falls to £ 2500 at the risk $\frac{1}{104}$; to £ 2000 at the risk $\frac{2}{105}$; to £ $1666\cdot\dot{6}$ at the risk $\frac{3}{106}$; to £ 1000 at the risk $\frac{7}{110} = \frac{i-p}{1+i}$.

The value of the 3 per cent. annuity is thus reduced as the risk becomes $\frac{1}{104}, \frac{2}{105}, \frac{3}{106}, \ldots \frac{7}{110}$; to $\frac{3}{4}, \frac{3}{5}, \frac{3}{6}, \ldots \frac{3}{10}$, of the value at no risk. Thus, if the perpetuity at no risk is worth $\frac{1}{p}$, its value at the risk $f = \frac{q}{1+p+q}$ becomes $\frac{1}{p} \times \frac{p}{p+q} = \frac{1}{p+q}$.

The annuity of £ 100 at the yearly risk of $\frac{1}{104}$ is equivalent in value to £ 75 a year at no risk, assuming $p$ to be ·03; for $75 \times 33\frac{1}{3} = 100 \times 25$; $75 \times \frac{1}{\cdot 03} = 100 \times \frac{1}{\cdot 04}$. Thus by paying in insurance a premium of £ 25 a year out of the annuity, the rest, or the £ 75, is enjoyed without risk. If the risk is less the premium is diminished. (See p. cxii.)

Thus by the artifices of insurance, irregular risks, like those from fire or hail, or the seas, or lapses of integrity, can be commuted into equivalent constant rates, of which the effect on annuities for terms of years, or in perpetuity, can be determined.

### *Annuities at Risks varying regularly (Demoivre's Hypothesis).*

Let the probability that £ 1 will be paid by A at the end of a year be $\frac{99}{100}$; and the probability at the beginning of the second year that he will pay the same sum at the end of that year be $\frac{98}{99}$; and so let the probability of payment decrease in the ratio of $\frac{97}{98}, \frac{96}{97}, \frac{95}{96}$, to $\frac{2}{3}$, and $\frac{1}{2}, \frac{0}{1}$. Then the initial value of an annuity dependent upon these varying contingencies will be thus determined:

$$A_n = \frac{v^0(n-0) + v^1(n-1) + v^2(n-2) \ldots\ldots + v^m(n-m) \ldots\ldots + 1 \,.\, v^{n-1}}{n}$$

According to this hypothesis 1 out of the number $n$ will fail every year until the $n$ have all failed; and the probability that any one will fail in any particular year is $\frac{1}{n}$; while the probability of failing in $m$ years is $\frac{m}{n}$, and the probability of not failing in $m$ years is $\frac{n-m}{n} = 1 - \frac{m}{n}$. Thus $n$ and $m$ being any numbers, 10 and 3 for example, then $\frac{n-m}{n} = \frac{10-3}{10} = \frac{7}{10} = 1 - \frac{3}{10}$ = the probability of not failing; while $\frac{3}{10}$ is the probability of failing in 3 years.

The above series is divisible into two, as will be evident on inspection:

$$A_n = n(1 + v^1 + v^2 + v^3 \ . \ . \ . + v^{n-1})$$

$$- (1\,v^1 + 2\,v^2 + 3\,v^3 . \ . \ . + (n-1)\,v^{n-1})$$

$$= V_\infty\left\{1 - \frac{(V_n - 1)}{n}\right\} = \frac{1+i}{ni^2}(ni + v^n - 1) = \frac{1+i}{i}\left\{1 - \frac{(1-v^n)}{ni}\right\} =$$

the value of an annuity of £ 1 payable at the beginning of every year to any one designated of the number $n$, so long as he shall survive.

When $n = 1$ this becomes 1; and when $n = \infty$ it becomes $V_\infty = \frac{1+i}{i}$ = the value of a perpetuity, which is the limiting value. It is evident, in fact, that the value of the annuity is regulated by the rates of interest and risk; and that when $n = 1000000$ this series,

$$\frac{1000000}{1000000} + \frac{999999}{1000000}\,v + \frac{999998}{1000000}\,v^2 \ . \ . \ . \ .$$

so long as $v$ is less than unity, will, as $n$ is augmented, constantly approximate to the series,

$$V_\infty = 1 + v^1 + v^2 \ . \ . \ . \ . \ . \ v^\infty.$$

By making $n$ greater or smaller the series serves, therefore, to determine values depending on interest and on different degrees of risk; so it admits of extensive application. The Table 7. (p. clii) has been constructed to illustrate its uses. The series $D_n + D_{n+1} + D_{n+2} \ . \ . \ . \ . \ . \ .$; the $n$ being any number, consists of the terms $nv^m + (n-1)\,v^{m+1} \ . \ . \ . \ . \ .$; consequently,

$$\frac{nv^m + (n-1)\,v^{m+1} + (n-2)\,v^{m+2}}{nv^m} \ . \ . \ . \ . \ .$$

$= A_n = \frac{N_n}{D_n}$ = the value of an annuity of £1, subject to the risks $\frac{n-1}{n}, \frac{n-2}{n-1} \ . \ . \ .$

Thus at 3 per cent. interest the value of a perpetuity at no risk is 34⅓ years' purchase; and the value of

$$A_{30} = \frac{N_{30}}{D_{30}} = 11{\cdot}901; \ V_{29} = 20{\cdot}188$$

$$A_{10} = \frac{N_{10}}{D_{10}} = 5{\cdot}043; \ V_9 = 8{\cdot}786.$$

Demoivre, by a stroke of genius, happily applied this series, when data were defective, to the determination of the values of life annuities. He assumed 86 to be the term of human life; and called $86 - x = n$, the *complement of life.*

Although the use of the series for this purpose is superseded, it may admit of application to other risks; and the columnar method greatly increases the range of its utility. Thus the following are two examples:

$$\frac{N_{110} - N_{105}}{D_{110}} = \frac{110 + 109v + 108v^2 + 107v^3 + 106v^4}{110}$$

$$\frac{N_{20} - N_{15}}{D_{20} = 20v^{90}} = \frac{20v^{90} + 19v^{91} + 18v^{92} + 17v^{93} + 16v^{94}}{20v^{90}}$$

$$= \frac{20 + 19v + 18v^2 + 17v^3 + 16v^4}{20}$$

The first gives the value of an annuity for 5 years, at slightly increasing risk, commencing at 109 to 1; the latter to an annuity for 5 years, at greater risk, beginning at 19 to 1, and descending to 16 to 4, or 4 to 1. Certain risks may thus be treated, but efforts should be incessantly directed to the determination of the law of risk in each particular class of transactions.

Thus the Fidelity Guarantee may be treated; and the single or annual premium may be determined, on the hypothesis of constant or variable risks, corresponding with appreciations of character and of exposure to forfeiture.

When $A_x$ = the value of a life annuity, and $p$ are given, we have from the equation $\frac{1}{p+q} + 1 = A_x$, the value of $q = \frac{1}{A_x - 1} - p$; and $f = \frac{q}{1 + p + q}$ = the uniform annual risk, which remaining constant to the end would at the rate of interest $p$ give the annuity at uniform risk the same value as that of the life annuity at variable risk.

Thus an annuity of £1 on X, a single male life, age 20, interest 3 per cent., is worth 22·0612, or if payable at the end of every year that X shall live 21·0612; so $\frac{1}{21 \cdot 0612} = \cdot 047481 = p + q = i = a$. And $i - p = \cdot 047481 - \cdot 03 = \cdot 017481 = q$; but $\frac{q}{1+i} = \frac{\cdot 017481}{1 \cdot 047481} = \cdot 016689 = f$; which corresponds with the $\mu_{47}$ of the Life Table, as $c = 1 - f = 1 - \cdot 016689 = \cdot 983311$ corresponds with the probability of living a year at that age. The probability of living a year varies at every year of age; but if it were to remain uniform through life, the numbers living would form a descending geometrical progression, and so would the series representing the values of life annuities.

The value of $A_{20} = 22 \cdot 0612$ corresponds nearly with that of the annuity by Demoivre's method, against the age which has 86 for its complement; and the probability of living corresponds with that of 59·92 for complement in his series.

### *Compound Risks; Partial Risks.*

Compound risks can be reduced to equivalent simple risks; thus, let the chances that X will fail to pay £ 1 be $f_1$; that Y, who is independent of X, will fail, be $f_2$; and that Z, also independent, will fail, be $f_3$; then the chance that neither of the three will pay is $(1 - f_1 \cdot f_2 \cdot f_3)$; consequently the value of a bill for £ $a$ which the three are severally liable to pay is $a\,(1 - f_1 f_2 f_3)$. If the chances in favour of the three are respectively 8 to 1, 9 to 1, and 10 to 1, then this expression becomes $a\left(1 - \frac{1}{9} \cdot \frac{1}{10} \cdot \frac{1}{11}\right) = a\left(1 - \frac{1}{990}\right) = a\,\frac{989}{990}$. If the bill were for £ $990 = a$, then, leaving out the element of interest, £ 1 would cover the risk; while £ 11 would cover the risk if the credit of only X and Y were engaged; and £ 110 would be required to cover the risk if the bill rested exclusively upon the credit of X. But put $f_1 \cdot f_2 \cdot f_3$, as in the example $= f$, and the compound is susceptible of the same treatment as the simple risk.

If the failure of X involves the failure of Y, and conversely, the events are not independent, and are treated as single risks, or as only partly independent.

When the ability of X to pay depends upon his being previously paid by Y, and also on Y being previously paid by Z, several cases arise. Thus if X and Y will certainly pay if they are previously paid by Z, but otherwise fail, then the risk is $f_3$ only, and the value of £ $a$ subject to such risk is $(1 - f_3)\,a$, which may be expressed more simply by $c_z\,a$; if the ability of Y to pay, even if paid by Z, is uncertain, and the probability that in that contingency he will pay is $c_y$, the value is further reduced to $c_y \cdot c_z \cdot a$; furthermore, if upon Y and Z paying X, the probability that he will then pay the bill to which his name is attached be $c_x$, the value will be reduced to $c_x \cdot c_y \cdot c_z \cdot a$. Thus, if these compound chances were $\frac{8}{9}$ and $\frac{9}{10}$ and $\frac{10}{11}$, the bill being for £ 990, its value would be $\frac{720}{990} \cdot 990 =$ £ 720.

If a bill is not paid when due, or is only paid in part, it is a case of partial loss. The risk of partial losses is expressible by the methods which have been described; thus, let it be equally probable in the case of loss that the loss will be total or infinitesimally small, or any intermediate value, then, if the loss be estimated at $f_1\,\frac{a}{2}$, the probability of losing the whole being $\cdot 10 = f_1$, the probable loss $\cdot 10\,\frac{a}{2} = a \times \cdot 05 = \frac{f_1}{2}\,a$. If the sum were £ 990 its value would be $990\,(1 - \cdot 05) = \cdot 95 \times 990 = 940 \cdot 50$. The premium £ 49·500 would cover the loss. This case comes under the general rules by making $\frac{f_1}{2} = f$.

To generalize the principles which have been discussed, let credit—or the confidence which is placed in the promise to pay a sum of money either absolutely at a given time or on the happening of a given event—be expressed analytically by unity if it is perfect; and the various degrees of credit by fractions; its symbol being $c$. Then $c$ will vary from 1 to 0. And let $1 - c = f =$ the estimated risk, or the chance that the money will not be paid, $f$ will vary inversely; and in all cases $1 = c + f$.

Securities may be classed; and if we refer X to a class of the credit $c_x$, we shall have the equation (1) $1 = c_x + f_x$; (2) and $1 = c_y + f_y$ will be applicable to Y; (3) and $1 = c_z + f_z$ will be applicable to Z under the same circumstances. Multiplying the first and second together, the equation (4) or $c_x c_y + c_x f_y + c_y f_x + f_x f_y$ exhibits the chances that the credit of both X and Y will stand $(c_x\ c_y)$; that X only will stand and Y only fail $(c_x f_y)$; that Y only will stand, X only fail $(c_y f_x)$; and finally that both X and Y will fail, $f_x f_y$. In the same manner the third element Z may be introduced. If the credit of all parties be taken to be equal $c = c_x = c_y = c_z$; then the function may be developed binomially.

$$(c_x + f_x)^3 = c_x^3 + 3\ c_x^2 f_x + 3\ c_x^1 f_x^2 + f_x^3.$$

And universally,

$$(c_x + f_x)^n = c_x^n + \frac{n c_x^{n-1}}{1} f_x + \frac{n\ (n-1)}{1 \cdot 2} c_x^{n-2} f_x^2 . \ . \ . \ . + f_x^n.$$

As $f_x^n =$ the chances that all will fail; $1 - f_x^n =$ the chances that at least some one will not fail to meet the engagement in which the combined credit is engaged. If $f =$ probability that all will fail out of $n$ persons of equal credit $= c_x$; then as $f = f_x^n$ it follows that $f^{\frac{1}{n}} = f_x =$ the chance that any one X will fail. So if $f = \frac{1}{1000} = f_x^3$, then $f^{\frac{1}{3}} = \frac{1}{10}$. Thus is explained the rapid diminution of chances of loss in securities by the addition of every name, when the credit of each name is good and independent.

There is another great class of risks which extend over long periods of time, and vary, as they depend upon the life or death of one or more persons, in different orders; and their probable degrees of variation can be determined by observation. The present volume refers to this class of cases, which are most deserving of attention, and which will at the same time illustrate the methods of analysis strictly applicable to all commercial speculations.

### *Mean Rate of Interest.*

The wealth of a nation consists of its population, and of their possessions, animate or inanimate; and, as might be expected, a close analogy exists between the rate of increase of population by birth and the rate of interest of capital.

The registered rate of birth in England has for 23 years (1838–1860) been 3·311 per cent., and the registered rate of death 2·231.

The birth-rate in the ten years 1851–60 was ·03417, and the death-rate ·02224. If we put for an instant $i = \cdot 03417$; and $f = \cdot 02224$; the $p = \cdot 01193$, or the rate of increase of population, will correspond with the rate of profit which we have hitherto been investigating.

Unfortunately, no adequate means of registering the rates of interest, or the losses on the investments of all the capital of the country, exist; and although insurance offices do determine the rate of profit on their capital, the operation is delicate, and requires science and judgment in application. It is a common error, for instance, to assume that the ruling rate of interest is the rate of profit on the funds of the society, to be taken as the basis of their tables, thus leaving out of account the unproductive balances, the reduced profits on certain investments, the losses of either capital or interest, and the establishment expenses involved in the investment and custody of capital.

The natural rate of interest is apparently between 3 and 4 per cent., the latter rate being only attainable on the whole of the funds by skilful investment. The average rate probably differs little from the birth-rate.

A net interest of 3 per cent. per annum allows for all the contingencies to be practically taken into account; and the excess of interest over this rate is fairly considered mercantile income to be dealt with, after due reserves are made and expenses are met, as divisible profit.

Some means should be taken to determine the rates of interest upon different classes of investments—and the rates of loss—to place the finance and the higher commerce of the country on a sound and scientific basis.*

## *Determination of Initial and Terminal Values subject to Life Contingencies.*

Any value ($v$) which at interest becomes £1 in a year, is by definition its present or initial value,—in this sense, that at the given rate of interest it will, with the interest, amount to £1 in one year. But if the £1 is only to be paid in the event of the life X surviving a year, $v$ is no longer the present value of £1 then payable, for that value is reduced in proportion to the risk of loss. Now this risk varies at different ages; and at birth it is by the English Life Table (Persons) $\frac{149493}{1000000} = \cdot 149493 = \mu_0 =$ the fraction expressing the probability that a child will die in a year: and by the Life Table $\frac{850507}{1000000} = \frac{l_1}{l_0} = \cdot 850507 = p_0 =$ the fractional expression of the probability that the child will live a year. Thus $p_0 v^1 = \cdot 850507 \times \cdot 970874 = \cdot 825735$ is the value of £1 payable a year hence if a child just born be then alive. The value of £1 then payable if the child has died in the year is $\mu_0 \, v^1 = \cdot 149493 \times \cdot 970874 = \cdot 145139$. And the sum of these values is $\cdot 825735 + \cdot 145139 = \cdot 970874 = \frac{1}{1 \cdot 03}$, the sum which at 3 per cent. interest will amount to £ 1 at the end of a year.

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* See Report of Proceedings of Statistical Congress in London (Vol. I. pp. 201–2); and also some excellent papers by Mr. W. B. Hodge on the Rate of Interest in the Journal of the Institute of Actuaries (Vols. vi, vii, viii, ix.)

It is important to observe that there is a direct connection between the value of £ 1 payable if the life die, and the value of the sum payable if the life survive; for the one value can be derived from the other through the intermediary of $v$, or the function involving the rate of interest. Thus at the age of 20 the value of £ 1 to be paid at the end of the year in the event of the death of X is ·008044; and the value of £ 1 to be paid if he survive is $\cdot 970874 - \cdot 008044 = \cdot 962830$; the £ ·008044 paid as a premium being equivalent to the value of the chance of £ 1; but it is evident that in dealing with an individual case, if the life die the insurer will be called upon to pay £ 1 or 240 pence, while, if the life survive, the insurant will have sacrificed 2 pence, and the profit of the insurer will be 2 pence = ·008.

Thus the insurant for £1000 policy incurs little risk of loss, or £ 8·044; but the insurer incurs the risk of having to pay £ 1000 for which he has only the premium. The fluctuation in the risk diminishes as the number of lives on which the insurances are effected; until, as the numbers increase, it becomes nearly constant, and can be covered by an addition to the premium, if the Life Table correctly represents the average probabilities of life and death in the population among whom the insurances are effected.

These examples show in what sense £ 8·044 is the present value of £ 1000 payable in the event of the death of X during the year; it is the present value of the specific chance of receiving £ 1000. The value of any sum depending on the chance of X living to or dying before any future age $x + n$, is determined by the same method.

It has been stated, in describing the Tables, that the series $v^x l_x + v^{x+1} l_{x+1} + v^{x+2} l_{x+2} \ldots\ldots$ is represented by $D_x + D_{x+1} + D_{x+2} \ldots\ldots$; and that $N_x = D_x + D_{x+2} + D_{x+3} \ldots\ldots + D_\omega =$ the present value of £ 1 payable annually to each of the $l_x, \; l_{x+1}, \; l_{x+2} + \ldots\ldots l_\omega$ persons living at the successive ages after $x$. But $\frac{D_{x+1}}{D_x} = \frac{v l_{x+1}}{l_x}$; and $\frac{D_{x+2}}{D_x} = \frac{v^2 l_{x+2}}{l_x}$; and universally $\frac{v^n l_{x+n}}{l_x}$: so by making $n$ successively 1, 2, 3, . . . until $x + n = \omega$, the last age of the Life Table, a series of fractions is obtained; of which the sum is $\frac{N_x}{D_x} = A_x =$ the initial value of an annuity of £ 1 payable at the beginning of every year that X shall live.

If the probability that Y will live $n$ years is $\frac{l_{y+n}}{l_y}$; and the probability that X will live $n$ years is $\frac{l_{x+n}}{l_x}$; the probability that both will live $n$ years is

$\frac{l_{y+n}}{l_y} \cdot \frac{l_{x+n}}{l_x}$; and the value of £1 dependent upon that compound event is $\frac{v^n\, l_{y+n} \cdot l_{x+n}}{l_y \cdot l_x}$. The same reasoning may be extended to any number of lives.

The series $l_x\, l_y,\ v\, l_{x+1}\ l_{y+1},\ v^2\, l_{x+2}\ l_{y+2}, \ldots\ v^n\, l_{x+n}\, l_{y+n}$ being converted into $v^{\frac{x+y}{2}+n}\, l_{x+n} \cdot l_{y+n}$, is adapted for use by this skilful change, and is simply expressed by $D_{x,y} + D_{(x,y)+1} + D_{(x,y)+2} + D_{(x,y)+3} \ldots\ldots D_{x+n,\omega}$, or $D_{\omega,y+n}$, $= N_{x,y}$, and $\frac{N_{x,y}}{D_{x,y}} = A_{x,y} =$ the value of £1 a year payable at age $x$ and at the beginning of every year of joint after-lifetime. It ceases at the death of the first life, whether it be that of X or Y. The $A_{x,y}$ is the sum of the compound fractions expressing the values of all the annual chances of getting £1.

$\frac{N_{xyz}}{D_{xyz}} = A_{xyz}$, and the same notation may be extended to any number of lives. The series $D_{vwxyz}$ ends whenever any of its factors become $l_\omega = 0$.

By the Life Table it is shown that of $l_x$ persons of the age $x$, the deaths will most probably be $d_x, d_{x+1}, d_{x+2}, \ldots\ldots d_\omega$ in each year of life; the probability that X will die in the year after age $x$ is $\frac{d_x}{l_x} = \mu_x$, and, taking interest into account, the value of £1 payable in that event at the end of that year is $\frac{v^1\, d_x}{l_x} = \frac{v^{x+1} d_x}{v^x\, l_x} = \frac{C_x}{D_x}$. In like manner, the value of the £1 payable if X die, not in the first year, but in the year after age $x + 1$, is $\frac{v^{x+2}\, d_{x+1}}{v^x\, l_x} = \frac{C_{x+1}}{D_x}$; and so, in like manner, all the initial values of the terminal £1 being found, their sum is $\frac{M_x}{D_x} = \frac{C_x + C_{x+1} \ldots + C_\omega}{D_x} = \Pi_x$; such is the initial value of £1 payable at the death of X,—that is, at the end of the year in which he dies, happen whenever it might. This premium insures £1, the payment of which is dependent on a single event; but as the value varies with the times of payment, the lifetime is divided into equal sections, and the chances of the death happening in the first, second, third, and every subsequent year, with the element of interest, determine the values precisely as if for the *survivor* at the end of every year a new life were substituted of the same age and health as X.

The probability that X will die before attaining the $n$th year is $\frac{d_x + d_{x+1} \ldots\ldots d_{x+n-1}}{l_x} = \frac{l_x - l_{x+n}}{l_x}$; which may be written $\frac{l_{x|n}}{l_x} = \mu_{x.n} = 1 - \frac{l_{x+n}}{l_x}$.

The probability that X will die in the year after the age $x + n$ is $\frac{d_{x+n}}{l_x} = \mu_{x+n}$; that X will die after living to the age of $x + n$ years is $\frac{l_{x+n}}{l_x}$; which is also the probability that X will *not die* in the next $n$ years; or it is the probability that X will live $n$ years. The initial value of £1 payable if X is alive at the end of $n$ years is thus, as before, found to be $\frac{v^n l_{x+n}}{l_x} = v^n p_{x.n}$.

When $n = 1$ the probability of living a year is $\frac{l_{x+1}}{l_x} = p_x$, which is conventionally its symbol; therefore the probability that X will die in the year is $1 - p_x = \mu_x$; for $p_x + \mu_x = 1$, the symbol of certainty, as it is certain that X will be either alive or dead at the end of the term: $vp_x$ is the value of £1 payable if X be alive; and $v\,(1 - p_x) = v\mu_x = v - vp_x$ is the value of £1 payable if he die in the year.

As $v^{x+1}\frac{(l_x - l_{x+1})}{v^x\,l_x} = \frac{v^{x+1}\,d_x}{v^x\,l_x} = \frac{C_x}{D_x}$, it is evident that for the series $M_x = C_x + C_{x+1} \dots + C_\omega$, the two following series may be substituted,—

$$\begin{aligned} & v\,(v^x l_x + v^{x+1} l_{x+1} \dots + v^\omega l_\omega \\ & -(v^{x+1} l_{x+1} + v^{x+2} l_{x+2} \dots + v^\omega l_\omega \\ & = v^{x+1} l_x - (1 - v)\,(v^{x+1} l_{x+1} + v^{x+2} l_{x+2} \dots + v^\omega l_\omega). \end{aligned}$$

Putting $D_x = v^x l_x$; and $D_{x+n} = v^{x+n} l_{x+n}$ for every value of $x$ and $n$, the last equation becomes,—

$$\begin{aligned} & v\,D_x - (1 - v)\,(D_{x+1} + D_{x+2} + \dots + D_\omega) \\ & = v\,D_x + (1 - v)\,D_x - (1 - v)\,\{D_x + D_{x+1} + D_{x+2} \dots D_\omega\} \\ & = D_x - (1 - v)\,N_x. \end{aligned}$$

And putting $1 - v = d = \frac{i}{1 + i}$, we have,

$\frac{M_x}{D_x} = \frac{D_x - dN_x}{D_x}$ = the present value of £1 payable at the end of the year that X may die, expressed in the terms which express the values of sums depending on the continuance of life,—

$$= 1 - d\,\frac{N_x}{D_x} = 1 - dA_x = 1 - \frac{i}{1 + i}\,A_x.$$

Let $C_{xy} = v^{\frac{x+y}{2}+1}\,(l_x\,l_y - l_{x+1}\,l_{y+1})$, then, for the same reasons as hold in the case of the single life,—

$$\begin{aligned} M_{xy} & = C_{xy} + C_{(xy)+1} + C_{(xy)+2} \dots + C_{x\omega} \text{ or } C_{y\omega} \\ & = D_{xy} - dN_{xy} \end{aligned}$$

$$\text{And } \frac{M_{xy}}{D_{xy}} = 1 - d\,\frac{N_{xy}}{D_{xy}} = 1 - dA_{xy}.$$

This is the value at ages $x$ and $y$ of £1 payable at the end of the year of the death of the first of two lives X and Y.

The same reasoning applies to three, four, five, or any number of associated lives, which, like the atoms in an organic molecule, form a definite combination destructible by the detachment of the first life from the compound.

The general expression for the values of £ 1, payable upon this contingency, is

$$\Pi_{xyz,\ \&c.} = \frac{M_{xyz,\ \&c.}}{D_{xyz,\ \&c.}} = 1 - d\,\frac{N_{xyz,\ \&c.}}{D_{xyz,\ \&c.}} = 1 - dA_{xyz,\ \&c.} = 1 - viA_{xyz,\ \&c.}$$

$$\text{As } M_{xyz} = D_{xyz} - dN_{xyz}\,;$$

$$\text{So } N_{xyz} = \frac{D_{xyz} - M_{xyz}}{d} = (D_{xyz} - M_{xyz})\,\frac{1+i}{i}$$

$$\text{And } A_{xyz} = \frac{N_{xyz}}{D_{xyz}} = \left(1 - \frac{M_{xyz}}{D_{xyz}}\right)\frac{1}{d}$$

$$= (1 - \Pi_{xyz})\,\frac{1+i}{i} = \frac{1}{a_{xyz}} = \frac{1}{\pi_{xyz} + d}$$

Thus if the values of $\pi_{xy}$ or $\Pi_{xyz}$ have been calculated, the values of $A_{xy}$ or $A_{xyz}$ are immediately derived from them; and each of the two series $M_{xy,\ \&c.}$ and $N_{xy,\ \&c.}$ has its peculiar advantages; but of the two, the latter is the most common, and the most useful.

[*Note.*—$\Pi_{xyz,\ \&c.} + viA_{xyz,\ \&c.} = 1 = \Pi_{xyz,\ \&c.}$ *and* the value of the interest of £ 1 paid yearly in advance during the joint lives. Also $\pi_{xyz} + vi = a_{xyz}$.]

The joint life of X and Y terminates (1) in the first year by the death of X, while Y survives, of which $\frac{l_{y+1}\,d_x}{l_y\,l_x}$ is the probability; (2) by the death of Y, while X survives, the probability of which is measured by $\frac{l_{x+1}}{l_x} \cdot \frac{d_y}{l_y}$; and (3) by the death in the year of X and Y, of which the fraction $\frac{d_x\,d_y}{l_x\,l_y}$ expresses the probability.

Thus, as $v\,\frac{l_{x+1} \cdot l_{y+1}}{l_x \cdot l_y}$ is the value of £ 1 to be paid if X and Y jointly survive at the age $x+1$ and $y+1$; so $v\,\frac{l_{y+1}}{l_y} \cdot \frac{d_x}{l_x} =$ the value of £ 1 payable if Y only survive, and X die in the year; $v\,\frac{l_{x+1}}{l_x} \cdot \frac{d_y}{l_y} =$ the value of £ 1 payable if X survive, and Y die; no payment being made if X and Y die, of which the chance is $\frac{d_x \cdot d_y}{l_x \cdot l_y}$.

All the cases are indicated in the following development,—

$$l_x \cdot l_y = (l_{x+1} + d_x)\,(l_{y+1} + d_y) = l_{x+1} \cdot l_{y+1} + l_{x+1}\,d_y + l_{y+1} \cdot d_x + d_x \cdot d_y$$

$$1 = \frac{l_{x+1} \cdot l_{y+1}}{l_x \cdot l_y} + \frac{l_{x+1} \cdot d_y}{l_x \cdot l_y} + \frac{l_{y+1} \cdot d_x}{l_x \cdot l_y} + \frac{d_x \cdot d_y}{l_x \cdot l_y}$$

The value of £1 payable if X is alive at the end of one year is $\frac{l_{x+1}}{l_x}$; and the value of the chance of obtaining it is further reduced by the condition that Y shall die before the first payment is due; of which the probability is,—

$$\frac{d_y}{l_y} = \frac{l_y - l_{y+1}}{l_y} = 1 - \frac{l_{y+1}}{l_y} = 1 - p_y.$$

The value of the £1 subject to the two conditions is,—

$$v\,\frac{l_{x+1}}{l_x}\left(1 - \frac{l_{y+1}}{l_y}\right) = v\,\frac{l_{x+1}}{l_x} - v\,\frac{l_{x+1}\;l_{y+1}}{l_x\;l_y} = v\,(p_x - p_x\,p_y);$$

which may be written $v\,(p_x - p_{xy})$.

The value of the second payment of £1 is dependent on X surviving and Y dying in two years; so it is,—

$$\begin{aligned} & v^2\,\frac{l_{x+2}}{l_x}\left(\frac{l_y - l_{y+2}}{l_y}\right) \\ &= v^2\,\frac{l_{x+2}}{l_x} - \frac{v^2\,l_{x+2}\cdot l_{y+2}}{l_x\cdot l_y} \\ &= v^2\,p_{x.2} - v^2\,p_{x.2}\cdot p_{y.2} \end{aligned}$$

The value of the $n^{\text{th}}$ payment is,—

$$v^n\,\frac{l_{x+n}}{l_x} - v^n\,\frac{l_{x+n}\cdot l_{y+n}}{l_x\cdot l_y} = v^n\,p_{x.n} - v^n\,p_{xy.n}$$

If $n$ be made successively 0, 1, 2, 3, . . . . . until either $x + n$ or $y + n = \omega$, the sum of all the values will be $A_x - A_{xy} = A_{x|y}$ = the value of an annuity of £1, first payment at the end of the year in which Y shall die, and last payment at the beginning of the last year of the life of X.

Assume that B buys this survivorship annuity on X, a similar annuity of £1 on Y, and an annuity of £1 on the joint lives—that is, payable annually so long as both live—then the value of his purchase will be,—

$$\begin{array}{rr} (1) & A_x - A_{xy} \\ (2) & A_y - A_{xy} \\ (3) & + A_{xy} \\ \hline A_{\overline{xy}} = & A_x + A_y - A_{xy} \end{array}$$

The annuity of £1 is first payable in this case at the date of the purchase, and is due annually until the year when the life of the longest liver, either X or Y, expires.

This formula can be obtained independently. The probability that both X and Y will die before the end of $n$ years is,—

$$\left(\frac{d_x + d_{x+1} \ldots d_{x+n-1}}{l_x}\right) \left(\frac{d_y + d_{y+1} \ldots d_{y+n-1}}{l_y}\right)$$

$$= \frac{l_x - l_{x+n}}{l_x} \cdot \frac{l_y - l_{y+n}}{l_y}$$

$$= \left(1 - \frac{l_{x+n}}{l_x}\right) \left(1 - \frac{l_{y+n}}{l_y}\right) = (1 - p_{x.n})\ (1 - p_{y.n})$$

$$= 1 - \frac{l_{x+n}}{l_x} - \frac{l_{y+n}}{l_y} + \frac{l_{x+n} \cdot l_{y+n}}{l_x \cdot l_y}$$

$$= 1 - p_{x \cdot n} - p_{y \cdot n} + p_{xy \cdot n}$$

Subtracting the two last equations from unity, the probability that either X or Y, or X and Y, will survive, is found to be,—

$$p_{\overline{xy} \cdot n} = \frac{l_{x+n}}{l_x} + \frac{l_{y+n}}{l_y} - \frac{l_{x+n} \cdot l_{y+n}}{l_x \cdot l_y}$$

$$= p_{x \cdot n} + p_{y \cdot n} - p_{xy \cdot n}$$

Upon inserting $v^n$ in each term, and making $n$ vary from 0 to 1, 2, 3, . . . . . until $x + n$, or $y + n = \omega$, all the values of the successive payments are found, of which the sum is $A_{\overline{xy}} = A_x + A_y - A_{xy}$.

This is often called the value of *an annuity on the longest of two lives.*

To interpret the following equation, assume that what is more probable than any other combinations will happen,—

$$l_x \cdot l_y = l_{x+1} \cdot l_{y+1} + l_{x+1} \cdot d_y + l_{y+1} \cdot d_x + d_x d_y$$

and let the number $l_x \cdot l_y$ represent married couples; so there will be $l_x \cdot l_y$ husbands, and $l_x \cdot l_y$ wives. Then, at the assumed rate $\left(\frac{d_x}{l_x}\right)$ of mortality, out of $l_x \cdot l_y$ husbands $\frac{d_x}{l_x} \cdot l_x \cdot l_y = d_x l_y = d_x\ (l_{y+1} + d_y)$ will die, leaving $d_x l_{y+1}$ widows alive; and, by hypothesis, $\frac{d_y}{l_y} \cdot l_x \cdot l_y = d_y \cdot l_x = d_y\,(l_{x+1} + d_x)$ wives will die, leaving $d_y \cdot l_{x+1}$ widowers. The $d_x d_y$ husbands and the $d_y d_x$ wives who die in the year dissolve between them only $d_x d_y$ couples.

Now, following the $d_x l_{y+1}$ widows—if they experience the common rate of female mortality at their age—they will fall year by year to $d_x l_{y+2}$ to $d_x l_{y+3}$ . . . . $+ d_x l_\omega$.

The widows out of $l_{x+1} \cdot l_{y+1}$ wives will in the second year be $d_{x+1} \cdot l_{y+2}$; which will fall year by year to $d_{x+1} \cdot l_{y+3}$ to $d_{x+1} l_{y+4}$ . . . to $d_{x+1} \cdot l_\omega$: and so the widows of every year will form a separate decreasing series of annuitants; the value of whose annuities is represented in the annexed scheme.

### *Initial Value of Life Annuities of £1 to each Widow surviving out of $l_x l_y$ Wives.*

$$\begin{aligned}
&v^1 (d_x l_{y+1}) && = v^1 l_{y+1} (l_x - l_{x+1}) \\
&v^2 (d_x l_{y+2} + d_{x+1} l_{y+2}) = v^2 l_{y+2} (d_x + d_{x+1}) && = v^2 l_{y+2} (l_x - l_{x+2}) \\
&v^3 (d_x l_{y+3} + d_{x+1} l_{y+3} + d_{x+2} l_{y+3}) && = v^3 l_{y+3} (l_x - l_{x+3}) \\
&v^4 (d_x l_{y+4} + d_{x+1} l_{y+4} + d_{x+2} l_{y+4} + d_{x+3} l_{y+4}) && = v^4 l_{y+4} (l_x - l_{x+4}) \\
&v^n (d_x l_{y+n} + d_{x+1} l_{y+n} \ldots d_{x+n-1} l_{y+n}) && = v^n . l_{y+n} . (l_x - l_{x+n}) \\
& && = (d_x + d_{x+1} + \ldots d_{x+n-1}) v^n l_{y+n}.
\end{aligned}$$

The series terminates when $y + n = \omega =$ the last age in the Table; and upon summing up the series from $n = 1$ to $n = \omega - y$, multiplying by $v^y$, and dividing by $v^y l_y l_x = D_y l_x$, the value of the survivorship annuity upon Y after the death of X is determined. It is in this case the value of an annuity of £1 to the surviving widow (Y) of X.

$$(1) \quad A_{y|x} = \frac{d_x N_{y+1} + d_{x+1} N_{y+2} + d_{x+2} N_{x+3} \; . \; . \; . \; .}{v^y l_x l_y = l_x D_y}$$

$$= \frac{N_y}{D_y} - \frac{N_{xy}}{D_{xy}} = A_y - A_{xy} = \text{the value of an annuity of £1 on the}$$

life of Y after the death of X, as before shown.

This identity is evident; the separate terms being summed up in different orders.

Should the annuity to the widow at age $y$ not be of the tabular value $A_{y+1}$, but any other value—such, for example, as $A'_{y+1} =$ the annuity to a widow to cease during coverture—then $D_{y+1} A'_{y+1}$ must be substituted for $N_{y+1}$, and the equation becomes,—

$$(2) \qquad A'_{y|x} = \frac{d_x D_{y+1} A'_{y+1} + d_{x+1} D_{y+2} A'_{y+2} \; . \; . \; . \; .}{v^y l_y l_x = D_y l_x}$$

$$= \text{the initial value of an annuity so limited.}$$

When the value $A'_{y+1} = \frac{N_{y+1}}{D_{y+1}}$, the $D_{y+1}$ disappears from the first term; and, in like manner, when $A'_{y+2} = \frac{N_{y+2}}{D_{y+2}}$, the $D_{y+2}$ disappears from the second term, and so on to the end; hence the absence of $D_{y+n}$ in the previous equation.

When $N'_{y+1} = v^{y+1} l'_{y+1} + v^{y+2} l'_{y+2} \; . \; . \; . \; .$ differs from $N_{y+1}$ it may be substituted for it in Equation 1. by simply multiplying it into $\frac{D_{y+1}}{D'_{y+1}}$.

Thus, for $N_{y+1}$ we have $\frac{D_{y+1}}{D'_{y+1}} N'_{y+1} = \frac{l_{y+1}}{l'_{y+1}} N'_{y+1} = D_{y+1} \cdot \frac{N'_{y+1}}{D'_{y+1}} = D_{y+1} \cdot A'_{y+1}$. This has the effect of making $l_{y+1}$ the basis of the new series; which is indispensable, inasmuch as $d_x\, l_{y+1}$ widows by hypothesis claim the annuity at the age $y + 1$; and as the value of the annuity is $A'_{y+1}$ by hypothesis, the value of $d_x\, l_{y+1}$ such annuities is $d_x\, l_{y+1}\, A'_{y+1}$. The same reasoning applies to all the other terms.

When three lives X, Y, and Z are concerned, the probabilities of living and of dying are determined in the same way as in the simpler case of two lives; and the equations admit of similar interpretations.

Thus let,—

$$\begin{aligned} l_x \,.\, l_y \,.\, l_z &= (l_{x+1} + d_x)\,(l_{y+1} + d_y)\,(l_{z+1} + d_z) \\ &= l_{x+1}\, l_{y+1}\, l_{z+1} + d_x\, l_{y+1}\, l_{z+1} + d_x\, d_y\, l_{z+1} + d_x\, d_y\, d_z \\ &\qquad\qquad d_y\, l_{x+1}\, l_{z+1} + d_x\, d_z\, l_{y+1} \\ &\qquad\qquad d_z\, l_{x+1}\, l_{y+1} + d_y\, d_z\, l_{x+1} \end{aligned}$$

Then there are, by hypothesis, $l_x \,.\, l_y \,.\, l_z$ triple units, into which that number of lives of the class X, that number of Y's, and that number of Z's, enter; of which $l_{x+1} \cdot l_{y+1} \cdot l_{z+1}$ combinations subsist at the end of the year; $l_x\, l_y\, l_z - l_{x+1}\, l_{y+1}\, l_{z+1}$ combinations having been broken up by the deaths of either X, or Y or Z; or by the deaths of X and Y, X and Z, and Y and Z; or by the deaths of X and Y and Z.

Let $p_x$, $p_y$, and $p_z$ be the several probabilities that X, Y, and Z will live; and $(1 - p_x)$, $(1 - p_y)$, and $(1 - p_z)$ be the several probabilities that they will die in the year; then $p_x$, $p_y$, $p_z$, which may be written $p_{xyz}$, = the probability that X, Y, Z will live a year, and $v p_{xyz}$ £ 1 = the initial value of £ 1 to be paid if the three be alive at the end of the year; but $(1 - p_x)\, p_{yz} = p_{yz} - p_{xyz}$ = the probability that X will die, and Y, Z will be alive, so the initial value of £ 1 dependent upon the happening of that combination of events is $v\,(p_{yz} - p_{xyz}) = vp_{yz} - vp_{xyz}$; again, the probability that X and Y will die in the year, and Z be alive, is $(1 - p_x)\ (1 - p_y)\ p_z$; and $(1 - p_x)\ (1 - p_y)\ (1 - p_z)$ = the probability that X, Y, and Z will die in the year.

Multiplying out the last three factors, and subtracting the product from unity, $p_{\overline{xyz}} = p_x + p_y + p_z - p_{xy} - p_{xz} - p_{yz} + p_{xyz}$ is found to be the expression of the probability that all will not be dead; that is, that the three, or some two, or some one of the three lives will survive. The value of £1 dependent on this survivorship is immediately determined by the expression $v^n p_{\overline{xyz}\cdot n}$. Now the sum of the values of annuities dependent upon any life contingency of the kind is determined by the equation $A_{\overline{xyz,\,\&c.}} = \int v^n p_{\overline{xyz,\,\&c.}\cdot n}$ on making $n$ successively 0, 1, 2, 3, . . . . ; and finding the sum. This in the case of three lives is,—

$$A_{\overline{xyz}} = A_x + A_y + A_z - A_{xy} - A_{xz} - A_{yz} + A_{xyz}.$$

All the values of the annuities on the single life are given; those on two lives are immediately found from the Tables; and the annuity on the third life is readily calculated, by adding the $\lambda\, l_z$ to $\lambda\, D_{xy}$; $\lambda\, l_{z+1} + \lambda\, D_{(xy)+1}$; and so on till the series terminates. From the successive values of $D_{xyz}$ the $N_{xyz}$ and the annuity are found in the usual way.

Besides the two cases of which $p_{xyz}$ and $p_{\overline{xyz}}$ are the symbols, there are others; thus, as the value of £1 payable if X and Y and Z are alive at the end of $n$ years is $v^n\ p_{xyz\,.\,n}$, so $v^n\ p_{yz\,.\,n}\ (1 - p_{x\,.\,n}) = v^n\,(p_{yz\,.\,n} - p_{xyz\,.\,n})$; which, upon taking the sums of all the values from $n = 0$, until the series terminate by a factor becoming zero, is found to be $A_{yz} - A_{xyz} = A_{yz\,|\,x}$. Such is the value of an annuity of £1 on the joint lives of Y and Z; the first payment to be made only after the death of X, and no payment to be made after the death of either Y or Z.

It will be borne in mind that $p_{x\,.\,n} = \dfrac{l_{x+n}}{l_x}$; and that when $n = 0$ this becomes $p_{x\,.\,0} = \dfrac{l_x}{l_x} = 1$; that when $n = 1$, the value $p_{x\,.\,1}\left(= \dfrac{l_{x+1}}{l_x}\right)$ is always written $p_x$; and that as the form of the equations is unaffected by the value of $n$, when this form is determined for the case $n = 1$, it is determined for all ordinary cases.

The Appendix to the Registrar General's Twelfth Annual Report contains investigations of the fundamental equations for determining in respect to single lives the value of policies on which any premium ($\pi$) and any sum at death ($s$) is paid. See, for instance, Case IV., p. 18 of that Appendix; in which it is only necessary to substitute the series $l_x \cdot l_y \cdot l_z$ for $l_x$, and $l_x \cdot l_y \cdot l_z - l_{x+1} \cdot l_{y+1} \cdot l_{z+1}$ for $d_x$ to deduce the same values for three lives. The method is applicable to any number of lives, and is therefore general. The $l_x$ will represent any connected series whatever, and $l_x - l_{x+1} = d_x$ will represent the difference of any two terms of such series.

# PART IV.—SYNOPSIS OF SYMBOLS, FORMULAS, AND PRACTICAL RULES FOR THE USE OF THE TABLES.

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## 1. GENERAL CONTINGENT VALUES.

### Initial and Terminal Values as affected by use.

### *Discount.*

$i$ = the rate of discount, or the proportion of £ 1 deducted as discount for the use of the £ 1 during one year. When the rate of discount is 5 per cent. per annum $i = {\cdot}05$.

$(1 - i)$ = the initial value under this system, and £ 1 = the terminal value.

$s = a\,(1 - i)$ = sum for which £ $a$ can be discounted at the rate $i$.

$a = \frac{s}{1-i}$ = amount of securities which $s$ will discount.

$ai$ = the discount of £ $a$.

$$i = \frac{a-s}{a} = 1 - \frac{s}{a}.$$

$1 + p = \frac{1}{1-i}$ = the amount realized by £ 1 employed in discounting.

$p = \frac{1}{1-i} - 1 = \frac{i}{1-i}$ = the annual rate of profit by discounting for a year in one operation at the rate $i$.

[*Note.*—When the rate of discount is 5 per cent. per annum, the rate of profit is 5·263 per cent., or ·05263.]

$$p = i + i^2 + i^3 \,.\,.\,.\,.\, i^{\infty}.$$

$s = a\left(1 - \frac{i}{x}\right) = a - \frac{ai}{x}$ = sum of money for which £ $a$ in securities is discounted for the $x^{\text{th}}$ part of a year, at the rate $i$.

$a = \frac{s}{1 - \frac{i}{x}}$ = securities discounted with £ $s$ for the $x^{\text{th}}$ part of a year; and $\frac{ai}{x}$ = the discount.

If $s = 1000$, $i = \cdot 04$; and $x = 4$; the $a = \frac{1000}{\cdot 99}$ = discounted securities = £1010 · 1010; and the discount is £ 10 · 1010.

$x = \frac{ai}{a - s}$ = number of transactions in the year; and the mean term = $x^{\text{th}}$ of year.

$$1 + p = \left(1 - \frac{i}{x}\right)^{-x} = 1 + \frac{x}{x}\,\frac{i}{1} + \frac{x\,(x+1)}{x^2} \cdot \frac{i^2}{1 \cdot 2} + \frac{x\,(x+1)\,(x+2)}{x^3}\,\frac{i^3}{1 \cdot 2 \cdot 3}$$

. . . . . . . . . .

$i$ is usually a small fraction; when $x = 1$ the function is at its maximum, as above; and when $x = \infty$,

$$1 + p = e^i = 1 + \frac{i}{1} + \frac{i^2}{1 \cdot 2} + \frac{i^3}{1 \cdot 2 \cdot 3} \ldots\ldots \text{ And } \lambda\,(1 + p) = ik = i \times \cdot 43429448.$$

## *Interest.*

$i$ = the rate of interest = the price to be paid at the end of the year for the use of a unit of value, such as £ 1, of which the interest is $i \times$ £ 1. When $i = \cdot 05$ interest is said to be at the rate of 5 per cent.

1 = the principal which yields the interest $i$.

$r = 1 + i$ = the terminal value of £ 1 at interest.

$$1 = \frac{1 + i}{1 + i} = \frac{1}{1 + i} + \frac{i}{1 + i} = 1 - i + i^2 - i^3 \ldots\ldots + (i - i^2 + i^3 \ldots\ldots$$

$v = \frac{1}{1 + i}$ = the present or initial value of £ 1 due at the end of a year [so far as the value depends on the rate of interest, is understood in this and the like cases].

$d = \frac{i}{1 + i} = vi$ = the present value of the interest ($i$) of £ 1; the rate of Rebate. It is sometimes called the rate of Discount; but has no just claim to a term which is employed in a different sense.

[*Note.*—$r = \frac{1}{v} = v^{-1}$; $v = \frac{1}{r} = r^{-1}$; $v + d = 1$; $d = 1 - v$; $v = 1 - d$.]

When $r$ is invested at the end of the year again at the same rate, $r^2$ is the amount of £ 1 in two years; and the £ 1 is said to be invested at *compound interest.*

$r^n = v^{-n} = (1+i)^n$ = the terminal value of £ 1 at interest $n$ years; or the amount of £ 1 at compound interest for $n$ years.

$v^n = \frac{1}{r^n} = r^{-n} = \frac{1}{(1+i)^n}$ = the initial value of £ 1 payable at the end of $n$ years.

$\frac{i}{x}$ = the interest on £ 1 during the $x^{\text{th}}$ part of a year.

$p$ = the annual rate of profit, or the profit on the investment of £ 1 in any way at interest during a year.

$$1 + p = \left(1 + \frac{i}{x}\right)^x = 1 + \frac{xi}{x} + \frac{x(x-1)}{1 \cdot 2}\,\frac{i^2}{x^2} + \frac{x(x-1)(x-2)}{1 \cdot 2 \cdot 3}\,\frac{i^3}{x^3} \cdots\cdots$$

The rate of profit is thus found when there are $x$ investments of accruing interest in the year. Interest is in this case said to be *convertible* into *principal* $x$ times in the year.

$$1 + p = \left(1 + \frac{i}{1}\right)^1 = 1 + i$$

$$1 + p = \left(1 + \frac{i}{x}\right)^x = \left(1 + \frac{i}{\infty}\right)^\infty = e^i$$

$$\lambda(1+p) = ik = i \times \cdot 43429448.$$

The rate of profit is thus found when the interest is invested at momently intervals, and the profit is theoretically at its maximum; that is, if the element of labour of investing be left out of consideration.

$s = a(1+p)^n$ = the amount of £ $a$ under investment at a constant annual profit (rate $p$) during $n$ years.

When $i$ is so taken as to represent the pure rate of profit; also

$$s = a(1+i)^n = ar^n = \frac{a}{v^n}. \quad \text{And } \lambda s = \lambda a - \lambda v^n.$$

$a = \frac{s}{(1+i)^n} = sv^n$ = the sum which will amount to £ $s$ in $n$ years.

$$\lambda a = \lambda s + \lambda v^n$$

$$i = \left(\frac{s}{a}\right)^{\frac{1}{n}} - 1$$

$$v^n = \frac{a}{s} \therefore n\lambda v = \lambda a - \lambda s; \text{ and}$$

$n = \frac{\lambda a - \lambda s}{\lambda v} = \frac{\lambda s - \lambda a}{\lambda r}$ = number of years in which £ $a$ at interest amounts to £ $s$.

Time ($n$) in which £ $a$ at interest becomes £ $2a$.

$$n = \frac{1}{i} = \text{time of doubling at simple interest.}$$

$$n = \frac{\lambda\, 2}{\lambda\,(1+i)} = \text{time of doubling at compound interest.}$$

For the ordinary rates of interest this is nearly $\frac{1}{i} \times \cdot 7$.

### TERMINAL VALUE OF ANNUITIES CERTAIN; OR AMOUNT OF ANNUITIES FORBORNE.

$$R_x = 1 + r + r^2 + r^3 \,.\,.\, r^{x-1}.$$

The amount of $x$ payments of annuity of £ 1, laid up at compound interest, the first payment having been invested $x - 1$ years, the last having been just paid :

$$= \frac{r^x - 1}{i}$$

If £ $a$ = annuity,

$$s = a\,\frac{r^x - 1}{i}$$

$$a = \frac{is}{r^x - 1}$$

$$x = \frac{\lambda\,(a + is) - \lambda a}{\lambda r}$$

### INITIAL OR PRESENT VALUE OF ANNUITIES.

$$V_x = 1 + v + v^2 + v^3 \,.\,.\,.\, + v^x = \frac{1+i}{i}(1 - v^{x+1})$$

= value of $x + 1$ payments of £ 1, first payment now.

$$V_{x-1} = 1 + v + v^2 + v^3 \,.\,.\,.\, v^{x-1}$$

$$= \frac{(1+i)}{i}(1 - v^x) = V_\infty - v^x\, V_\infty$$

= the value of $x$ payments of an annuity of £ 1, first payment now, the $x^{\text{th}}$ or last at the end of the $(x - 1)^{\text{th}}$ year ; or, which is the same, at the beginning of the $x^{\text{th}}$ year.

When $x = \infty$ ; this becomes $\frac{1+i}{i} = V_\infty$

$s = \frac{a}{i}(1 + i)(1 - v^x)$ = the present value of a similar annuity of £ $a$.

$$a = \frac{si}{(1+i)(1 - v^x)}$$

When $x = \infty$,

$s = a\,\dfrac{(1+i)}{i}$ = value of £ $a$ annuity for ever, called the perpetuity of £ $a$, first payment now due.

$a = \dfrac{is}{1+i}$ = perpetual annuity, of which £ $s$ is the value, first payment due now.

When annuity ($a$) is to be first paid at the end of $x$ years, its value is,—

$s = v^x\,\dfrac{(1+i)}{i}\,a$ = the value of the reversionary annuity of £ $a$.

$a = \dfrac{is}{(1+i)\,v^x}$ = reversionary annuity of which £ $s$ is the initial value.

When the annuity is paid only at the end of the first and of each of $x$ years, its value becomes,—

$a\,(v^1 + v^2 + v^3 \ldots\ldots + v^x) = s = a\,\dfrac{(1-v^x)}{i}$; and if $a =$ £ 1,

$s = \dfrac{1}{i} - \dfrac{v^x}{i}$ = the value of the annuity of £ 1 for $x$ years.

$s = \dfrac{v^x}{i}$ = the value of the reversion of £ 1, first payment due at the end of the $(x+1)$th year.

And when $x = \infty$,

$s = \dfrac{a}{i}$ = the value of the perpetuity of £ $a$, first payment due at end of a year.

$s = a\left(\dfrac{n+1}{i}\right)\left\{1 - \dfrac{1}{\left(1+\dfrac{i}{n}\right)^{nx}}\right\}$ = the value of £ $a$, first payment now due, payable $n$ times in the year during $x$ years.

$s = a\,\dfrac{n+i}{i} = a\left(\dfrac{n}{i}+1\right)$ = the value of the £ $a$ in perpetuity.

$s_n = \dfrac{1}{n}\left(\dfrac{n}{i}+1\right) = \dfrac{1}{i} + \dfrac{1}{n}$ = the value of the perpetuity of £ $\dfrac{1}{n}$ payable $n$ times in the year, first payment $\left(£\,\dfrac{1}{n}\right)$ now due : when $n = \infty$ this becomes $\dfrac{1}{i}$.

$s = \dfrac{1}{n}\cdot\dfrac{n}{i} = \dfrac{1}{i}$ = the value of the perpetuity of £ 1 payable in $n$ instalments, at the end of every $n$th part of the year.

## ANNUITY PAYABLE CONTINUOUSLY, AND INTEREST CONVERTIBLE MOMENTLY.

Put $k$ = modulus of common logarithm, and $r = 1 + p$.

$V'_x = \frac{-k}{\lambda v}(1 - v^x) = \frac{k}{\lambda r}(1 - v^x)$ = value of annuity of £1 payable *momently* for $x$ years.

$s = a\,V'_\infty = \frac{ak}{\lambda r}$ = value of perpetuity of £$a$ payable momently.

$s = V'_{|x} = \frac{av^x k}{\lambda r}$ = value of deferred annuity of £$a$ payable momently.

Under this system, taking $p$ at 5 per cent.; $p = \cdot 05$, the perpetuity of £1 is worth 20·4959 years' purchase. When the rate of interest $= i = \cdot 05$, the profit by investing £1 and converting interest momently is $p = \cdot 05127$ per annum. But $ik = \lambda(1 + p) = \lambda r = \lambda(1 \cdot 05127)$; and by inserting this value in the equation

$$V'_\infty = \frac{k}{\lambda r} = \frac{k}{ik} = \frac{1}{i}$$

we have a value of the perpetuity precisely equal to the value of the perpetuity with annual payments at the end of every year.

## DISCOUNT AT RISK.

$f$ = discredit fraction expressing probability of failing to pay £1 at the end of a year.

$c$ = credit fraction or probability of paying £1 at the end of year.

$$1 = c + f;\ c = 1 - f;\ f = 1 - c.$$

$1 + p = \frac{(1 - f)\,s}{(1 - i)\,s}$ = the rate of profit on discounting £$s$ at the rate $i$, and risk $f$.

$1 + p = \left(\frac{x - f}{x - i}\right)^x$ = rate of profit from $x$ discount transactions at $x$ equal intervals in the year; rate $i$, risk $f$.

$1 + p = \frac{e^i}{e^f}$ $\quad \therefore \lambda(1 + p) = (i - f)\,k = (i - f) \times \cdot 43429448$ = the logarithm of $1 + p$, when the transactions are momently.

$i = \frac{p + f}{1 + p} = \frac{p}{1 + p} + \frac{f}{1 + p}$ = the discount-rate to yield the profit-rate $p$, when the risk-rate is $f$.

## AMOUNT OF SUMS AT INTEREST AND RISK; THE RATE OF PROFIT.

$s = (1 + i)(1 - f)\,a$ = the amount of £ $a$ at interest-rate $i$, and risk-rate $f$.

$$a = \frac{s}{(1 + i)(1 - f)}$$

$1 + p = (1 - f)(1 + i) = \frac{s}{a}$. Here $p$ is the rate of net profit.

$i = \frac{1 + p}{1 - f} - 1 = \frac{p + f}{1 - f} = \frac{p + f}{c}$ = rate of interest to return a rate of profit $p$, when the risk-rate $f$ is known.

If $f = \frac{q}{1 + p + q}$, then $i = p + q$ and $c = 1 - f = \frac{1 + p}{1 + i} = \frac{1 + p}{1 + p + q}$

$$f = \frac{i - p}{1 + i} = \frac{i - p}{1 + p + q}$$

$1 + p = \left(1 - \frac{f}{x}\right)^x \left(1 + \frac{i}{x}\right)^x$ = 1 + profit-rate when the interest is convertible $x$ times in the year, and the risk of failure in each interval is $\frac{f}{x}$.

$1 + p = \frac{e^i}{e^f}$ = 1 + rate of profit when interest is convertible momently, and the number of transactions in the year is $= \infty$.

$\therefore \lambda(1 + p) = (i - f)\,k = (i - f) \times \cdot 43429448$.

$\therefore$ when $f = 0$, $\lambda(1 + p) = ik$, and $i = \frac{\lambda(1 + p)}{k}$.

## PRESENT VALUE OF SUMS AT USE AND RISK.

Let $v_1 = \frac{1}{1 + p}$ = the present value of £ 1 at no risk; then $\frac{1 - f}{1 + p} = v_2$, the reduced value when the rate of risk is $f = \frac{q}{1 + p + q}$.

And if $\frac{1 + p}{1 - f} = \frac{1 + p}{c} = \frac{1}{c} + \frac{p}{c} = 1 + i = 1 + p + q$.

$v = \frac{1 - f}{1 + p} = \frac{1}{1 + p + q} = \frac{1}{1 + i}$ = the initial value of £ 1 at use and risk.

$f = \frac{i - p}{1 + i}$ = risk-rate, deduced from $p$ and $i$.

$p = ci - f$

Put $v = \frac{1}{1 + i} = \frac{\left(1 - \frac{f}{x}\right)^x}{\left(1 + \frac{p}{x}\right)^x}$ = present value of £ 1; that is, the value which invested $x$ times in the year at the rate of profit $p$, risk $f$, will amount to £ 1 in the year.

When $x = 1$ this expression becomes $\frac{1-f}{1+p}$.

And when $x = \infty$,

$$v = \frac{1}{e^f e^p} = e^{-(f+p)} = \frac{1}{1+i}$$

$$\lambda v = \lambda \left(\frac{1}{1+i}\right) = -(f+p)\,k = -(f+p) \times \cdot 43429448.$$

## Annuities at Risks varying according to some Law.

(1.) The $c$ is a constant ratio.

$A_n = \frac{1}{1 - cv_1}$ = the value of a perpetuity of £1 at a security-rate, of which $c$ is the expression; and taking $v_1 = \frac{1}{1+p}$

$$A_\infty = 1 + cv_1 + c^2 v_1^2 + c^3 v_1^3 \ldots\ldots\ldots\ldots$$

$A_n = \frac{1 - c^n v_1^n}{1 - cv_1} = \frac{1}{1 - cv_1} - \frac{c^n v_1^n}{1 - cv_1}$ = the value of $n$ payments of annuity, first payment due.

$A_{|n} = \frac{c^n v_1^n}{1 - cv_1}$ = the reversion of the annuity of £1, first payment at end of $n$ years.

[*Note.*—If the payment depends upon several security-rates $c_1\ c_2\ c_3\ c_n,$ all remaining constant, the rate of interest being $v_1$; write $v_1\ c_1\ c_2\ c_3 \ldots c_n = v$, and the values of annuities in the above equations are found by simply substituting this $v$ for $cv_1$.]

(2.) The $c$ varies, and is expressed by fractions of the form $\frac{n-1}{n}$, Demoivre's hypothesis.

The following formulas give the value of an annuity for $n$ years, at such risk that one of the $n$ sources from which it flows, fails every year.

This value is found directly from Tables of the form (p. clii) which the three next formulas exemplify.

Thus $A_n = \frac{N_n}{D_n}$ = value of the annuity of £1 on the above hypothesis until all the $n$ sources fail, first payment due.

$A_{n;\,m} = \frac{N_n - N_{n-m}}{D_n}$ = value of annuity of £1 for $m$ years, first payment due.

$A_{n|m} = \frac{N_{n-m}}{D_n}$ = the value of the reversionary annuity of £1, first payment at end of $m$ years.

[*Note.*—$n$ is the greatest possible afterlifetime = the *complement of life*, in Demoivre's phraseology. $n = \omega - x$, and $x = \omega - n$ = the assumed age of the life. Demoivre made $\omega = 86$ the limiting age; and the complement of life at the age 20 was $86 - 20 = 66$. By making $n = 2\,E_x$ = twice the expectation of life by a correct Table, nearer approximations are obtained to the true value of the annuity. This was pointed out by Dr. Price and confirmed by Baily. I have found twice the probable lifetime ($2\,T_x$) give still nearer approximations to the true values at ages under 55.]

The following formulas give the values of annuities dependent on one, two, or three series of risks:—

$$A_x = \left(1 + \frac{1}{i}\right)\left(\frac{x - (V_x - 1)}{x}\right) = \left(1 + \frac{1}{i}\right)\left(\frac{xi + v^x - 1}{xi}\right)$$ = value of one of $x$ annuities of £ 1, of which it is expected one will fail to be paid annually.

### Annuity dependent on Two Series of Risks.

Put $a = x - \left(y + 1 + \frac{2}{i}\right)$, and then $A_{xy} = \frac{1+i}{xi}\left\{x - \frac{2}{i} - \frac{V_y - 1}{y} \cdot a\right\}$ = the value of an annuity payable during the joint existence of two lives or two firms; $x$ and $y$ being the numbers in the classes out of each of which one will fail annually until all are extinct. As $y < x$ the joint existence terminates necessarily in $y$ years.

### Annuity dependent on Three Series of Risks.

$x > y > z$ = the possible joint continuance of the three lives or firms.

$$\text{Putting } a = 2\,(x + y) - \left(z + 3 + \frac{6}{i}\right)$$

$$b = x + y - \left(2\,z + 3 + \frac{3}{i}\right)$$

$$c = (x - z - 1)\,(y - z - 1)$$

Then,—

$$A_{xyz} = \frac{1+i}{xyi}\left\{xy - \frac{a}{i} + \frac{2\,b - ci}{iz}\,(V_z - 1)\right\}$$

$$= \frac{1+i}{xyzi^2}\left\{xyzi - az + (2\,b - ic)\,(V_z - 1)\right\}$$ = value of annuity payable during the joint lives.

[*Note.*—Where the series $V_x - 1$, &c. is not in the Tables, $\frac{1 - v^x}{i}$, which is readily calculated, is substituted for it in the several formulas.

## 2. LIFE VALUES.

### SYMBOLS OF THE LIFE TABLE.

$d_x$ = numbers dying in the year [of age] after the age $x$.

$d_{x+n}$ = numbers dying in the year of age after the age $x + n$.

[*Note.*—$d_y$, $d_v$, $d_z$ are used when several lives are engaged.]

$l_0 = d_0 + d_1 \ldots + d_\omega$ = the numbers born alive; the base of the Life Table.

$l_x$ = the numbers living at the precise age $x$.

$l_{x+n}$ = the numbers living at the age $n$ years older than the age $x$.

$l_\omega$ = approximation to zero, to which the numbers living are reduced at the last age in the Table.

$l_{x|n} = l_x - l_{x+n} = d_x + d_{x+1} + d_{x+2} \ldots + d_{x+n-1}$
= the numbers dying between the ages $x$ and $x + n$.

$L_x = l_x + l_{x+1} + l_{x+2} \ldots + l_\omega$

$L_{x|n} = l_x + l_{x+1} \ldots + l_{x+n-1}$
= sum of the numbers attaining the ages $x$, $x+1$, . . . and $x + n-1$.

If £1 were paid to each of the $l_x$ living at the age $x$, and to the numbers surviving at ages $x + 1$, $x + 2$, . . $x + n-1$, the $L_{x|n}$ would be the sum of the number of pounds to be probably paid.

$P_x$ = normal population of the age $x$ and under $x + 1$, and of the mean age $x + \frac{1}{2}$. For except in the first year $P_x = \frac{l_x + l_{x+1}}{2}$ nearly. The children dying in the first year die in very large proportions in the early months; consequently the population $P_0$ is considerably less than $\frac{l_0 + l_1}{2}$, and is not correctly represented by $l_{\frac{1}{2}}$, the numbers living in the middle of the year. The $P_x$ in the after ages is represented by $l_{x+\frac{1}{2}}$.

$l_{x+\frac{1}{2}}$ = the numbers living in the middle of the year following the age $x$. It is taken to represent the mean numbers living through the year; that is, the years of life enjoyed between the age $x$ and $x + 1$ by $l_x$ persons.

If £$\frac{1}{365}$ were paid daily to each of $l_x$ persons and their survivors, nearly $l_{x+\frac{1}{2}}$ pounds would be paid in the year.

$Q_x = P_x + P_{x+1} + P_{x+2} \ldots + P_\omega$.

= the normal population of the age $x$ and upwards, maintained by $l_x$ entering annually at the age $x$.

= the years of life which the $l_x$ persons so entering will enjoy.

= the number of pounds nearly which would be paid if £$\frac{1}{365}$ were paid daily, or any small instalment of £ $\frac{1}{m}$ were paid to $l_x$ persons and their survivors $m$ times a year.

$Q_{x|n} = Q_x - Q_{x+n} = P_x + P_{x+1} \ldots + P_{x+n-1}$.

$Y_0$ = the years which all the persons ($Q_0$) in a normal population have lived;

= the years of life which the population $Q_0$ will enjoy;

= the population which would be sustained by $Q_0$ annual immigrants of the tabular ages, if there were no births.

$Y_x$ = the years which $Q_x$ persons of the same ages as those of the Table will live:

= the years which the $Q_x$ persons have lived over the age $x$.

= the ultimate number of members in a society that would be sustained by $Q_x$ entering yearly.

## FORMULAS FOR SOLVING PROBLEMS INVOLVING THE RATES OF MORTALITY AND THE DURATION OF LIFE.

$m_x = \frac{d_x}{P_x}$ = the rate of mortality in the year of age following age $x$; that is, in the $(x+1)^{\text{th}}$ year.

$\mu_x = \frac{d_x}{l_x} = \frac{l_x - l_{x+1}}{l_x} = 1 - \frac{l_{x+1}}{l_x}$ = the probability—that is, the fraction expressing the probability—that a life X of the age $x$ will live a year.

$p_x = \frac{l_{x+1}}{l_x} = \frac{l_x - d_x}{l_x} = 1 - \frac{d_x}{l_x} = 1 - \mu_x$ = the probability that X of the age $x$ will live a year.

$$1 - p_x = \mu_x. \quad \therefore\ p_x + \mu_x = 1.$$

$p_{x.n} = \frac{l_{x+1}}{l_x} \cdot \frac{l_{x+2}}{l_{x+1}} \cdot \frac{l_{x+3}}{l_{x+2}} \ldots \frac{l_{x+n}}{l_{x+n-1}} = \frac{l_{x+n}}{l_x}$, the probability that a life X [of average health is always understood in the common Tables] of age $x$ will live $n$ years.

$\mu_{x.n} = \frac{l_x - l_{x+n}}{l_x} = 1 - \frac{l_{x+n}}{l_x} = \frac{d_x}{l_x} + \frac{d_{x+1}}{l_x} \dots + \frac{d_{x+n-1}}{l_x}$ = the probability that X will die in the next $n$ years.

$\mu_{x+n-1} = \frac{d_{x+n-1}}{l_x}$ = probability that X will die in the $n^{\text{th}}$ year after age $x$.

$T_x = \frac{l_x}{2} = l_{x+t}$. From this equation the PROBABLE LIFETIME — *vie probable*—is determined.

Thus $\frac{l_0}{2} = \frac{1000000}{2} = 500000$. And in the Table for Persons, p. 22, $l_{0+45} = 502915$, while $l_{0+46} = 495448$; consequently $T_0$ is more than 45, $(x + n)$, and less than 46, $(x + n + 1)$, years; or $l_{0+45\frac{2915}{7467}} = 500000$ if $d_{45} = 7467$ deaths occur at equal intervals in the year. The $T_0$ = probable lifetime is $45\frac{2915}{7467}$. At age 20 the $\frac{l_{20}}{2} = l_{20+t} = \frac{662750}{2} = 331375 = l_{20+43\frac{3228}{12572}}$. The $T_{20} = 43\frac{3228}{12572} = 43\frac{1}{4}$ years = probable lifetime. See Table 6. (p. cli) for all the values of $T_x$.

Demoivre calls that "the *Complement of Life* [$n$] which "remains from the age given to the time of the "extinction of life, which will be at 86 according to "our hypothesis. Thus, supposing an age of 50, "because the difference between 50 and 86 is 36, "I call 36 the *Complement of Life*." *

By his hypothesis the probable lifetime = Expectation of Life; but this is not the case when a correct Life Table is used. In some investigations it will be found convenient to use as the Complement of Life twice the probable lifetime; putting Demoivre's $n = 2\,T_x$.

The POSSIBLE LIFETIME by the English Table is 109 years = $\omega$; and the possible afterlifetime of X aged $x$ is $(109 - x)$ years.

$\frac{Q_x}{l_x} = E_x$ = the mean *afterlifetime*, or, as it is often called, the expectation of life.

[*Note.*—If an annuity of £1 were paid in any great number of instalments ($m$) in the year, at equal intervals, $E_x$ would be on an average the amount paid on each life; while $\frac{L_x}{l_x}$ is the average amount paid under a Life Annuity system; and is the value of $A_x$ when money is assumed to bear no interest.]

$G_x = x + \frac{Q_x}{l_x}$ = the mean age at death of persons now aged $x$ years.

$E'_x = \frac{Y_x}{Q_x}$ = the mean *afterlifetime* of the living ($Q_x$) of the age $x$ and upwards.

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* Demoivre, "Treatise of Annuities on Lives." Second Edition. Part I.

$x + E'_x$ = the mean age of the living ($Q_x$) of the age $x$ and upwards.

[*Note.*—At birth $x = 0$, this is the mean age of the normal population.]

$x + E_x$ = mean age at death of males ($l_x$) of the age $x$;

= mean age of all who die after attaining the age $x$ in a normal population.

$x + 2\,E'_x$ = mean age at death of the living ($Q_x$) of the age $x$ and upwards.

$S = a\,\dfrac{Q_{x|n}}{l_x}$ = the number of members of any society, or army, between the ages $x$ and $x+n$, maintained by $a$ annual recruits of age $x$, when death is the only casualty.

$a = \dfrac{S\,l_x}{Q_{x|n}}$ = annual recruits of such a society.

$b = \dfrac{S\,l_{x+n}}{Q_{x|n}}$ = annual numbers leaving the society at age $x + n$.

$d = \dfrac{S\,l_{x|n}}{Q_{x|n}}$ = annual deaths in such a society of S members.

If the society is a city of stationary population, consisting of S persons of all ages, in the normal proportions:

$d - \dfrac{S\,l_0}{Q_0}$ = annual deaths.

= annual births.

$S = \dfrac{Q_0}{l_0}\,.\,d$ = the population $- dE$.

[*Note.*—The population of a country is determined approximatively, when the births or deaths and the mean lifetime are known.]

$\dfrac{Y_{x|n}}{Q_{x|n}} = \dfrac{Y_x - Y_{x+n}}{Q_x - Q_{x+n}}$ = mean afterlifetime of persons of the age $x$ and under $x + n$.

$S = a\,\dfrac{Y_{x|n}}{Q_{x|n}}$ = number of persons in a society ultimately, if joined annually by $a$ members of ages $x$ and under $x + n$ in normal proportions.

$S_n = a\left(\dfrac{Y_{x|n} - Y_{x+m|n}}{Q_{x|m}}\right)$ = the number of persons to which a society joined by $a$ persons of the tabular ages $x$ and under $x + m$ would amount in $n$ years.

## VALUES DEPENDENT ON THE CONTINGENCIES OF ONE LIFE X OF THE AGE $x$.

### *Annuities.*

$\mathrm{A}_x = \frac{\mathrm{N}_x}{\mathrm{D}_x} = \frac{1}{a_x} = \frac{1}{\pi_x + d}$ = initial value of an annuity of £ 1 on the life of X; first payment at his present age $x$, last at the beginning of the year preceding his death.

$\mathrm{A}_{xn} = \frac{\mathrm{N}_x - \mathrm{N}_{x+n}}{\mathrm{D}_x} = \frac{\mathrm{N}_{x|n}}{\mathrm{D}_x}$ = value of a temporary annuity on Life X; first payment at age $x$, last at $x + n - 1$, if X be then alive.

$\mathrm{A}_{x|n} = \frac{\mathrm{N}_{x+n}}{\mathrm{D}_x}$ = value of a *deferred annuity* on Life X; first payment at age $x + n$, if X be then alive.

$\mathrm{A}_{x|1} = \frac{\mathrm{N}_{x+1}}{\mathrm{D}_x}$ = value of an annuity of £ 1 on X; first payment at age $x + 1$. This is the A of the old and of many modern writers.

$a_x = \frac{\mathrm{D}_x}{\mathrm{N}_x} = \frac{1}{\mathrm{A}_x}$ = the annuity on life X which £ 1 will purchase, first payment at age $x$.

$a_{xn} = \frac{\mathrm{D}_x}{\mathrm{N}_{x|n}} = \frac{1}{\mathrm{A}_{xn}}$ = temporary annuity which £ 1 will purchase for $n$ years on life X.

$a_{x|n} = \frac{\mathrm{D}_x}{\mathrm{N}_{x+n}} = \frac{1}{\mathrm{A}_{x|n}}$ = deferred annuity which £ 1 will purchase on life X; first payment at age $x + n$.

$\frac{\mathrm{N}_{x+n|m}}{\mathrm{D}_x}$ = the value of an annuity of £ 1 on X; first payment at age $x + n$, and to be continued until age $x + n + m - 1$, if X live so long. The following is a particular case:—

$\frac{\mathrm{D}_{x+n}}{\mathrm{D}_x} = \frac{\mathrm{N}_{x+n} - \mathrm{N}_{x+n+1}}{\mathrm{D}_x}$ = the value of an *Endowment* of £ 1 payable if X be alive at the age $x + n$.

$\frac{\mathrm{D}_{x+n}}{\mathrm{D}_x - \mathrm{M}_{x|n}}$ = the single premium for an endowment of £ 1; the *premium* to be returned six months after death if X die before the age $x + n$.

[*Note.*—When an annuity is paid at the beginning of every year of life by X to provide a deferred annuity or a single sum, it is called an annual premium, which has all the properties of a life annuity.]

$\pi'_{xn} = \frac{\mathrm{N}_{x+n}}{\mathrm{N}_{x|n} - \mathrm{R}_{x|n} + n\mathrm{M}_{x+n}}$ = annual premium payable by X from age $x$ to age $x + n - 1$ to provide a deferred annuity of £ 1, first payment at age $x + n$: the premiums to be returned in the event of his death before the age $x + n$.

If the premiums are not to be returned, strike out the terms $(-\mathrm{R}_{x|n} + n\mathrm{M}_{x+n})$.

The following is the particular case in which $N_{x+n|1}$ is substituted for $N_{x+n}$.

$\pi'_{xn} = \frac{D_{x+n}}{N_{x|n} - R_{x|n} + nM_{x+n}}$ = annual premium payable by or for X from his age $x$ to age $x + n - 1$, to provide £1 as an *Endowment* at age $x + n$; the premiums to be returned in the event of death, six months after its date.

The equation $\pi N_{x|n} = aN_{h|c}$ furnishes several useful formulas.

$\frac{aS_{x|n}}{D_x}$ = the value of an annuity on X of £$a$ commencing at £$a$ now due, and increasing by £$a$ every year, so as to be $a$, $2a$, $3a$ . . . $na$ at the $n^{\text{th}}$ payment, when it remains stationary.

$\frac{a(S_{x|n} - nN_{x+c})}{D_x}$ = value of annuity on X, increasing annually until the $n^{\text{th}}$ payment, when it is £$na$; ceasing at death or at age $x + c - 1$. Here let $c > n$; or $c = n$.

[*Note.*—The determination of all the various values of annuities increasing or decreasing yearly or at intervals in arithmetical ratios are facilitated by the columns $N_x$ and $S_x$; the $S_x$, as it will be seen, is $= D_x + 2D_{x+1} + 3D_{x+2} + 4D_{x+3} \ldots$]

### *Insurance for a Single Year at age x.*

The policy is payable at the end of the death-year.

$\frac{C_x}{D_x}$ = the premium which will insure for a year £1 on the life X at age $x$.

$\frac{D_x}{C_x}$ = the sum which a premium of £1 will insure for a year on the life X at age $x$.

### *Insurance for the whole Term of Life by a Single Premium at age x.*

*Note.*—These values can be calculated either by the series $M_x$, or $N_x$ in combination with $D_x$, which are thus related:

$$D_x = dN_x + M_x$$

$$M_x = D_x - dN_x = vN_x - N_{x+1}$$

$$M_{x+n} = D_{x+n} - dN_{x+n}$$

$$M_{x|n} = D_{x|n} - dN_{x|n}$$

$$N_x = \frac{D_x - M_x}{d} = \frac{1+i}{i}(D_x - M_x) = V_\infty (D_x - M_x)$$

$$N_{x|n} = \frac{D_{x|n} - M_{x|n}}{d}; \quad A_x = \frac{N_x}{D_x} = \frac{1 - \Pi_x}{d}$$

$\Pi_x = \frac{M_x}{D_x}$ = the single premium insuring £1 on the life X at age $x$.

$= 1 - dA_x = 1 - d\frac{N_x}{D_x}$

$\Sigma_x = \frac{D_x}{M_x} = \frac{1}{\Pi_x}$ = sum which £1 will insure on the life X at age $x$.

$\Pi_{xn} = \frac{M_{x|n}}{D_x}$ = single premium at age $x$ to insure £1, payable if X die in less than $n$ completed years.

$= \frac{D_{x|n} - dN_{x|n}}{D_x}$

$\Pi_{x|n} = \frac{M_{x+n}}{D_x} = \frac{D_{x+n} - dN_{x+n}}{D_x}$ = single premium to insure at age $x$ £1 payable at the death of X if it happen after the age $x + n$. This is a deferred insurance.

$\frac{s\,R_{x|n}}{D_x}$ = present value of an increasing insurance on X, namely £$s$, if death happen in the first year, £$(2\,s)$ if it happen in the second year, and £$ns$ if it happen in the $n^{\text{th}}$ year, or after that year.

*Insurance for the whole Term of Life by Annual Premiums.*

$\pi_x = \frac{M_x}{N_x} = a_x - d = a_x + v - 1$ = the annual premium insuring £1 on the life X. And $s_x = \frac{N_x}{M_x} = \frac{1}{\pi_x}$ = sum which the annual premium of £1 will insure.

$\pi_{xn} = \frac{M_{x|n}}{N_{x|n}} = \frac{D_{x|n}}{N_{x|n}} - d$ = the annual premium for $n$ years to insure £1 for that term on the life X.

$\pi_{xn} = \frac{M_x}{N_{x|n}} = \frac{D_x - dN_x}{N_{x|n}}$ = the annual premium for $n$ years, to insure £1 payable at the end of the year in which X shall die, without restriction as to time.

$\pi_2 = \frac{sM_x}{N_x + e\,(N_{x+b} + N_{x+2b} \ldots\ldots + N_{x+(m-1)b})}$ = the premium for $b$ years, which, augmenting at the end of $b$ years to $(1 + e)\,\pi_2$ for a second series of $b$ years; and of $\{1 + (m - 1)\,e\}\,\pi$ in the $m^{\text{th}}$ consecutive series, extending over life, will provide £$s$, payable at the end of the year in which X, now age $x$, shall die.

*Value of Policies, and the Amounts in Deposit.*

$aA_{x+n}$ = the value of the annuity of £ $a$ due on the life X at the age $x + n$; this is the amount which an annuity society should have in deposit—to the account of the life X. The sum of these values should be in deposit.

$\pi_x\ A_{x+n}$ = the value at age $x + n$ of the future annual premiums payable on or by life X, at and after age $x + n$.

$\pi \frac{N_{x|n}}{D_{x+n}}$ = the amount in deposit at the age $x + n$ properly belonging to X before the payment of the deferred annuity commences, in a fund provided by any annual premium ($\pi$).

$s\ \Pi_{x+n}$ = the value at age $x + n$ of a sum insured.

Let $H_{x+n}$ be the sum in deposit at the end of $n$ years, on account of a policy taken out at age $x$.

(1.) ${}_1H_{x+n} = \Pi_{x+n} - \pi_x\ A_{x+n}$ = the sum in deposit immediately before the $(n + 1)^{\text{th}}$ premium is due, to each £ 1 insured at age $x$ by net annual premium $\pi_x$.

That is the sum to be expected in deposit for every £ 1 insured. If all the policies of an extensive office, operating with Tables correctly representing the rates of mortality and interest, are thus determined, the total sum of the deposits will, with the future premiums, pay the sums insured.

$$(2.)\ {}_2H_{x+n} = \frac{\pi\ N_{x|n} - s\ M_{x|n}}{D_{x+n}}$$

$$= \pi \frac{N_{x|n} - s\,(D_{x|n} - d\,N_{x|n})}{D_{x+n}}$$

$$= \frac{(\pi + sd)\ N_{x|n} - s\ D_{x|n}}{D_{x+n}}$$

= the expected sum in deposit at the end of $n$ years, after $n$ premiums (£ $\pi$) have been paid at the beginning of each year, and £ $s$ has been paid at the end of the year of each death, be $\pi$ and $s$ any values whatsoever. This deposit may be a negative quantity.

(3.) $_3H_{x+n} = s\,\Pi_{x+n} - \pi\,A_{x+n} =$ the sum in deposit, which, with the future premiums $\pi$, will insure £ $s$, be $\pi$ and $s$ what they may.

When $\pi = \pi_x$, and $s = 1$; or when $s\,\pi = s\,\pi_x$, we have these identities:—

$$_1H_{x+n} = \frac{\pi\,N_{x|n} - s\,M_{x|n}}{D_{x+n}} = \frac{(\pi + sd)\,N_{x|n} - s\,D_{x|n}}{D_{x+n}}$$

$$= \Pi_{x+n} - \pi_x\,A_{x+n} = 1 - a_x\,A_{x+n}.$$

The expected sum in deposit ($_1$H) is the value of the policy, and with the future net premiums may be justly expected to pay the policy; while the two values under $_2$H and $_3$H are independent of any fixed relation between the values of $\pi$ and $s$.

### VALUES DEPENDENT UPON TWO LIVES, X OF AGE $x$ AND Y OF AGE $y$.

#### *Annuities.*

$A_{xy} = \dfrac{N_{xy}}{D_{xy}} =$ the present value of a joint annuity; first payment now due, and no payment after the first death.

$A_{x|y} = A_x - A_{xy} = \dfrac{1}{\pi_x + d} - A_{xy} =$ value of an annuity of £ 1 on X; first payment at the end of the year in which Y shall die, the claim lapsing at the death of X.

$A_{y|x} = A_y - A_{xy} =$ value of a similar annuity of £ 1 on Y. This is a reversionary annuity, and partakes of the nature of a deferred annuity on the life Y.

$A_{\overline{xy}} = A_x + A_y - A_{xy} = A_{xy} + A_{x|y} + A_{y|x} =$ the value of an annuity of £ 1 on the longest of the two lives X and Y. This is equivalent to the value of the three preceding annuities;—(1) an annuity on the joint lives; (2) on the life of X after Y; and (3) on the life of Y after X.

$A_{\overline{xy},n} = \dfrac{N_{x|n}}{D_x} + \dfrac{N_{y|n}}{D_y} - \dfrac{N_{xy|n}}{D_{xy}} =$ value of annuity of £ 1 on longest life for the term of $n$ years.

$A_{\overline{xy}|n} = \dfrac{N_{x+n}}{D_x} + \dfrac{N_{y+|n}}{D_y} - \dfrac{N_{xy+n}}{D_{xy}} =$ value of annuity of £ 1 on longest life—deferred $n$ years; first payment at age $x + n$.

$a_{xy} = \dfrac{D_{xy}}{N_{xy}} = \dfrac{1}{A_{xy}} =$ the joint annuity on X and Y, of which £ 1 is the value.

$a_{x|y} = \dfrac{1}{A_{x|y}}$; $a_{y|x} = \dfrac{1}{A_{y|x}}$

$a_{\overline{xy}} = \dfrac{1}{A_x + A_y - A_{xy}} =$ the annuity on the longest life, of which £ 1 is the value.

$$\mathrm{A}_{xyn} = \frac{\mathrm{N}_{xy\,|\,n}}{\mathrm{D}_{xy}}$$

$$= \frac{\mathrm{N}_{xy} - \mathrm{N}_{x+n\,.\,y+n}}{\mathrm{D}_{xy}}$$

= the value of a temporary joint annuity of £1 on the two lives X and Y, to cease after $n$ payments, or at the death of the first.

$$\mathrm{A}_{xy\,|\,n} = \frac{\mathrm{N}_{x+n\,.\,y+n}}{\mathrm{D}_{xy}} = \frac{\mathrm{N}_{(xy)+n}}{\mathrm{D}_{xy}}$$

= the value of a deferred joint annuity of £1 on the lives X and Y, the first payment if X and Y are then alive, at the end of $n$ years. Annual premium $= \frac{\mathrm{N}_{xy+n}}{\mathrm{N}_{xy\,|\,n}}$.

*Insurances by Single Premiums.*

$$\mathrm{M}_{xy} = \mathrm{D}_{xy} - d\mathrm{N}_{xy} = \mathrm{C}_{xy} + \mathrm{C}_{xy+1} + \mathrm{C}_{xy+2} \;.\;.\;.\;.\;.\;.$$

[*Note.*—$\mathrm{C}_{xy} = v^{\frac{x+y}{2}+1}\,(l_{xy} - l_{(xy)+1})$.]

$$\mathrm{M}_{xy\,|\,n} = \mathrm{D}_{xy\,|\,n} - d\mathrm{N}_{xy\,|\,n} = v\mathrm{N}_{xy\,|\,n} - \mathrm{N}_{(xy)+1\,|\,n}$$

$\Pi_{xy} = 1 - d\,\mathrm{A}_{xy}$ = the value of £1 payable at the end of year of first death.

$\Pi_{\overline{xy}} = 1 - d\,\mathrm{A}_{\overline{xy}} = 1 - d\,(\mathrm{A}_x + \mathrm{A}_y - \mathrm{A}_{xy})$ = the value of £1 payable at the end of the year of the last death.

[*Note.*—These are also single premiums to insure £1.]

$\Pi_{\overline{xyn}} = \frac{\mathrm{D}_{xy\,|\,n} - d\mathrm{N}_{xy\,|\,n}}{\mathrm{D}_{xy}}$ = value of £1 payable if either X or Y, or both, die in $n$ years, on the first death.

$\Pi_{xy\,|\,n} = \frac{\mathrm{D}_{(xy)+n}}{\mathrm{D}_{xy}} - d\left(\frac{\mathrm{N}_{(xy)+n}}{\mathrm{D}_{xy}}\right)$ = value of £1 payable if X or Y die after $n$ years, on the first death.

$\Pi_{\overline{xy},\,n} = \Pi_{xn} + \Pi_{yn} - \Pi_{xyn} = \Pi_{\overline{xy}} - \Pi_{\overline{xy}\,|\,n}$
= value of £1 payable if X and Y die in $n$ years, on the last death.

$$\Pi_{\overline{xy}\,|\,n} = \frac{\mathrm{M}_{x+n}}{\mathrm{D}_x} + \frac{\mathrm{M}_{y+n}}{\mathrm{D}_y} - \frac{\mathrm{M}_{xy+n}}{\mathrm{D}_{xy}}$$

$= \Pi_{x\,|\,n} + \Pi_{y\,|\,n} - \left(\frac{\mathrm{D}_{xy+n} - d\mathrm{N}_{xy+n}}{\mathrm{D}_{xy}}\right)$ = value of £1 payable if X and Y die after $n$ years, on the last death.

### *Insurances by Annual Premiums.*

$\pi_{xy} = a_{xy} - d = \frac{\mathrm{D}_{xy}}{\mathrm{N}_{xy}} - d =$ the annual premium payable during the joint lives of X and Y, to insure £ 1 payable on the first death.

$\pi_{\overline{xy}} = a_{\overline{xy}} - d =$ annual premium payable during the longest life to insure £ 1 at its death.

$\pi_{xyn} = \frac{\mathrm{D}_{xy\,|\,n}}{\mathrm{N}_{xy\,|\,n}} - d =$ annual premium payable, while both live, by X and Y for $n$ years to insure £ 1 payable on the first death that may happen in the time.

$\pi_{\overline{xy}\,n} = \frac{\Pi_{\overline{xy}\,n}}{\mathrm{A}_{\overline{xy}\,n}} =$ annual premium payable during the longest life of X and Y for $n$ years, if either live so long, to insure £ 1 at the end of the year of the last death.

$\pi'_{xy\,|\,n} = \frac{\mathrm{N}_{(xy)+n}}{\mathrm{N}_{xy\,|\,n}} =$ annual premium jointly payable by X and Y to provide a deferred joint annuity of £ 1.

$\pi'_{x\,|\,y} = \frac{\mathrm{A}_{x\,|\,y}}{\mathrm{A}_{xy}} = \mathrm{A}_x \cdot a_{xy} - 1 = \frac{\mathrm{N}_x}{\mathrm{D}_x} \cdot \frac{\mathrm{D}_{xy}}{\mathrm{N}_{xy}} - 1 =$ annual premium during joint life of X and Y to insure annuity of £ 1 to X after death of Y. This annuity provides for a Widow.

### *Insurances dependent on the Order in which the Death of* X *or* Y *happens.*

The sum insured is due at the end of the year of age in which the specific death happens; and there are four cases on which this insurance may depend: (1) the death of X, if it happen first, $(\overset{1}{x}y)$; (2) the death of X, if it happen second, $(\overset{2}{x}y)$; (3) the death of Y, if it happen first, $(x\overset{1}{y})$; (4) the death of Y, if it happen second, $(x\overset{2}{y})$.

$$\Pi_{\overset{1}{x}y} = \frac{v\mathrm{N}_{xy} + v^{\frac{1}{2}}\,(\mathrm{N}_{x,\,y+1} - \mathrm{N}_{x+1,\,y}) - \mathrm{N}_{x+1,\,y+1}}{2\ \mathrm{D}_{xy}}$$

or $\Pi_{\overset{1}{x}y} = \frac{v\mathrm{N}_{xy} + v^{\frac{1}{2}}\,\mathrm{N}_{x,\,y+1} - v^{\frac{1}{2}}\,\mathrm{N}_{x+1,\,y} - \mathrm{N}_{x+1,\,y+1}}{2\ \mathrm{D}_{xy}} =$ value of £ 1 at the death of X, if first. This is an insurance on X against Y.

And $\Pi_{x\overset{1}{y}} = \frac{v\mathrm{N}_{xy} + v^{\frac{1}{2}}\,\mathrm{N}_{x+1,\,y} - v^{\frac{1}{2}}\,\mathrm{N}_{x,\,y+1} - \mathrm{N}_{x+1,\,y+1}}{2\ \mathrm{D}_{xy}} = \frac{\frac{1}{2}\,(a-b)}{\mathrm{D}_{xy}} =$ value of £ 1 at the death of Y, if first. This is an insurance on Y against X.

[*Note.*—The formula is applicable if X or Y is either the oldest or youngest life by the English Life Tables; and by substituting $\mathrm{N}_{xy\,|\,n}$ for $\mathrm{N}_{xy}$, $\mathrm{N}_{x,\,y+1\,|\,n}$ for $\mathrm{N}_{x,\,y+1}$, &c. &c., the value of the insurance for $n$ years is found. The deferred insurance is found by putting $\mathrm{N}_{(xy)+n}$ in the place of $\mathrm{N}_{xy}$, &c. &c.]

By addition—

$\Pi_{xy} = \Pi_{\overset{1}{x}y} + \Pi_{x\overset{1}{y}} = 1 - d\mathrm{A}_{xy} =$ value of £1 at the first death of either X or Y.

$$\therefore \Pi_{\overset{1}{x}y} = \Pi_{xy} - \Pi_{x\overset{1}{y}}\,;\ \Pi_{x\overset{1}{y}} = \Pi_{xy} - \Pi_{\overset{1}{x}y}$$

$$\text{and } \Pi_{xx} = \Pi_{\overset{1}{x}x} + \Pi_{x\overset{1}{x}}\,;\ \Pi_{xx} = 2\,\Pi_{\overset{1}{x}x}\,;\ \Pi_{\overset{1}{x}\overset{1}{x}} = \tfrac{1}{2}\,\Pi_{xx}$$

It will be observed that $v\mathrm{N}_{xy} - \mathrm{N}_{x+1,y+1} = \mathrm{M}_{xy}$ in these equations, which if we put $v^{\frac{1}{2}}(\mathrm{N}_{x,y+1} - \mathrm{N}_{x+1,y}) = b$, may be written thus:—

$$\Pi_{\overset{1}{x}y} = \frac{\mathrm{M}_{xy}}{2\,\mathrm{D}_{xy}} + \frac{b}{2\,\mathrm{D}_{xy}} = \frac{\Pi_{xy}}{2} + \frac{b}{2\,\mathrm{D}_{xy}}\,;\ \text{and } \Pi_{x\overset{1}{y}} = \frac{\Pi_{xy}}{2} - \frac{b}{2\,\mathrm{D}_{xy}}$$

$$\text{Also, } \pi_{\overset{1}{x}y} = \frac{\mathrm{M}_{xy}}{2\,\mathrm{N}_{xy}} + \frac{b}{2\,\mathrm{N}_{xy}} = \frac{\pi_{xy}}{2} + \frac{b}{2\,\mathrm{N}_{xy}}$$

$$\pi_{x\overset{1}{y}} = \frac{\pi_{xy}}{2} - \frac{b}{2\,\mathrm{N}_{xy}}$$

But $\Pi_x = \Pi_{\overset{1}{x}y} + \Pi_{\overset{2}{x}y} =$ value of £1 payable at end of year in which the death of X happens, be it when it may; it is the premium to insure £1.

$\therefore \Pi_{\overset{2}{x}y} = \Pi_x - \Pi_{\overset{1}{x}y} =$ value of £1 payable at the end of year of the death of X, if he die second of the two; that is, after Y.

$\Pi_{x\overset{2}{y}} = \Pi_y - \Pi_{x\overset{1}{y}} =$ value of £1 payable at the end of the year of the death of Y, if he die the second of the two lives; that is, after X.

$\Pi_{\overline{xy}} = \Pi_{\overset{2}{x}y} + \Pi_{x\overset{2}{y}} = \Pi_x + \Pi_y - \Pi_{xy} = \Pi_x + \Pi_y + d\mathrm{A}_{xy} - 1 =$ the value of £1 to be paid at the death of the longest life, whether it be X or Y.

$$\Pi_{\overline{xx}} = \Pi_{\overset{2}{x}x} + \Pi_{x\overset{2}{x}} = 2\,\Pi_x - \Pi_{xx}.$$

The Annual Premium to insure £1 at the death of the first life is usually paid during the Joint Lives only.

$$\text{So } \frac{\Pi_{xy}}{\mathrm{A}_{xy}} = \frac{\Pi_{\overset{1}{x}y}}{\mathrm{A}_{xy}} + \frac{\Pi_{x\overset{1}{y}}}{\mathrm{A}_{xy}} = \pi_{xy} = \pi_{\overset{1}{x}y} + \pi_{x\overset{1}{y}} = a_{xy} - d$$

The annual premium to insure £1 at the death of the longest life is usually paid during the longest life.

$$\text{Hence } \frac{\Pi_{\overline{xy}}}{\mathrm{A}_{\overline{xy}}} = \frac{\Pi_{\overset{2}{x}y}}{\mathrm{A}_{\overline{xy}}} + \frac{\Pi_{x\overset{2}{y}}}{\mathrm{A}_{\overline{xy}}} = \pi_{\overline{xy}} = \pi_{\overset{2}{x}y} + \pi_{x\overset{2}{y}}$$

$$\text{and } \frac{\Pi_{\overline{xx}}}{\mathrm{A}_{\overline{xx}}} = \frac{\Pi_{\overset{2}{x}x}}{\mathrm{A}_{\overline{xx}}} + \frac{\Pi_{x\overset{2}{x}}}{\mathrm{A}_{\overline{xx}}} = \pi_{\overline{xx}} = 2\,\pi_{\overset{2}{x}x}$$

$\pi_{\overset{2}{x}x} = \dfrac{\pi_{\overline{xx}}}{2} =$ annual premium payable during last of two lives $\mathrm{X}_1$ and $\mathrm{X}_2$, now age $x$, to insure £1 at the death of $\mathrm{X}_2$ designated, provided he be the last to die.

### *Dr. Price's Rule for deducing from the correct Values of Annuities $A_x$ &c. on Single or Joint Lives at any one Rate of Interest the approximate Values of Annuities on the same Lives at any other Rate of Interest.*

Let $A_{xy}$ = the *first* or computed value of the annuity at *one* rate of interest.

$B_{xy}$ = the *second value* of the annuity at the same rate of interest, deduced from the expectations of life upon Demoivre's hypothesis. (*See* pages lxxxiv and cli.)

$C_{xy}$ = the *third value* of the annuity at any other rate of interest, deduced from the same formula as $B_{xy}$.

Then $A_{xy} - (B_{xy} - C_{xy})$ = the approximate value of $A_{xy}$ at that other rate of interest.

Baily illustrates this rule for single lives, and adds: "The same principles will "apply to the case of two joint lives; and it will be found that in both cases the "deduced values are sometimes nearly the same as the correct values; that, "generally, they do not differ more than a 20th or 30th part of a year's purchase; "that in *joint* lives they differ less than in single lives; and that they come equally "near to each other *whatever* the rates of interest are." *

## VALUES DEPENDENT UPON THREE LIVES, X OF AGE $x$, Y OF AGE $y$, AND Z OF AGE $z$.

### *Annuities and Insurances.*

The annuities for three lives (three males), (two males and one female), (one male and two females), (three females) are readily deduced from the series for two lives. The series $\lambda\, l_x$ and $\lambda\, l_y$ on stiff calculating paper will facilitate the calculation.

Make Z the oldest life.

Then $D_{xy} = v^{\frac{x+y}{2}} l_x \cdot l_y$; and $D_{xyz} = v^{\frac{x+y}{2}} l_x \cdot l_y \cdot l_z$; and $\lambda D_{xyz} = \lambda D_{xy} + \lambda l_z$. The sum of the series $D_{xyz}$ is $N_{xyz}$; and $A_{xyz} = \frac{N_{xyz}}{D_{xyz}}$. For a joint annuity for $n$ years

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* Baily on Life Annuities, Filipowski's edition, p. 194.

$\mathrm{A}_{xyzn} = \frac{\mathrm{N}_{xyz \mid n}}{\mathrm{D}_{xyz}} = \frac{\mathrm{N}_{xyz} - \mathrm{N}_{(xyz)+n}}{\mathrm{D}_{xyz}}$, it is only necessary to calculate $n$ terms of the series; for a deferred annuity only $\mathrm{D}_{xyz}$ and the terms commencing at ages $(xyz)+n$, the series always terminating when any factor becomes $l_{\omega} = 0$. The various series for any number of lives are calculated in the same way; and the calculation is required when accurate results are desired. Approximative results are obtained from the same tables by shorter methods.

This is Simpson's rule for finding the value of an annuity on three joint lives, X, Y, and Z:—*

Let X be the youngest and Z the oldest of *three* proposed lives: take the value of the *two* joint lives Y and Z from the Two-Life Table, and find the *age* of a single life U of the same value by the Single-Life Table; then find the value of the annuity on the joint lives X and U, which will be the answer.

The rule is thus compendiously expressed:—Find $\mathrm{A}_u = \mathrm{A}_{yz}$; and $\mathrm{A}_{ux} = \mathrm{A}_{xyz}$ nearly. In the case of four lives W, X, Y, Z, take $\mathrm{A}_{wx} = \mathrm{A}_v$, and $\mathrm{A}_{yz} = \mathrm{A}_u$; then $\mathrm{A}_{uv} = \mathrm{A}_{wxyz}$ nearly. Baily deducts ·05 from the thus-found value when the oldest life is under 70 years of age and the youngest is not under 10. This rule is adopted without restriction as to age in the Succession Act.

[*Note.*—The logarithms of $\mathrm{A}_u$, $\mathrm{A}_{yz}$, &c. are most convenient for use.]

The following is Simpson's rule for finding the value of an annuity on the longest of three lives, X, Y, and Z:—

Let $\mathrm{A}_{yz} = \mathrm{A}_w$; then $\mathrm{A}_{\overline{xz}} + \mathrm{A}_{\overline{xy}} - \mathrm{A}_{\overline{xw}} = \mathrm{A}_{\overline{xyz}}$ = the value of an annuity of £1 on the longest of the three lives.

$\mathrm{A}_{xyz}$ = the value of an annuity of £1 on three joint lives; it ceases at the first death.

$\mathrm{A}_{\overset{2}{\overline{xyz}}} = \mathrm{A}_{xy} + \mathrm{A}_{xz} + \mathrm{A}_{yz} - 2\,\mathrm{A}_{xyz}$ = the value of an annuity of £1 on the last two—whether they be XY or XZ or YZ—out of three lives; it ceases at the *second* death.

$\mathrm{A}_{\overline{xyz}} = \mathrm{A}_x + \mathrm{A}_y + \mathrm{A}_z - \mathrm{A}_{xy} - \mathrm{A}_{xz} - \mathrm{A}_{yz} + \mathrm{A}_{xyz}$ = the value of an annuity of £1 on the longest of three lives; it goes on as long as X or Y or Z is alive, and ceases at the *third* death.

$\Pi_{xyz} = 1 - d\mathrm{A}_{xyz}$ = single premium to insure £1 at *first* death [payable at the end of death-year of X or Y or Z].

$\Pi_{\overset{2}{\overline{xyz}}} = 1 - d\mathrm{A}_{\overset{2}{\overline{xyz}}}$ = single premium to insure £1 at *second* death.

$\Pi_{\overline{xyz}} = 1 - d\mathrm{A}_{\overline{xyz}}$ = single premium to insure £1 at *third* death.

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* Supplement to Doctrine of Annuities, by T. Simpson, 1791, page 25.

$\pi_{xyz} = \frac{1}{A_{xyz}} - d = a_{xyz} - d$ = annual premium to insure £ 1 at *first* death.

$\pi_{\overset{2}{\overline{xyz}}} = \frac{1}{A_{\overset{2}{\overline{xyz}}}} - d = a_{\overset{2}{\overline{xyz}}} - d$ = annual premium to insure £ 1 at *second* death.

$\pi_{\overline{xyz}} = \frac{1}{A_{\overline{xyz}}} - d = a_{\overline{xyz}} - d$ = annual premium to insure £ 1 at *third* death: the premium is paid at the beginning of every year of age attained by the longest life, and the sum insured at the end of his death-year.

To pass to $A_{xyz,n}$ &c. *see* section of Two Lives.

### *Reversionary Life Annuities and Survivorships.*

$A_{x|yz} = A_x - A_{xyz}$ = value of annuity of £ 1 on life of X; first payment at end of year of age in which Y or Z shall die.

$A_{xy|z} = A_{xy} - A_{xyz}$ = value of joint annuity of £ 1 on lives of X and Y; to commence at death of Z and cease at first death of either X or Y.

$A_{x|\overline{yz}} = A_x - A_{xy} - A_{xz} + A_{xyz}$ = value of annuity of £ 1 on life of X; to commence at the *last death* of Y or Z.

$A_{\overline{xy}|z} = A_x + A_y - A_{xy} - A_{xz} - A_{yz} + A_{xyz}$ = value of annuity of £ 1 on the longest life X or Y; to commence at the death of Z.

[*Note.*—The whole value of each of these annuities is $A_x$, or $A_{xy}$ or $A_{\overline{xy}}$, as the case may be; and the part cut off is held to belong to the lives in *possession*, while the above values belong to the lives in *reversion*.]

When the annuity for the longest life is divided at each payment equally between the survivors of three lives, the value of each share is thus given:—

X has $G_{x(yz)} = A_x - \frac{1}{2}(A_{xy} + A_{xz}) + \frac{1}{3}A_{xyz}$

Y has $G_{y(xz)} = A_y - \frac{1}{2}(A_{xy} + A_{yz}) + \frac{1}{3}A_{xyz}$

Z has $G_{z(xy)} = A_z - \frac{1}{2}(A_{xz} + A_{yz}) + \frac{1}{3}A_{xy}$

The sum of the three values is $= A_{\overline{xyz}}$.

## VALUES DEPENDENT UPON FOUR OR MORE ($n$) LIVES.

### *Annuities.*

The method for deriving the value of joint annuities on four or any number of lives has been described in treating of three lives. They are all derivable from the series $D_{xy}\, l_u\, l_v\, l_w\, l_z \ldots$, of which the separate logarithms are printed. And the notation and formulas already given admit of indefinite extension; but the number of combinations of lives in cases of frequent occurrence is so great that each case has to be separately considered, and it is only possible to indicate methods of invention to which the notation lends itself.

Let the ages of the lives U, V, W, X, Y, Z, &c. all be denoted by $u$, $v$, $w$, $x$, $y$, $z$, &c.; then these suffixes, detached from $p$ and A, may be operated on independently and thus supply new suffixes. Thus the probability that X will be alive and Y and Z be both dead is thus found: Put $x \mid \overline{yz} = x(1-y)(1-z) = x - xy - xz + xyz$. Then $p_{x.n} - p_{xy.n} - p_{xz.n} + p_{xyz.n}$ is the probability that X will be alive and both Y and Z be dead in $n$ years; and the present value of a sum dependent on those chances is $v^n(p_{x.n} - p_{xy.n} - p_{xz.n} + p_{xyz.n})$, from which the values of the annuity dependent on the chances are derived, $A_x - A_{xy} - A_{xz} + A_{xyz}$.

Thus, taking five (or $n$) lives, let $A_{\overline{vwxyz}}$ be the value of an annuity of £1 on the longest life—that is, payable as long as any one of the five lives is in existence when the annual payment is due; and $A_{\overset{2}{\overline{vwxyz}}}$ = the value of an annuity of £1 payable so long as any two of the lives survive; $A_{\overset{m}{\overline{vwxyz}}}$ the value of an annuity for as long as any number $m$ of the lives survive. Then the suffixes of $A_{\overset{5}{\overline{vwxyx}}}$ are readily found from the annexed scheme; so are those of $A_{\overset{4}{\overline{vwxyz}}}$, and $A_{\overset{3}{\overline{vwxyz}}}$, and $A_{\overset{2}{\overline{vwxyz}}}$, and $A_{\overset{1}{\overline{vwxyz}}}$. The first annuity is payable during the whole of the joint lives—that is, until the year of the death of one of them—and is, for the sake of simplicity, written $A_{vwxyz}$; and as regards the last, the small figure over the bar is usually dropped. The same notation and method of invention are applicable to any number of lives.

To effect the passage to values dependent on temporary or deferred annuities, it is only necessary to substitute the values of such annuities found in the usual way for life-long annuities; the suffixes otherwise remain the same.

The suffixes of reversionary annuities on lives are readily found. Thus let $wx \mid \overline{yz} = wx(1-y)(1-z)$; also $w \mid \overline{xyz} = w(1-x)(1-y)(1-z)$: then the expansion gives the suffixes. And let $\overline{wx} \mid yz = \{1-(1-w)(1-x)\}(1-yz) = (w+x-wx)(1-yz) = w + x - wx - wyz - xyz + wxyz$: so also let $\overline{wxy} \mid z = \{1-(1-w)(1-x)(1-y)\}(1-z)$. And in all cases the same notation supplies the suffixes: thus $\overline{vwxy} \mid z = \{1-(1-v)(1-w)(1-x)(1-y)\}(1-z)$; and $v \mid \overline{wxyz} = v(1-w)(1-x)(1-y)(1-z)$. The cut-off letters are subtracted from unity collectively or separately, according as they are free or under the band. In the case $A_{\overline{uvw}\,|\,\overline{xyz}} = A_{\overline{uvwxyz}} - A_{\overline{xyz}}$, this is the value of an annuity of £1 for the longest life of the six, of which the lives X Y Z are in possession, and which only falls to the reversioners after the extinction of the last life of the three in possession.

The number of terms involving 1, 2, 3 . . . $m$ lives out of $n$ is shown by the Binomial Table; and in the equation for the suffixes of $A_{\overset{m}{\overline{uvwxyz}}}$ the co-efficient of the first set of terms ($S_0$) will be 1, of the second set $S_1$ it will be $m$, of the third $\frac{m \cdot m + 1}{1 \cdot 2}$, of the fourth $\frac{m\,(m+1)\,(m+2)}{1 \cdot 2 \cdot 3}$ . . . . Putting $S_0$ for the value of the annuity on the combination of $m$ lives in the first set of terms, $S_1$ for the value of the annuities on the combination of the $(m + 1)$ lives . . . . . . . . .

Then the value of the annuity on $n$ lives, to continue as long as any $m$ of them survive, will be,—

$$A_{\overset{m}{\overline{uvwxyz,\ \&\text{c. to } n}}} = S_0 - m\,S_1 + \frac{m\,(m+1)}{1 \cdot 2}\,S_2 - \frac{m\,(m+1)\,(m+2)}{1 \cdot 2 \cdot 3}\,S_3 + \frac{m\,(m+1)\,(m+2)\,(m+3)}{1 \cdot 2 \cdot 3 \cdot 4}\,S_4 \;.\;.\;.\;.\;.$$

Thus, upon taking three, or two, or one out of five lives as given in the tabular scheme,—

$$A_{\overset{3}{\overline{vwxyz}}} = S_0 - 3\,S_1 + 6\,S_2$$

$$A_{\overset{3}{\overline{vwxyz}}} = S_0 - 2\,S_1 + 3\,S_2 - 4\,S_3$$

$$A_{\overset{1}{\overline{vwxyz}}} = S_0 - \quad S_1 + \quad S_2 - \quad S_3 + S_4$$

By these formulas the scheme for lives may be indefinitely prolonged.

If all the $n$ lives are of the same value as X, then the value of the annuity of £1 on the longest life will be,—

$$A_{\overline{xxx \text{ to } n}} = A_{\overline{x}^{n}} = n A_x - \frac{n\,(n-1)}{1 \cdot 2}\,A_{xx} + \frac{n\,(n-1)\,(n-2)}{1 \cdot 2 \cdot 3}\,A_{xxx} - \frac{n\,(n-1)\,(n-2)\,(n-3)}{1 \cdot 2 \cdot 3 \cdot 4}\,A_{xxxx} \;.\;.\;.\;.\;.\;.\;.$$

SCHEME for finding EQUATIONS to express the PROBABILITIES OF LIVING and DYING among FIVE LIVES, VWXYZ, and the VALUES OF ANNUITIES dependent on them, in various combinations.

| **Section I.** | ALIVE. | DEAD. | | | |
|---|---|---|---|---|---|
| (1) ALL ALIVE | VWXYZ | | $vwxyz$ | = | $vwxyz$ |
| (2) 1 DEATH | WXYZ | V | $wxyz\ (1-v)$ | = | $wxyz - vwxyz$ |
| | VXYZ | W | $vxyz\ (1-w)$ | = | $vxyz - vwxyz$ |
| | VWYZ | X | $vwyz\ (1-x)$ | = | $vwyz - vwxyz$ |
| | VWXZ | Y | $vwxz\ (1-y)$ | = | $vwxz - vwxyz$ |
| | VWXY | Z | $vwxy\ (1-z)$ | = | $vwxy - vwxyz$ |
| (3) 2 DEATHS | XYZ | VW | $xyz\ (1-v)\ (1-w)$ | = | $xyz - wxyz - vxyz + vwxyz$ |
| | WYZ | VX | $wyz\ (1-v)\ (1-x)$ | = | $wyz - wxyz - vwyz + vwxyz$ |
| | WXZ | VY | $wxz\ (1-v)\ (1-y)$ | = | $wxz - wxyz - vwxz + vwxyz$ |
| | WXY | VZ | $wxy\ (1-v)\ (1-z)$ | = | $wxy - wxyz - vwxy + vwxyz$ |
| | VYZ | WX | $vyz\ (1-w)\ (1-x)$ | = | $vyz - vxyz - vwyz + vwxyz$ |
| | VXZ | WY | $vxz\ (1-w)\ (1-y)$ | = | $vxz - vxyz - vwxz + vwxyz$ |
| | VXY | WZ | $vxy\ (1-w)\ (1-z)$ | = | $vxy - vxyz - vwxy + vwxyz$ |
| | VWZ | XY | $vwz\ (1-x)\ (1-y)$ | = | $vwz - vwyz - vwxz + vwxyz$ |
| | VWY | XZ | $vwy\ (1-x)\ (1-z)$ | = | $vwy - vwyz - vwxy + vwxyz$ |
| | VWX | YZ | $vwx\ (1-y)\ (1-z)$ | = | $vwx - vwxz - vwxy + vwxyz$ |
| (4) 3 DEATHS | VW | XYZ | $vw\ (1-x)\ (1-y)\ (1-z)$ | = | $vw - vwz - vwy - vwx + vwyz + vwxz + vwxy - vwxyz$ |
| | VX | WYZ | $vx\ (1-w)\ (1-y)\ (1-z)$ | = | $vx - vxz - vxy - vwx + vxyz + vwxz + vwxy - vwxyz$ |
| | VY | WXZ | $vy\ (1-w)\ (1-x)\ (1-z)$ | = | $vy - vyz - vxy - vwy + vxyz + vwyz + vwxy - vwxyz$ |
| | VZ | WXY | $vz\ (1-w)\ (1-x)\ (1-y)$ | = | $vz - vyz - vxz - vwz + vxyz + vwyz + vwxz - vwxyz$ |
| | WX | VYZ | $wx\ (1-v)\ (1-y)\ (1-z)$ | = | $wx - wxz - wxy - vwx + wxyz + vwxz + vwxy - vwxyz$ |
| | WY | VXZ | $wy\ (1-v)\ (1-x)\ (1-z)$ | = | $wy - wyz - wxy - vwy + wxyz + vwyz + vwxy - vwxyz$ |
| | WZ | VXY | $wz\ (1-v)\ (1-x)\ (1-y)$ | = | $wz - wyz - wxz - vwz + wxyz + vwyz + vwxz - vwxyz$ |
| | XY | VWZ | $xy\ (1-v)\ (1-w)\ (1-z)$ | = | $xy - xyz - wxy - vxy + wxyz + vxyz + vwxy - vwxyz$ |
| | XZ | VWY | $xz\ (1-v)\ (1-w)\ (1-y)$ | = | $xz - xyz - wxz - vxz + wxyz + vxyz + vwxz - vwxyz$ |
| | YZ | VWX | $yz\ (1-v)\ (1-w)\ (1-x)$ | = | $yz - xyz - wyz - vyz + wxyz + vxyz + vwyz - vwxyz$ |
| (5) 4 DEATHS | V | WXYZ | $v\ (1-w)\ (1-x)\ (1-y)\ (1-z)$ | = | $v - vw - vx - vy - vz + vyz + vxz + vxy + vwz + vwy + vwx - vxyz - vwyz - vwxz - vwxy + vwxyz$ |
| | W | VXYZ | $w\ (1-v)\ (1-x)\ (1-y)\ (1-z)$ | = | $w - vw - wx - wy - wz + wyz + wxz + wxy + vwz + vwy + vwx - wxyz - vwyz - vwxz - vwxy + vwxyz$ |
| | X | VWYZ | $x\ (1-v)\ (1-w)\ (1-y)\ (1-z)$ | = | $x - vx - wx - xy - xz + xyz + wxz + wxy + vxz + vxy + vwx - wxyz - vxyz - vwxz - vwxy + vwxyz$ |
| | Y | VWXZ | $y\ (1-v)\ (1-w)\ (1-x)\ (1-z)$ | = | $y - vy - wy - xy - yz + xyz + wyz + wxy + vyz + vxy + vwy - wxyz - vxyz - vwyz - vwxy + vwxyz$ |
| | Z | VWXY | $z\ (1-v)\ (1-w)\ (1-x)\ (1-y)$ | = | $z - vz - wz - xz - yz + xyz + wyz + wxz + vyz + vxz + vwz - wxyz - vxyz - vwxz - vwyz + vwxyz$ |
| (6) ALL 5 DEAD | - | VWXYZ | $(1-v)\ (1-w)\ (1-x)\ (1-y)\ (1-z)$ | = | $1 - v - w - x - y - z + vw + vx + vy + vz + wx + wy + wz + xy + xz + yz - xyz - wyz - wxz - wxy - vyz - vxz - vxy - vwz - vwy - vwx + wxyz + vxyz + vwyz + vwxz + vwxy - vwxyz$ |
| (7) NOT ALL DEAD (that is, 1 at least alive) | | | $\{1 - (1-v)\ (1-w)\ (1-x)\ (1-y)\ (1-z)\}$ | = | $v + w + x + y + z - vw - vx - vy - vz - wx - wy - wz - xy - xz - yz + xyz + wyz + wxz + wxy + vyz + vxz + vxy + vwz + vwy + vwx - wxyz - vxyz - vwyz - vwxz - vwxy + vwxyz$ |

Let $n$ be Total Lives; and $\mu$ the Deaths; $m$ the Living: or $n = m + \mu$; and $n - \mu = m$. The suffixes are placed to $p$, but apply also to A, or $a$.

**Section II.**

$n - \mu$

(1) $\frac{5-0}{vwxyz}$ = All Alive $= p_{vwxyz}$

(2) $\frac{5-1}{vwxyz}$ = Only 4 alive and only 1 dead $= p_{wxyz} + p_{vxyz} + p_{vwyz} + p_{vwxz} + p_{vwxy} - 5\,p_{vwxyz}$

(3) $\frac{5-2}{vwxyz}$ = Only 3 alive and only 2 dead $= p_{xyz} + p_{wyz} + p_{wxz} + p_{wxy} + p_{vyz} + p_{vxz} + p_{vxy} + p_{vwz} + p_{vwy} + p_{vwx} - 4\,p_{wxyz} - 4\,p_{vxyz} - 4\,p_{vwyz} - 4\,p_{vwxz} - 4\,p_{vwxy} + 10\,p_{vwxyz}$

(4) $\frac{5-3}{vwxyz}$ = Only 2 alive and only 3 dead $= p_{vw} + p_{vx} + p_{vy} + p_{vz} + p_{wx} + p_{wy} + p_{wz} + p_{xy} + p_{xz} + p_{yz} - 3\,p_{xyz} - 3\,p_{wyz} - 3\,p_{wxz} - 3\,p_{wxy} - 3\,p_{vyz} - 3\,p_{vxz} - 3\,p_{vxy} - 3\,p_{vwz} - 3\,p_{vwy} - 3\,p_{vwx} + 6\,p_{wxyz} + 6\,p_{vxyz} + 6\,p_{vwyz} + 6\,p_{vwxz} + 6\,p_{vwxy} - 10\,p_{vwxyz}$

(5) $\frac{5-4}{vwxyz}$ = Only 1 alive and only 4 dead $= p_v + p_w + p_x + p_y + p_z - 2\,p_{vw} - 2\,p_{vx} - 2\,p_{vy} - 2\,p_{vz} - 2\,p_{wx} - 2\,p_{wy} - 2\,p_{wz} - 2\,p_{xy} - 2\,p_{xz} - 2\,p_{yz} + 3\,p_{xyz} + 3\,p_{wyz} + 3\,p_{wxz} + 3\,p_{wxy} + 3\,p_{vyz} + 3\,p_{vxz} + 3\,p_{vxy} + 3\,p_{vwz} + 3\,p_{vwy} + 3\,p_{vwx} - 4\,p_{wxyz} - 4\,p_{vxyz} - 4\,p_{vwyz} - 4\,p_{vwxz} - 4\,p_{vwxy} + 5\,p_{vwxyz}$

**Section III.**

$m$

(1) $\frac{5}{vwxyz}$ = All 5 alive ($= p_{vwxyz}$ as usually written) $= p_{vwxyz}$

(2) $\frac{4}{vwxyz}$ = 5 or 4 alive $= p_{wxyz} + p_{vxyz} + p_{vwyz} + p_{vwxz} + p_{vwxy} - 4\,p_{vwxyz}$

(3) $\frac{3}{vwxyz}$ = 5, 4, or 3 alive $= p_{xyz} + p_{wyz} + p_{wxz} + p_{wxy} + p_{vyz} + p_{vxz} + p_{vxy} + p_{vwz} + p_{vwy} + p_{vwx} - 3\,p_{wxyz} - 3\,p_{vxyz} - 3\,p_{vwyz} - 3\,p_{vwxz} - 3\,p_{vwxy} + 6\,p_{vwxyz}$

(4) $\frac{2}{vwxyz}$ = 5, 4, 3, or 2 alive $= p_{vw} + p_{vx} + p_{vy} + p_{vz} + p_{wx} + p_{wy} + p_{wz} + p_{xy} + p_{xz} + p_{yz} - 2\,p_{xyz} - 2\,p_{wyz} - 2\,p_{wxz} - 2\,p_{wxy} - 2\,p_{vyz} - 2\,p_{vxz} - 2\,p_{vxy} - 2\,p_{vwz} - 2\,p_{vwy} - 2\,p_{vwx} + 3\,p_{wxyz} + 3\,p_{vxyz} + 3\,p_{vwyz} + 3\,p_{vwxz} + 3\,p_{vwxy} - 4\,p_{vwxyz}$

(5) $\frac{1}{vwxyz}$ = 5, 4, 3, 2, or 1 alive ($= p_{\overline{vwxyz}}$ as usually written) $= p_v + p_w + p_x + p_y + p_z - p_{vw} - p_{vx} - p_{vy} - p_{vz} - p_{wx} - p_{wy} - p_{wz} - p_{xy} - p_{xz} - p_{yz} + p_{xyz} + p_{wyz} + p_{wxz} + p_{wxy} + p_{vyz} + p_{vxz} + p_{vxy} + p_{vwz} + p_{vwy} + p_{vwx} - p_{wxyz} - p_{vxyz} - p_{vwyz} - p_{vwxz} - p_{vwxy} + p_{vwxyz}$

(6) $\frac{0}{vwxyz}$ = All 5 dead $= 1 - p_v - p_w - p_x - p_y - p_z + p_{vw} + p_{vx} + p_{vy} + p_{vz} + p_{wx} + p_{wy} + p_{wz} + p_{xy} + p_{xz} + p_{yz} - p_{xyz} - p_{wyz} - p_{wxz} - p_{wxy} - p_{vyz} - p_{vxz} - p_{vxy} - p_{vwz} - p_{vwy} - p_{vwx} + p_{wxyz} + p_{vxyz} + p_{vwyz} + p_{vwxz} + p_{vwxy} - p_{vwxyz}$

**Note.**—It will be observed that for 5 lives there are $32 = 2^5$ cases; and if there are 6 lives there are $2^6 = 64$ cases; or generally $2^n$ cases for $n$ lives. To obtain the suffixes for 4 lives strike out all the terms in which $v$ occurs: to get the suffixes for 3 lives strike out the terms containing $v$ or $w$; for suffixes of 2 lives strike out the terms containing $v$ or $w$ or $x$. To insert other lives proceed on the same plan as in the scheme. The scheme is divided into 3 sections. The first section contains 7 groups; thus in the second group the suffixes suffice to indicate the probability that WXYZ will all be alive at the end of a year and V be dead; it is $p_{wxyz} - p_{vwxyz}$; and the correlative Annuity is $A_{wxyz} - A_{vwxyz}$, the first payment of which is made on the death of V, and the Annuity ceases on the death of either WXYZ. By adding together the terms of this group (2) the second line of Section II. is obtained; and the suffixes for the probabilities that some 4 will be alive and some one of the five be dead, are found: the same suffixes give the value of an Annuity to commence at the end of the year of the first and to terminate at the second death. Thus in Section II. the third line has the sum of the terms of group 3 in Section I., the fourth line has the sum of the terms of group 4 in Section I., and the fifth line has the sum of the terms of group 5 in the same Section I. In Section III. the line 2 = sum of terms (1) + (2) in Section II.; line 3 = sum of (1) + (2) + (3) in Section II.; line 4 = sum of (1) + (2) + (3) + (4) in Section II.; line 5 = sum of (1) + (2) + (3) + (4) + (5) in Section II.; and line 6 = line 6 in Section I., or the terms of line 5 in Section III. subtracted from unity.

The value of the reversion of an Annuity certain for $n$ years, or a perpetuity of £1 after the extinction of all the lives, is found by the last line, on substituting $V_x$ or $\frac{1+i}{i}$ for the first term 1, and inserting the values of the Life Annuities indicated by the suffixes.

### *Reversionary and Survivorship Annuities on any Number of Lives.*

Let an annuity of £ 1 a year for ever be called a perpetuity of £ 1, then its value is $\frac{1+i}{i}$, if $i$ by hypothesis be the true rate of interest; now $A_x$ is the value of £ 1 a year payable during the life of X in possession, the reversion is the difference between these two values: thus $A_{i|x} = \frac{1+i}{i} - A_x =$ the value of every £ 1 of the perpetuity to be received after the death of X.

£ 1 to be received at the end of the year of X's death is called a reversionary sum, and its value is, as we know, $\Pi_x = \left(\frac{1+i-iA_x}{1+i}\right)$. Now make the annuity $i$ instead of £ 1, or equal the interest of the reversionary sum; and $A_{i|x} = \left(\frac{1+i}{i} - A_x\right) i = (1+i-iA_x) =$ the value of the reversionary annuity of £ $i$ = the value of the reversionary sum (£ 1) of which $i$ is the interest + one year's interest $= 1 + i$; and $(1+i)\,\Pi_x = \frac{1+i-iA_x}{1+i} \times 1 + i$. Thus at 5 per cent. interest the reversionary annuity on X of £ 5 is of the same value as the reversionary sum of £ 105 payable at the end of the year of his death.

The reversionary perpetuity is obtained by this general formula, $A_{i|\overline{a\ldots z}}^{\;m} = \frac{1+i}{i} - A_{\overline{a\ldots z}}^{\;m}$, in which the lives are any number $n$; and $m$ varies from $n$ to 1.

Where the annuity certain is for a term of years $n$ exceeding the years that the oldest life will attain, $V_n - A_{\overline{a\ldots z}}^{\;m}$; but if this is not the case the life annuity for $n$ years must be substituted for the annuity for the full term of the tabular life. Thus $V_n - \frac{N_{x|n}}{D_x}$ is the value of a reversion of the kind.

The reversion of the annuity at constant risk is dealt with in the same way as the annuity certain; thus if the risk is $\frac{q}{1+p+q}$, then $\frac{1}{p+q} + 1 = \frac{1}{i} + 1$ is the value of the perpetuity of £ 1; and the reversionary annuity takes the form $\frac{1+i}{i} - A_{\overline{x\ldots z}}^{\;m}$ as before. A life annuity or life interest in land, well secured, it will be found is worth more than an annuity at risk for an infinite term. Thus if $p = {\cdot}03$, and the constant risk is $\frac{\cdot 02}{1\cdot 05}$, the perpetuity of £ 1 is worth, with the first instalment due, 21 years' purchase; at risk $= \frac{\cdot 07}{1\cdot 10}$ and profit-rate ·03, 11 years' purchase; but a life annuity by English Male Table $A_{10}$ is worth 24·1071 years' purchase, taking the interest at 3 per cent.

*Survivorship annuities* on three, four, or more lives are divided among the lives in different proportions during their co-existence; and special formulas are required to meet the innumerable cases.

The value of X's share in an annuity of £1 on the longest of $n$ lives, to be divided equally among the living at each period of payment, is:—

$$G_{x(n)} = G_1 - \frac{1}{2} G_2 + \frac{1}{3} G_3 - \frac{1}{4} G_4 \ldots \pm \frac{1}{n} G_n$$

Here $G_1 = A_x$; $G_2 =$ the value of a joint annuity of £1 on X and on each of the other lives; $G_3 =$ the value of a joint annuity on X in every possible combination of three given lives, of which X is one . . . ; and $G_n$ the value of a joint annuity of £1 on the $n$ lives. The sign is $-$ when $n$ is an even number, and $+$ when it is odd.

$$\text{Thus } G_x = A_x$$

$$G_{(x)(y)} = A_x - \frac{1}{2} A_{xy}$$

$$G_{x(yz)} = A_x - \frac{1}{2} (A_{xy} + A_{xz}) + \frac{1}{3} \cdot A_{xyz}$$

$$G_{x(yzw)} = A_x - \frac{1}{2} (A_{xy} + A_{xz} + A_{xw}) + \frac{1}{3} (A_{xyz} + A_{xzw} + A_{xyw}) - \frac{1}{4} A_{xyzw}.$$

Thus if there are three lives, and if an annuity of £1,200 be divided amongst them in this way, and if X be the longest life, he will get £400 whilst Y and Z live; £600 after the death of Y or Z; and £1,200 after the death of both X and Y. But X may die first or second; and the value of the share of Y is found by the same equation, when the $x$ and $y$ are reciprocally exchanged. So of Z. The sum of all the values is the value of the annuity on the longest life ($= A_{\overline{xyz}}$).

Temporary or deferred annuities are treated by the same method, and their values may be inserted in the general formula.

If the annuity descends in order to the three designated lives in succession, the value of X's share is $A_x$; of Y's share is $A_y - A_{xy}$; of Z's share is $A_z - A_{zx} - A_{zy} + A_{zyx}$.

The sum of the shares of the three is also $= A_{\overline{xyz}}$; for it is an annuity on the longest of the three lives. But in this case X enjoys the annuity—say £1,200 during his lifetime—and at the death of X, if Y be alive, £1,200 a year is enjoyed by Y for life; and at the death of Y it goes to Z, if Z is then alive, who enjoys £1,200 a year for the residue of life. If Y die before Z, the annuity from X goes direct to Z at the death of X, if Z be then alive; otherwise it lapses at the death of X, who outlives the reversioners.

The following case is given by the writers, who supply a considerable variety:—

X, Y, and Z purchase an annuity on the longest life: X and Y (say father and mother) are to enjoy it equally during their joint lives: if X die first, then Y and Z (mother and son) share it equally during their joint lifetime; and the survivor takes the whole: if Y die first, then X has the whole for life, and the right to it at X's death devolves on Z.

$$\text{Value of the share of X} = \frac{A_{xy}}{2} + (A_x - A_{xy})$$

$$= A_x - \frac{A_{xy}}{2}$$

$$\text{Value of the share of Y} = \frac{A_{xy}}{2} + \frac{A_{yz} - A_{xyz}}{2}$$

$$+ A_y - A_{xy} - A_{zy} + A_{xyz}$$

$$= A_y - \frac{A_{xy}}{2} - \frac{A_{zy}}{2} + \frac{A_{xyz}}{2}$$

$$\text{Value of the share of Z} = \frac{A_{yz} - A_{xyz}}{2}$$

$$+ A_z - A_{zx} - A_{zy} + A_{xyz}$$

$$= A_z - A_{xz} - \frac{A_{yz}}{2} + \frac{A_{xyz}}{2}$$

By inspecting the suffix scheme it is easy to pick out the suffixes for the annuities which express the various values to which any particular life or combination of lives has a right, whether to the whole or to a fractional part, and thus to construct the formulas.

Thus $A_{\overline{xyz}} - A_{xyz}$ = the value of the remainder of an annuity on the longest life after the first death $= A_x + A_y + A_z - A_{xy} - A_{xz} - A_{yz}$.

The value of the same annuity after the second death (*see* scheme) is—
$A_{\overline{xyz}} - (A_{xy} + A_{xz} + A_{yz} - 2\,A_{xyz})$.

And $A_{\overset{\cdot}{\overline{xyz}}} - A_{xyz} = A_{xy} + A_{xz} + A_{yz} - 3\,A_{xyz}$ = the value of the joint annuity on the two longest lives after the first death of the third.

## *Insurances on Four or more Lives.*

$\Pi_{\overset{m}{\overline{uvwxyz}}\ldots} = 1 - dA_{\overset{m}{\overline{uvwxyz\ldots\ldots}}}$ is the general formula for the value of £1 payable at the end of the death-year of the 1st, 2nd, . . . . $m^{\text{th}}$ . . . . up to the $n^{\text{th}}$ or last life. Thus—

$$\text{As } \Pi_{\overline{xy}} = \Pi_x + \Pi_y - \Pi_{xy} = \Pi_x + \Pi_y + dA_{xy} - 1$$

$$\text{So } \Pi_{xyz} = 1 - dA_{xyz};$$

$$\text{And } \Pi_{\overline{xyz}} = 1 - dA_{\overline{xyz}} = 1 - d\,(A_x + A_y + A_z - A_{xy} - A_{xz} - A_{yz} + A_{xyz})$$

$$= \Pi_x + \Pi_y + \Pi_z - \Pi_{xy} - \Pi_{xz} - \Pi_{yz} + \Pi_{xyz}$$

= the value of £1, payable at the end of the death-year of the longest life of the three.

$$= \Pi_x + \Pi_y + \Pi_z + \Pi_{xyz} + dA_{xy} + dA_{xz} + dA_{yz} - 3$$

For more lives apply to the scheme for suffixes, as it is applicable to this kind of expression, which follows the same law as that for annuities: thus by making $S_0$ the value of an insurance on the combinations of $m$ lives, and $S_1$ the value of the insurance on $m + 1$ lives, and so on, we get the general formula:—

$$\Pi_{\overset{m}{\overline{uvwxyz\ldots}}} = S_0 - mS_1 + \frac{m(m+1)}{1 \cdot 2} S_2 - \frac{m \cdot m+1 \cdot m+2}{1 \cdot 2 \cdot 3} S_3 \ldots\ldots$$

= the value of £1, payable at the end of the age-year of the $m^{\text{th}}$ death.

$$\text{As } \pi_{xyz} = \frac{1}{A_{xyz}} - d = a_{xyz} - d;$$

$$\text{And } \pi_{\overline{xyz}} = \frac{1}{A_{\overline{xyz}}} - d = a_{\overline{xyz}} - d;$$

$$\text{So } \pi_{\overset{m}{\overline{uvwxyz\ldots}}} = \frac{1}{A_{\overset{m}{\overline{uvwxyz\ldots}}}} - d = a_{\overset{m}{\overline{uvwxyz\ldots}}} - d$$

= the annual premium to be paid so long as $m$ out of $n$ lives survive to insure £1 at the $m^{\text{th}}$ death.

The value of an annuity certain for a given term—$n$ years—after the extinction of any life or lives, is found by the equation:—

$$(1)\ \Pi_x \, V_{n-1} = \left(1 - \frac{i}{1+i} A_x\right) \times \frac{1+i}{i} (1 - v^x)$$

$$= (1 + i - iA_x) \frac{(1 - v^x)}{i}$$

$$= \left(\frac{1+i}{i} - A_x\right) (1 - v^x)$$

(2) The general equation is $\Pi_{\overset{m}{\overline{xyz\ldots\ldots}}} \cdot V_{n-1}$.

The value of an annuity of £1 on the life of X, and of an annuity certain of £1 for $n$ years after his death—first payment at the end of his death-year—is $A_x + \Pi_x \cdot V_{n-1}$.

(3) The value of an annuity of £1 certain for the term of $n$ years—first payment due; and afterwards for the remainder of any given life or lives, is,—

Life of X; $\qquad V_{n-1} + \dfrac{N_{x+n}}{D_x} = V_{n-1} + A_{x|n}$.

(4) When the deferred annuity is on three lives, X, Y, and Z, the general equation becomes

$$V_{n-1} + A_{\overset{m}{\overline{xyz}}|n};$$

it is enjoyed certainly for the $n - 1$ years, or for $n$ payments; and fails afterwards on the death of the 1st, 2nd, or 3rd life of the three; and if $m = 3$ it ceases at the first; if $= 2$ at the second; if $= 1$ at the third.

## JOINT AFTERLIFETIME (EXPECTATION) OF ANY NUMBER OF LIVES.

It may be assumed that $l_x l_y$ pairs of the lives X male and Y female, on becoming $l_{x+1} \cdot l_{y+1}$ pairs in a year, experience during that year $l_{x+\frac{1}{2}} \cdot l_{y+\frac{1}{2}} = P_{xy}$ years of joint lifetime; and so in the next year $P_{(xy)+1}$, and $P_{xy+2}$ . . ., passing through successive years of age, experience so many years of life, until the termination of the series by one of the factors falling to $l_\omega = 0$. Then, putting

$$Q_{xy} = P_{(xy)} + P_{(xy)+1} + P_{(xy)+2} \ldots + P_\omega.$$

And $E_{xy} = \frac{Q_{xy}}{l_{xy}}$ = the joint afterlifetime of two lives respectively aged $x$ and $y$.

The same method is applicable to three or to any number of joint lives, male or female: thus, $E_{xyz} = \frac{Q_{xyz}}{l_{xyz}}$.

The logarithms of $l_{x+\frac{1}{2}}$ and $l_{y+\frac{1}{2}}$ will be found at pages 130–133 under the number in the age column $4x + 2$ and $4y + 2$ of the Male and Female Table: thus, $\lambda\, l_{20\frac{1}{2}}$ is $\lambda\, l_{82}$ in those Tables.

$E_{\overline{xy}} = E_x + E_y - E_{xy}$ = the mean afterlifetime of the longest life of two.

$E_{\overline{xyz}} = E_x + E_y + E_z - (E_{xy} + E_{xz} + E_{yz}) + E_{xyz}$.

The suffixes are the same as those for annuities. *See* scheme.

To find approximations to the mean afterlifetime—of combined lives—from the afterlifetime of the single lives:

By making $2\,E_x = 2\,x$ = the complement of life of X; $2\,E_y = 2\,y$ = the complement of the life Y—and so on to any extent—the joint afterlifetime is found by Demoivre's hypothesis from the following equations:—

AFTERLIFETIME or Expectation of the longest life of *five* lives, of which the several afterlifetimes are $v > w > x > y > z$.

$$E_{\overline{vwxyz}} = \frac{v^1}{1} + \frac{w^2}{3 \cdot v} + \frac{x^3}{6 \cdot vw} + \frac{y^4}{10 \cdot vwx} + \frac{z^5}{15 \cdot vwxy}$$

AFTERLIFETIME of the shortest life of five, of which the several afterlifetimes are $z < y < x < w < v$. This is the afterlifetime of the joint lives.

$$E_{zyxwv} = \frac{z}{1} - \left(\frac{1}{v} + \frac{1}{w} + \frac{1}{x} + \frac{1}{y}\right)\frac{z^2}{3} + \left(\frac{1}{vw} + \frac{1}{vx} + \frac{1}{vy} + \frac{1}{wx} + \frac{1}{wy} + \frac{1}{xy}\right)\frac{z^3}{6}$$
$$- \left(\frac{1}{vwx} + \frac{1}{vwy} + \frac{1}{vxy} + \frac{1}{wxy}\right)\frac{z^4}{10} + \frac{z^5}{15\, vwxy}$$

[*Note.*—The numerical part of the co-efficient of the $n^{\text{th}}$ term in each series is $\frac{2}{n \cdot \overline{n+1}}$; and it is readily formed by adding the exponent $= n$ to the number in the denominator of the preceding co-efficient: thus $\frac{1}{10}$ occurs in the *fourth*, and $\frac{1}{10+5} = \frac{1}{15}$ in the *fifth* term, of which the exponent is 5. The successive co-efficients are readily inserted for any number of lives.]

By taking lives of the same mean afterlifetime $= x$, the equations become for $n$ lives $x - \frac{n-1}{n+1}x = \frac{2x}{n+1}$ = afterlifetime of the shortest of $n$ lives; and $x + \frac{n-1}{n+1}x = \frac{2nx}{n+1}$ = afterlifetime of the longest life: the $x$ being the mean of the two expressions.

Thus the afterlifetime of $n$ lives having each the expectation $x$ is shown to be as follows :—

| LIVES. | AFTERLIFETIME. | |
|---|---|---|
| $n$ | Shortest Life. | Longest Life. |
| 2 | $x - \frac{1}{3}x$ | $x + \frac{1}{3}x$ |
| 3 | $x - \frac{2}{4}x$ | $x + \frac{2}{4}x$ |
| 4 | $x - \frac{3}{5}x$ | $x + \frac{3}{5}x$ |
| 5 | $x - \frac{4}{6}x$ | $x + \frac{4}{6}x$ |
| 6 | $x - \frac{5}{7}x$ | $x + \frac{5}{7}x$ |
| $n$ | $x - \frac{n-1}{n+1}x$ | $x + \frac{n-1}{n+1}x$ |
| $\infty$ | $x - x = 0$ | $x + x = 2x$ |

[*Note.*—It is evident that, by hypothesis, the longest of an infinite number of lives cannot exceed $2x$, which is the extreme term of lifetime, as is implied by the term *complement of life.* Upon the other hand, out of an infinite number of lives, be the mortality-rate what it may, one will be extinguished every instant, and that extinction puts an end to the joint life, so the joint afterlifetime becomes $=0$. If $x = 30$, then, in the case of 2 lives, the joint afterlifetime is 20, and the longest afterlifetime is 40 : in three lives the shortest life lasts 15, the second 30, and the third 45 : for 5 lives the lifetimes run thus, 10, 20, 30, 40, 50 ; by taking 99 lives the longest afterlifetime approaches the limit of lifetime ; it is $1{\cdot}98 \times x$, or if $x$ is 40 it is 79·2. Thus of 99 persons aged 20 with the expectation $x = 40$, upon this hypothesis, 1 will live to the age of 99·2; and it shows, in accordance with observation, how probable it is in small communities that one life will approach the natural limit.]

If we take 2 lives $v$ having the longest afterlifetime and $w$ the shortest, the expressions for the longest and shortest life are by hypothesis $E_{\overline{vw}} = v + \frac{w^2}{3v}$; and $E_{wv} = w - \frac{w^2}{3v}$; while the mean of the two is $\frac{E_{\overline{vw}} + E_{vw}}{2} = \frac{v+w}{2}$. When $w = v$ the function $E_{\overline{vw}}$ is at a maximum; and as $w$ diminishes it declines, becoming a minimum when $w = 0$, the second life, W, here producing no effect on the afterlifetime, which depends entirely on the first. The ordinary expression for the afterlifetime, as has been shown, is $E_{\overline{xy}} = E_x + E_y - E_{xy}$; and by any Table $\frac{E_{\overline{xy}} + E_{xy}}{2} = \frac{E_x + E_y}{2}$.

When a life V, of which the mean afterlifetime is $v$, is combined with two other lives W and X, the afterlifetime of the longest of the three lives is while $v > w > x$; $E_{\overline{vwx}} = v + \frac{w}{3v} + \frac{x^3}{6vw}$. This function approaches a maximum as $w$ and $x$ approach $v$. The $E_{\overline{vwx}}$ becomes $E_{\overline{vvv}} = v + \frac{v^2}{3v} + \frac{v^3}{6v^2} = v + \frac{1}{3}v + \frac{1}{6}v = \frac{3}{2}v$.

This agrees with what has already been said; for the sum of the series $\frac{2}{1\cdot 2} + \frac{2}{2\cdot 3} + \frac{2}{3\cdot 4} + \frac{2}{4\cdot 5} \ldots$ *ad infinitum*, is 2; and when of an infinite number of lives all are equal to $v$ in value, then $2\,v$ is the afterlifetime of the longest; while lesser values of $w, x, y$, and $z \ldots\ldots$ may reduce the longest afterlifetime to any extent between $2\,v$ and $v$. As the single afterlifetime varies so does the joint lifetime vary, the one being a function of the other.

If $z < y < x$ be the lifetime of three lives, then $E_{zyx} = z - \left(\frac{1}{y} + \frac{1}{x}\right)\frac{z^2}{3} + \frac{1}{xy}\cdot\frac{z^3}{6}$.

In all cases the function has a value less than $z$, and it declines in value as $x$ and $y$ fall to $z$.

It is proposed to publish in a supplementary volume Tables of some Joint Expectations; in the meantime, if these general equations do not give close approximations, they indicate the general laws applicable to all cases.

To get preliminary approximations to the joint afterlifetime of X and Y from the Two-Life Annuity Tables:

Find a value $A_{x+n}$ in the Single-Life Table $= A_{xy}$; the $E_{x+n}$ = approximate value of $E_{xy}$.

## DURATION AND VALUE OF THINGS AT CONSTANT RISK, OR AT RISKS PARTLY CONSTANT AND PARTLY VARIABLE.

Let $c$ be constant, and express invariably the probability that $l$ things will survive a year; and $c^n$ = the probability of surviving $n$ years; $k$ = modulus of common logarithm; $\frac{1}{c^n} = r^n$; $1 - c = f$; and $p$ = the annual rate of profit.

$E'_n = \frac{-k}{\lambda c}(1 - c^n) = \frac{k}{\lambda r}(1 - c^n)$ = the mean years of existence to be enjoyed within the $n$ years.

$E_\infty = E = \frac{k}{\lambda r}$ = the mean existence of the things when $n$ is infinite: this corresponds with the mean afterlifetime of the Life Table.

$T = \frac{-\lambda \frac{1}{2}}{\lambda c} = \frac{\lambda 2}{\lambda r}$ = probable existence of the things: this corresponds with the probable lifetime.

Let $\frac{E}{2} = \frac{k}{\lambda r}(1 - c^n)$; then $c^n = \frac{1}{2}$. $\therefore n = \frac{\lambda 2}{\lambda r}$ = the time within which half the mean existence will be enjoyed. $\therefore n = T$.

$\therefore$ In the years of probable existence (T) half the mean existence $\left(\frac{E}{2}\right)$ will be enjoyed: upon Demoivre's hypothesis $E = T$; and in T years $\frac{3}{4}\,E$ $(= \cdot 75\,E)$ is enjoyed. By the English Table in T years $\cdot 71\,E_0 = E_{0t} = \frac{Q_{0|t}}{l_0}$, is enjoyed by males.

$\frac{E}{T} = \frac{k}{\lambda r}\cdot\frac{\lambda r}{\lambda 2} = \frac{k}{\lambda 2} = \frac{\cdot 4342945}{\cdot 3010300} = 1\cdot 443$ (having its $\lambda = 0\cdot 1591745$) = ratio of probable to mean existence; this value being independent of $c$.

$E = \frac{k}{\lambda 2}\cdot T$; $T = \frac{\lambda 2}{k}\cdot E$.

Compound constant risks to any extent which are represented by the fractions $c_1, c_2, \ldots\ldots c_n$, can always be reduced to the form $c = (c_1 \, c_2 \ldots\ldots c_n)$, and thus be inserted in the above equations.

They may also be separately represented: thus $E_{c_1 c_2} = \dfrac{-k}{\lambda \, (c_1 c_2)}$;
and $E_{c_1 c_2 c_3 \cdot x} = \dfrac{-k}{\lambda \, (c_1 c_2 c_3)} \left\{ 1 - (c_1 \, c_2 \, c_3)^x \right\}$ = the mean joint existence over $x$ years of three things, of which the probability of existing a year is represented by $c_1$, $c_2$, and $c_3$, respectively. When $x = \infty$ the general equation for joint existence becomes respectively,—

$$E_{(c_1 c_2 \ldots\ldots c_n)} = \frac{-k}{\lambda \, (c_1 c_2 \ldots c_n)}$$

Put $v = \dfrac{1}{1+p}$ as a term in the equation and the value of a perpetuity payable continuously at compound risk is obtained.

When the risks are equal and invariable the mean joint existence of 2, 3 . . . $n$ things becomes—

$$\frac{-k}{\lambda c^2} = \frac{-k}{2 \lambda c}; \ \frac{-k}{3 \lambda c}; \ \frac{-k}{4 \lambda c}; \text{ and } \frac{-k}{n \lambda c} \text{ for } n \text{ things.}$$

So the joint mean existence of two things each at equal risk is $\frac{1}{2}$ of the mean existence of one at that risk; and universally $\dfrac{E_x}{n} = \dfrac{-k}{n \lambda c}$ = the mean joint existence of $n$ things which may be represented by $E_{x^n}$.

The probability that of two existences X and Y subject to invariable risks the longest will continue a year is—

$$= 1 - (1 - c_1)(1 - c_2) = c_1 + c_2 - c_1 c_2,$$

and the mean after-existence of the last of X and Y is—

$$E_{\overline{xy}} = -k \left( \frac{1}{\lambda \, c_1} + \frac{1}{\lambda \, c_2} - \frac{1}{\lambda \, (c_1 \, c_2)} \right) = E_x + E_y - E_{xy},$$

and the annuity assumes the same form.

When the risks on $n$ things are all equal ($c$) then the mean after-existence of those existing the last out of $n$ things is—

$$E_{x^n} = \frac{-k}{\lambda c} \left\{ \frac{n}{1} - \frac{n(n-1)}{1 \cdot 2} \cdot \frac{1}{2} + \frac{n(n-1)(n-2)}{1 \cdot 2 \cdot 3} \cdot \frac{1}{3} \cdots\cdots\cdots \pm \cdot \frac{1}{n} \right\} = \frac{-k}{\lambda c} \cdot b.$$

Thus if an indefinite number of groups of $n$ lives X were subject to the invariable annual risk $(1 - c)$, the mean existence of the last liver of each group would be as above.

The value of $b$ is readily obtained from the binomial co-efficients by dividing the terms by 1, 2, 3, . . . . . $n$, in succession.

$$A_{x^n} = -k \left\{ \frac{n}{1} \cdot \frac{1}{\lambda (cv)} - \frac{n(n-1)}{1 \cdot 2} \cdot \frac{1}{\lambda \, (c^2 v)} + \frac{n(n-1)(n-2)}{1 \cdot 2 \cdot 3} \cdot \frac{1}{\lambda (c^3 v)} \cdots\cdots \pm \frac{1}{\lambda (c^n v)} \right\}$$

= value of annuity of £1 payable during the longest existence of $n$ things.

$\mathrm{A}_n = \dfrac{1-(cv)^n}{1-cv}$ = value of annuity of £ 1 during existence payable $n$ times (if X be subsisting at beginning of every $n^{\text{th}}$ year);

$\mathrm{A}_\infty = \mathrm{A} = \dfrac{1}{1-cv} = \dfrac{1+p}{p+f}$ = value of the perpetuity subject to the risk $f$.

$$\Pi_n = vf\mathrm{A}_n = \frac{f}{p+f} \times (1-(vc)^n)$$

and $\Pi_\infty = \Pi = \dfrac{f}{p+f} = \dfrac{1-c}{1+p-c}$ = the present value of £ 1 payable at the end of the year in which existence ceases.

$\pi = \pi_n = \pi_\infty = vf = \dfrac{\Pi}{\mathrm{A}} = \dfrac{f}{p+f} \times \dfrac{p+f}{1+p} = \dfrac{f}{1+p}$ = annual premium to insure £ 1 payable at end of year of failure in $n$ or in any number of years. The risk is constant, and no accumulation is required.

$\pi\mathrm{A} = \Pi = vf\mathrm{A} = \dfrac{f}{1+p} \cdot \dfrac{1+p}{p+f} = \dfrac{f}{p+f}$ = the annual premium to insure an annuity of £ 1 at risk $f$.

At risk ·01 and interest certain ·03, the annual premium to insure an annuity of £ 100 is $\dfrac{\cdot 01}{\cdot 04} \times 100 =$ £ 25. £ 100 a year in perpetuity at no risk, interest 3 per cent., is worth $33\frac{1}{3}$ years' purchase, or £ $3333{\cdot}33\dot{3}$. The single premium is $\Pi \times \dfrac{1}{p} \times 100 = \dfrac{f}{p+f} \cdot \dfrac{1}{p} \times 100 =$ £ $833{\cdot}33\dot{3}$; thus clearing the property of all risk and leaving £ 2,500 of net value.

Putting $\dfrac{v^x c^x l_x + v^{x+1} c^{x+1} l_{x+1} \ldots\ldots}{v^x c^x l_x} = \dfrac{\mathrm{D}'_x + \mathrm{D}'_{x+2}}{\mathrm{D}'_x} \ldots\ldots = \mathrm{A}'_x$

$= \dfrac{\mathrm{N}'_x}{\mathrm{D}'_x}$ = the present value of a life annuity of £ 1, when the annual profit on £ 1 is $p$, and $v = \dfrac{1}{1+p}$; and $f$ being the risk-rate of failure from some cause independent of death $c = 1 - f$ the chance of not failing.

But if $c^x = \left(\dfrac{1+p}{1+i}\right)^x$ we shall have $v^x c^x = \dfrac{1}{(1+p)^x} \times \dfrac{(1+p)^x}{(1+i)^x} = \dfrac{1}{(1+i)^x} = v_1{}^x$ and the $\mathrm{A}_x$ for interest at rate $i$ will give the value of the annuity.

$\Pi'_x = 1 - d\mathrm{A}'_x$ = single premium to insure £ 1 payable at the end of the death year, or the year of failure to the extent of £ 1, of which the annual risk remains constantly $= f$.

$d = \dfrac{p}{1+p}$ when $p$ is the interest of money at no risk.

The life annuity value is taken from the Life Table in which interest ($i$) is $3\frac{1}{2}$ when the risk-rate is ·005, and the rate of interest at no risk ($p$) is ·03; or when $i = \cdot035 = \cdot03 + \cdot005$. And the same rule applies in other cases.

$\pi'_x = a'_x - d$ = the annual premium to insure £1 on the above contingency. Thus, when the interest of £1 of money at no risk is $p$; and when the risk-rate is $f$, take the value of the annuity from the Life Table at the interest-rate $i = p + f$; the $\frac{p}{1+p} = d$ corresponding invariably to the rate of interest assumed when there is no risk: for example, this being 3 per cent., $d = \frac{3}{103}$; and if the risk is $f = \cdot02$, the $A'_x$ is taken from the 5 per cent. Table. If the risk is not represented in the Tables, the series $c^x v^x l_x = D'_x$ has to be calculated.

Example:—X aged 30 insures £1000 payable at the end of his death year, or of the year of his forfeiture of a bond of the same value (£1000) by an act of which the annual risk of commission is $f = \cdot005$, or 1 to 199: the rate of interest certain being 3 per cent.; what single premium, and also what annual premium, should he pay, allowing nothing for office profit or expenses?

$$\begin{aligned} \lambda\, A'_{30} &= 1\cdot2709050 \\ \lambda\, d &= \bar{2}\cdot4642840 \end{aligned}$$

$\bar{1}\cdot7351890$; gives ·54349; and 1 − ·54349 = ·45651; or £456·51 = $\Pi'_{30}$ to insure £1000.

$$\begin{aligned} a_{30} &= \cdot05359 \\ d &= \cdot02913 \end{aligned}$$

·02446 or £24·46 = $\pi_{30}$ to insure £1000.

Premiums to insure £100 at Death, *or at failure.*
Males:—Age 30.

Rate of Interest certain = $p$ = ·03.

| In addition to risk of dying, the constant risk-rate ($f$) | Single Premium $\Pi'_x$ | Annual Premium $\pi'_x$ |
|---|---|---|
| | £ | £ |
| *·0000* | *41·706* | *2·084* |
| ·0025 | 43·739 | 2·264 |
| ·0050 | 45·651 | 2·446 |
| ·0075 | 47·452 | 2·630 |
| ·0100 | 49·150 | 2·815 |
| ·0200 | 55·050 | 3·567 |

## SUCCESSIVE ANNUITIES.

The value of an annuity of £1 on the life of X, age $x$, and a successor Y, is thus found, if it is assumed that the successor Y is of the age $y$, and receives the first £1 at the end of the death-year of X:—

$\Pi_x\, A_y = (1 - dA_x)\, A_y = A_y - dA_x \,.\, A_y$ ;

And $A_x + A_y - dA_x \,.\, A_y$ is the value of the two annuities ; then

$\Pi_x \,.\, \Pi_y\, A_z = (1 - dA_x)\,(1 - dA_y)\, A_z =$ the value of the annuity on the third life Z, to be nominated at age $z$ after the death of Y.

For $A_x$ Mr. Davies substitutes $A'$, which in his notation is an annuity first payment at age $x + 1$, and continued proportionally up to the day of X's death ; for $A_x$ he puts $B'$, and gives $(1 - iA')\, B'$ as the value of the second annuity.

[*See* also on this Professor De Morgan and Mr. Peter Gray.]

## ANNUITIES PAYABLE BY INSTALMENTS.

### *Interest convertible into Principal yearly.*

The annuity of £1 is payable on a life X by $m$ equal instalments of $\frac{£1}{m}$ at the beginning of every $\frac{1}{m}$ part of the year, and is to be continued rateably up to the moment of death.[*]

Approximated values are found by the following formulas. Put ${}_mA_x =$ an annuity so payable,

$$ {}_mA_x = A_x - \frac{m-1}{2\,m} + \frac{\Pi_x}{2\,m} $$

$m = 1$ ; yearly instalment ${}_1A_x = A_x + \frac{\Pi_x}{2}$

$m = 2$ ; half-yearly instalment ${}_2A_x = A_x - {\cdot}250 + \frac{\Pi_x}{4}$

$m = 4$ ; quarterly instalment ${}_4A_x = A_x - {\cdot}375 + \frac{\Pi_x}{8}$

$m = \infty$ ; momently instalment ${}_\infty A_x = A_x - {\cdot}500$

By striking out the terms with $\Pi_x$ the value is that of an annuity which is paid for the last time at the beginning of that $\frac{1}{m}$ part of the year in which the life expires.

Upon the hypothesis that the joint lives broken up in any year of age are equally distributed over the year, as in the case of the single life, the same corrections apply to $A_{xy}$ as to $A_x$; but if the annuity is to be continued to the moment of the first death $\Pi_{xy}$ must be substituted for $\Pi_x$, and $\Pi_{\overline{xy}}$ for $\Pi_x$ when the annuity is on the longest life. Thus,

$$ A_{\overline{xy}} = A_x + A_y - A_{xy} + \frac{\Pi_{\overline{xy}}}{2} $$

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[*] Davies on Life Annuities, &c., pp. 311–347.

In the case of a reversionary annuity payable yearly, but also payable rateably for the part of the year, dating from the death of X, and also until the date of the death of Y, the approximated value, when the annuity is paid by yearly instalments, is $A_{x|y} = A_x - A_{xy} + \frac{\Pi^1_{xy} + \Pi^2_{xy}}{2}$: and upon the above supposition of instalments the general correction is ${}_mA_{x|y} = A_x - A_{xy} + \frac{\Pi^1_{xy} + \Pi^2_{xy}}{2\,m}$.

The more correct form of the equations, when $m$ is made to vary from 1 to 2, 4 and infinity, is thus deduced by Mr. Davies for a single life, when the rate of interest is $i$ and the annuity ceases at the last instalment before death :—

$${}_2A_x = A_x - \cdot 50 + \frac{1}{4 + 2\,i}$$

$${}_4A_x = A_x - \cdot 75 + \frac{3}{4\,(4 + i)} + \frac{2}{4\,(4 + 2\,i)} + \frac{1}{4\,(4 + 3\,i)}$$

$${}_\infty A_x = A + \frac{\frac{r}{k}(\lambda r) - i}{i^2}.$$

[*Note.*—For $\frac{\lambda r}{k}$ the Napierian logarithm of $r$ may be substituted.]

At 3 per cent. these corrections become for annuities by half-yearly, quarterly, and momently instalments, ·2463 and ·3704 and ·4951 ; and at 5 per cent. ·2439, ·3674, ·4919.*

Upon the hypothesis that the individuals in the combination of two lives, and not the combinations, are subject to equal decrements in the year of extinction, the equations become elaborate, but the results are nearly the same, and neither is exactly true. Thus instead of ·2463 we get ·2453* for the half-yearly correction, the preceding approximate correction being ·2500. Instead of ·3704, as above, the quarterly correction becomes ·3689, while the approximate correction is ·3750.

### *Interest convertible into Principal at the same Time as the Annuity is payable.*

For 3 per cent. interest the new Tables for the first time give the values of annuities payable half-yearly and quarterly, and thus supply the means of precise determination. Mr. Davies's annuity, in which $\frac{1}{\left(1 + \frac{i}{m}\right)^m}$ is substituted for $v = \frac{1}{1 + i}$ to form the series $D_x = v^x\, l_x$, is readily found in the cases $\frac{1}{(1 + \frac{i}{2})^2}$ and $\frac{1}{(1 + \frac{i}{4})^4}$ by picking out every second or every fourth term from the half-yearly and quarterly Life Tables.

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* Davies, "Observations on Life Assurances," p. 317 and p. 327.

## LIFE ANNUITIES AND PREMIUMS IN CONTINUOUS PAYMENTS, AND VALUES OF SUMS PAYABLE AT DEATH.

In the Appendix to the Registrar General's Twelfth Annual Report (pp. 38–54) I have given at length the investigations from which the following formulas are deduced.

To facilitate these calculations the Tables 4. and 5. (pp. cxlix–cl) will be found useful; their construction is shown in the annexed equations :—

$$
\begin{aligned}
Q'_x &= \left(1+\frac{i}{2}\right) v^{x+1} l_{x+\frac{1}{2}} + 1 + \frac{i}{2} v^{x+2} l_{x+1\frac{1}{2}} \ldots\ldots \\
&= P'_x + P'_{x+1} + P'_{x+2} \ldots\ldots \\
M'_x &= \left(1+\frac{i}{2}\right) v^{x+1} d_x + \left(1+\frac{i}{2}\right) v^{x+2} d_{x+1} \ldots\ldots \\
&= C'_x + C'_{x+1} + C'_{x+2} \ldots\ldots \\
&= \left(1+\frac{i}{2}\right) M_x
\end{aligned}
$$

From $\pi Q'_{x|n} = sM'_{x|n}$ we have $\pi = s\frac{M'_{x|n}}{Q'_{x|n}}$; and when $s = 1$, and $x + n = \omega$,

$\pi'_x = \frac{M'_x}{Q'_x}$ = annual premium paid continuously to insure £1 at the date of death.

$\Pi'_x = \frac{M'_x}{D_x} = \left(1+\frac{i}{2}\right)\frac{M_x}{D_x} = \left(1+\frac{i}{2}\right)\Pi_x$ = the present value of, or the single premium to insure, £1 payable at death.

$A'_x = \frac{Q'_x}{D_x}$ = the present value of an annuity of £1 paid continuously through the year, or, for instance, $\frac{\pounds 1}{365\frac{1}{4}}$ daily, $\frac{7}{365\frac{1}{4}}$ £1 weekly.

$H'_{x+n} = \frac{\pi Q'_{x|n} - sM'_{x|n}}{D_{x+n}}$ = the sum in deposit to the account of each policy, after $\pi$ has been paid in yearly for $n$ years, and $s$ has been paid on each death.

$\Pi'_{xn} = \frac{2\,M'_{x|n}}{D_x}$ = single premium to insure £1 a year in sickness occurring between ages $x$ and $x + n$ (approximative).

$\pi'_{xn} = \frac{2\,M'_{x|n}}{Q'_{x|n}}$ = annual premium to insure £1 a year in sickness, between ages $x$ and $x + n$. Premiums and out-payments are assumed to be paid continuously. If the above premium is paid *monthly* it insures £1 *a month;* if *weekly,* £1 *a week,* in sickness (approximative).

EXAMPLE :— $\pi_{20|45} = \frac{2\,M'_{20|45}}{Q'_{20|45}} = \frac{101312}{3788851} = \overset{\pounds}{\cdot 02674}$ = the annual premium commenced at age 20 to insure £1 a year in sickness. Thus a person aged 20, by paying £2 13*s.* 5*d.* a year, insures £100 a year during sickness, or 6½*d.* per week insures £1 a week during sickness up to the age of 65.

## PROBABILITY THAT X WILL DIE BEFORE Z.

This is expressed by the series—

$$\mu^1_{xz} = \frac{d_x\ l_{z+\frac{1}{2}} + d_{x+1}\ l_{z+1\frac{1}{2}} + d_{x+2}\ l_{z+2\frac{1}{2}}}{l_x\ l_z} \ldots\ldots\ldots\ldots\ldots\ldots$$

$$\text{And } \Pi^1_{xz} = \frac{v^1\ d_x\ l_{z+\frac{1}{2}} + v^2\ d_{x+1}\ l_{z+1\frac{1}{2}} + v^3\ d_{x+2}\ l_{z+2\frac{1}{2}}}{l_x\ l_z} \ldots\ldots\ldots\ldots$$

$$= \frac{v^{\frac{x+z}{2}+1}\, d_x\, l_{z+\frac{1}{2}} + v^{\frac{x+z}{2}+2}\, d_{x+1}\, l_{z+1\frac{1}{2}} + v^{\frac{x+z}{2}+3}\, d_{x+2}\, l_{z+2\frac{1}{2}}}{v^{\frac{x+z}{2}}\ l_x\ l_z\ =\ D_{xz}} \ldots\ldots$$

of which the value has already been expressed in another form, and is found by the Two-Life Tables (*See* formulas pp. xcv and xcvi). Mr. Sang and Mr. Chisholm first employed and calculated this last series for the Carlisle Table.

The probability is also found approximatively from the afterlifetime. Thus, let the expectation of X be longer than that of Z, and if the afterlifetimes are respectively $E_x$ and $E_z$, then

$$\mu^1_{xz} = \frac{E_z}{2\ E_x} = \text{probability that X will die } \textit{first} \text{ of the two;}$$

and $\mu_{x\overset{1}{z}} = 1 - \mu^1_{xz} =$ the probability that X will *not*, but that Z *will*, die *first*.

This is by Demoivre's hypothesis; and "will be sufficiently correct if the "two lives are between 10 and 70 years of age; at least till we are possessed of "more enlarged Tables on the subject."*

The Table of Afterlifetime (p. cli) serves to answer these questions by common arithmetic; while the Tables of $\lambda\, l_x$ and $\lambda\, Q_x$ (pp. 28–29 and 32–33) supply answers by logarithms: thus,

$$\lambda\, \mu^1_{xz} = \lambda \left(\frac{Q_z}{l_z}\right) + \lambda \left(\frac{l_x}{Q_x}\right) + \kappa\, 2$$

EXAMPLE: $E_z = \dfrac{Q_z}{l_z}$; and $\dfrac{1}{2\ E_x} = \dfrac{l_x}{2\ Q_x}$

$$\text{Then } \mu^1_{15,40} = \lambda \left(\frac{Q_{40}}{l_{40}}\right) + \lambda \left(\frac{l_{15}}{Q_{15}}\right) + \kappa\, 2$$

$$\lambda\, E_z = \lambda \left(\frac{Q_z}{l_z}\right) = \lambda \left(\frac{Q_{40}}{l_{40}}\right) = 1{\cdot}4367883$$

$$\lambda \left(\frac{1}{E_x}\right) = \lambda \left(\frac{l_x}{Q_x}\right) = \lambda \left(\frac{l_{15}}{Q_{15}}\right) = \bar{2}{\cdot}3647175$$

$$\kappa\, 2 = \bar{1}{\cdot}6989700$$

$\bar{1}{\cdot}5004758$; or ·31657 = probability that a son aged 15 will die before his mother aged 40;

and ·68343 = probability that the mother will die first.

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* Baily on Annuities, p. 114. *See also* Dr. Young's Works, vol. 2, p. 397.

## LIFE VALUES DEPENDENT ON THE ORDER IN WHICH THE LIVES DROP.

The probability that X will die before Z or after Z is simply expressed, but when the order of death is taken into account, and the lives exceed two, the varieties of the possible combinations become excessively numerous.

Mr. Milne has given a very complete scheme of formulas for three lives, and Baily has also discussed this subject, which was first elaborately opened in papers by Mr. Morgan. In the Tables of a supplementary volume this branch of the subject may be dealt with.

In the meantime it may be worth while observing that little is gained by the transformations of the expressions into series corresponding to those from which the values of annuities on three, four, or more lives are concerned, if exact results are desired. For the direct series can often be calculated with more facility than the series for the annuities. Thus the probability that X will die first of three lives X and Y and Z is,—

$$\mu_{\overset{1}{x}yz} = \frac{\begin{array}{l} l_{y+1} \cdot l_{z+1}\, d_x + l_{y+1} \cdot \frac{d_z}{2}\, d_x + l_{z+1}\, \frac{d_y}{2}\, d_x + \frac{d_x\, d_y\, d_z}{3} \\ l_{y+2} \cdot l_{z+2}\, d_{x+1} + l_{y+2} \cdot \frac{d_{z+1}}{2} \cdot d_{x+1} + l_{z+2} \cdot \frac{d_{y+1}}{2} \cdot d_{x+1} + \frac{d_{x+1} \cdot d_{y+1} \cdot d_{z+1}}{3} \\ \quad \cdots \qquad\qquad \cdots\cdots \qquad\qquad \cdots\cdots \\ \quad \cdots \qquad\qquad \cdots\cdots \qquad\qquad \cdots\cdots \end{array}}{l_x\, l_y\, l_z}$$

This may be written in a more condensed form; and the following are the first terms of the five series, from which the probability that X will die first is deduced; and by inserting $v^{\frac{x+y+z}{3}}$ the series serves to show the present value of £1 payable at the end of the year in which X dies, if Y and Z are alive at the moment of his death:

$$\left(\frac{v^{\frac{x+y+z}{3}+1}}{v^{\frac{x+y+z}{3}}\, l_{xyz}}\right) \cdot \left(\overset{(1)}{l_{(xyz)+1}} + \overset{(2)}{l_{(yz)+1}\, d_x} + \overset{(3)}{l_{y+1}\, \frac{d_{zx}}{2}} + \overset{(4)}{l_{z+1}\, \frac{d_{yx}}{2}} + \overset{(5)}{\frac{d_{xyz}}{3}}\right)$$

Each series terminates when any factor in it becomes zero, as is invariably the case at the ultimate age $\omega$ of the Life Table; and it is only requisite to divide the sums of (3) and (4) by 2, of (5) by 3, to get the final values.

In like manner are found the values of £1 dependent on the death of Y or of Z being the first. They may be picked out from the following scheme of suffixes, where it will be observed that $x+1$, $y+1$, and $z+1$ apply to $l$, while $x$, $y$, and $z$ go to $d$. For Y take every term in which $d_y$ occurs, for Z every term in which $d_z$ is found.

$$\begin{aligned} +\,xyz = (x+1)(y+1)(z+1) &+ (x+1)(y+1)\,z + (x+1)\,yz + xyz \\ &+ (x+1)(z+1)\,y + (y+1)\,xz \\ &+ (y+1)(z+1)\,x + (z+1)\,xy \end{aligned}$$

The scheme may be extended to any extent, and it is evident that the terms do not increase at the same rate as when each letter expressive of $d$ is replaced by two terms. It will only be necessary to notice that when the deaths are 2, 3, . . . $n$ their terms are divided by 2, 3, or $n$, as the case may be.

It is evident that the sum may be made contingent on X dying first, second, or third in order; on his dying first or second, first or third; on his dying second or third; on his dying first, second, or third, in which case we have the ordinary value $\Pi_x =$ the value of £1 payable at the death of X. The value is thus contracted or extended with the chances on which its payment is contingent. A value may depend upon the same contingencies affecting Y, or similar contingencies affecting Z. And as the number of lives involved increases, the combinations become endless; but for each class of contingencies the series can be calculated from the logarithms of the radical columns $l_x$ and $l_y$, $d_x$ and $d_y$, and $v^x$ of the new Tables.

## 3. SYNONYMS.

The form of the Columnar Annuity and Insurance Table remains the same as it was in the Sixth Annual Report (1844); and the columns D, N, and S; C, M, and R, thus stand now in the same relation to each other as they did in the first Life Table.

| Ages $x$ | $D_x$ | $N_x$ | $S_x$ | $C_x$ | $M_x$ | $R_x$ |
|---|---|---|---|---|---|---|
| 0 | 511,745 | 9,800,236 | 206,018,049 | 81,280·58 | 226,301·22 | 3,799,711·50 |
| 1 | 415,559 | 9,288,491 | 196,217,813 | 25,941·18 | 145,020·64 | 3,573,410·28 |
| 2 | 377,514 | 8,872,932 | 186,929,322 | 13,008·74 | 119,079·46 | 3,428,389·64 |

Thus as the $C_0$ against age 0 is included in $M_0$, and $M_0$ is included in $R_0$, so $D_0$ is included in $N_0$, and $N_0$ in $S_0$. The simplicity of the arrangement makes all clear and evident.

Mr. Griffith Davies, to whom science owes improved adaptations of Barrett's method, committed one mistake, which has led to confusion: he raised the number in columns N and S one place, and thus adopted an anomalous arrangement of the columns of the same table. Under his arrangement, which was adopted by Mr. David Jones, the numbers would be arranged thus:—

| Age $x$ | $D_x$ | $N_x$ | $S_x$ | $C_x$ | $M_x$ | $R_x$ |
|---|---|---|---|---|---|---|
|  |  | 9,800,236 | 206,018,049 |  |  |  |
| 0 | 511,745 | 9,288,491 | 196,217,813 | 81,280·58 | 226,301·22 | 3,799,711·50 |
| 1 | 415,559 | 8,872,932 | 186,929,322 | 25,941·18 | 145,020·64 | 3,573,410·28 |
| 2 | 377,514 |  |  | 13,008·74 | 119,079·46 | 3,428,389·64 |

Entertaining the highest respect for Griffith Davies, and desirous to retain his forms, I had to choose between the alternative of perpetuating his fortuitous derangement of the natural order of the columns, to the confusion of future students, or of embarrassing by a change of symbols those who had already grown accustomed to the derangement. I felt also the inconvenience of altering what Professor De Morgan had left intact in his Classical Tracts. But I decided in favour of the natural arrangement of the columns, which has been ever since adhered to, and found to work satisfactorily; and I retained the letters N and S. The change was distinctly notified in the following terms:—

" An important point to attend to is, that Mr. Davies raised the numbers in " columns N and S one line, so that his $N_{x-1}$ and $S_{x-1}$ correspond with $N_x$ and $S_x$ " in the present Tables; and his $N_x$ and $S_x$ with $N_{x+1}$ and $S_{x+1}$. His $N_x$ does not " include $D_x$." [In the natural arrangement $N_x = D_x + D_{x+1} + D_{x+2} \ldots\ldots$; and Mr. Davies struck out the $D_x$ or the first term of the series.]

" This derangement of the simple relations of the respective columns for the " supposed and not for the real convenience of the computer, always appeared to " me the reverse of an improvement; and upon finding that the columns $y$ and " $S \cdot y$ in Duvillard's Tables, and the original columns A and B of Barrett's " Table, stand in the same relation to each other as they now stand in the English " Tables, I adopted that arrangement without hesitation. Mr. Davies's other " alterations and additions display great ingenuity, and were unquestionable " improvements." *

The same tabular form was kept up in the Second English Life Table, which was published in 1853 in the Appendix to the Registrar General's Twelfth Annual Report; and Mr. David Chisholm in 1858 adopted the same columnar arrangement of the series $D_x$, $N_x$, and $S_x$; $C_x$, $M_x$, and $R_x$, in his valuable Tables based on the Carlisle mortality; so it is not likely that the columns N and S will ever again be displaced.

In using the formulas of Davies, Jones, and Professor De Morgan with the English Table, add 1 to the suffix $x$ of N and S; thus $N_{x-1}$ becomes $N_x$, and $S_{x-1}$ becomes $S_x$, while $N_x$ becomes $N_{x+1}$ and $S_x$ becomes $S_{x+1}$. The formula $\frac{N_x}{D_x} = A_x$ in this volume is written $\frac{N_{x-1}}{D_x}$ by Davies and Professor De Morgan.

The first volume of the Assurance Magazine (1851) contained a remarkable article by Mr. Hendriks, one of the most learned actuaries of the day, in which he showed that the columnar method was discovered and published in 1785 by Tetens, a Dane of Schleswig, Professor of Mathematics in the University of Kiel.†

Tetens described the uses of the columns $l_x$ and $L_x$; of $D_x$ and $N_x$ and $S_x$; of $C_x$ and $M_x$; and his arrangement of the columns $D_x$ and $N_x$ was precisely the

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* Appendix to Registrar General's Sixth Report, Ed. 1845, p. 593.

† Einleitung zur Berechnung der Leibrenten und Anwartschaften die vom Leben und Tode einer oder mehrerer Personen abhangen mit Tabellen zum practischen Gebrauch von Joh. Nicol. Tetens, Professor der Philosophie und Mathematik zu Kiel. Leipzig, bey Weidmanns, Erben, und Reich. 1785.

same as that adopted in the English Table. He did not, like Barrett, turn the numbers upside down; and he did not displace, as Davies did, the numbers in the N column. It is thus gratifying to find that in the English Table I had followed unconsciously the track of the original inventor of the columnar method. It was a restoration, and requires neither explanation nor justification.

Here is the Tabular Form as it was printed in 1785 by TETENS, the inventor of the columnar method:—

| A | B | C | D | E |
|---|---|---|---|---|
| Alter. | Lebende nach Sussmilch. | Die Zahlen in B, discontirt auf die Jahre des Alters für $r = 1 \cdot 04$. | Summen der Zahlen in B von hinten an addirt. | Summen der Zahlen in C von hinten an addirt. |
| $x$ | $l_x$ | $v^x l_x = D_x$ | $L_x$ | $N_x$ |
| 0 | 1000 | 1000 | 28988 | 12431·48 |
| 1 | 750 | 721·15 | 27988 | 11431·48 |
| 2 | 661 | 611·13 | 27238 | 10710·33 |

The symbol of the value of the annuity which I adopted was $A_x$, in the Registrar General's Twelfth Annual Report (date Sept. 5, 1853). The following definitions occur at p. 3 of the Appendix:—

$A_x = \frac{N_x}{D_x}$ = the present value of an annuity of £1 a year for life. Payment of annuity at the age $x$, and at the commencement of every subsequent year.

$a_x = \frac{D_x}{N_x}$ = the annuity which £1 will provide; first payment at age $x$.

The old practice had been to take A as the value of a life annuity of £1 payable at the end of every complete year that a life $A$ survived; the value of which at age $x$ in the new notation, is thus expressed, $A = \frac{N_{x+1}}{D_x}$; or putting $x = 20$ we have $A_{20} = \frac{N_{20}}{D_{20}} = 22 \cdot 0612$, which becomes $21 \cdot 0612$ on subtracting unity: the $\frac{N_{21}}{D_{20}} = 21 \cdot 0612$ for obvious reasons. This is the value of an annual payment, of which the first payment is deferred *one* year, and is contingent on the life attaining the age $x + 1 =$ in this case 21; it is properly a deferred annuity in the same sense as $A_{x|n} = \frac{N_{x+n}}{D_x}$ of which the first payment is made at the end of $n$ years if the life X be then alive. It is easily recollected that these values are invariably those of periodical payments, of which the first is due.

The passage from the values of $A_x$ to $A_x - 1 = A$ is easily made; and $1 + A$ may serve instead of $A_x$. But practically the values of both $A_x$ and $a_x$ are of much more frequent use than $A_x - 1$ and $\frac{1}{A_x - 1}$; as will be seen on referring to Mr. Milne's formulas. They are required for nearly all Life Insurance problems, and though the passage from $A_x$ to $A_x - 1$ is easy, that is not the case with the logarithms of the series $A_x$; and these logarithms are of frequent use. The annual premium to insure £1 at death is, it will be recollected, $\pi_x = a_x - d$ for the single life, and $\pi_{xyz} = a_{xyz} - d$ for the joint lives.

By taking $A_{xn} = \frac{N_{x|n}}{D_x}$ and $A_{x|n} = \frac{N_{x+n}}{D_x}$ in all cases of temporary and deferred annuities, a logical consistency is maintained, and the confusion is avoided which even misled Simpson and Price in some instances by the ambiguity which the old symbol involved.

To Mr. Sang of Edinburgh, an original writer, belongs, I believe, the merit of having, in his masterly series of Life Assurance and Annuity Tables (1841), first discarded the routine practice of writers, and of giving Tables of the values of life and short-period annuities, " first payment to be made just now." Mr. Chisholm unfortunately did not follow his example, and he writes $a_x = \frac{N_{x+1}}{D_x}$, thus appropriating this symbol which is required for $\frac{D_x}{N_x}$; and writing $A_x$ for $\Pi_x$, the single premium to insure £1 at the end of the year in which the life fails.

In the English Tables $D_{xy} = v^{\frac{x+y}{2}} l_x l_y$; while in those of Mr. David Jones and Mr. Chisholm $D_{xy} = v^x l_x l_y = D_x l_y$. They make $x$ the age of the *oldest* life. The change which we have introduced simplifies the formulas for the insurance of one life against another, and it was suggested by Professor De Morgan. It is evident that the value of $v^n$ is arbitrary in the following formulas, and may be put $n = x$, $n = y$, or $n = \frac{x+y}{2}$, as it disappears:

$$A_z = \frac{v^{\frac{x+y}{2}} l_x l_y + v^{\frac{x+y}{2}+1} l_{x+1} \cdot l_{y+1} \cdot \cdot \cdot \cdot \cdot}{v^{\frac{x+y}{2}} l_x l_y = D_{xy} \text{ of English Table}}$$

; $x$ being the age of either the oldest or the youngest life.

$$= \frac{v^x l_x l_y + v^{x+1} l_{x+1} \cdot l_{y+1} \cdot \cdot \cdot \cdot \cdot \cdot}{v^x l_x l_y = D_{xy} \text{ of Chisholm or D. Jones}}$$

, who make $x$ always the age of the oldest life X.

$$= \frac{l_x l_y + v^1 l_{x+1} l_{y+1} + \cdot \cdot \cdot \cdot \cdot}{l_x l_y}$$

The following is a specimen of Barrett's form of Table from Baily's paper, which was read before the Royal Society in the year 1812, and first published in 1813 as an Appendix to the Doctrine of Life Annuities and Assurances. It will be observed how Barrett writes the series

$$N_x = v^0 l_0 + v^1 l_1 + v^2 l_2 + v^3 l_3 \dots + v^x l_x \dots\dots$$

It is, taking $\omega$ for the last age of the Life Table,

$$A = r^{\omega} l_0 + r^{\omega-1} l_1 + r^{\omega-2} l_2 + r^{\omega-3} l_3 \dots\dots + r^{\omega-x} l_x.$$

The Tables are thus arranged, 96 being the last age :—

| Age. | Col. 𝔄. | Col. 𝔅. |
|---|---|---|
| 96 | $z$ | Z |
| 95 | $yr$ | Y |
| 94 | $xr^2$ | X |
| .... | .... | .... |
| 3 | $dr^{n-3}$ | D |
| 2 | $cr^{n-2}$ | C |
| 1 | $br^{n-1}$ | B |
| 0 | $ar^n$ | A |

The numbers in col. 𝔅. are the sums downwards of col. 𝔄.:

$$\text{thus, } Z = z\,;\ Y = yr + z\,;\ X = xr^2 + yr + z$$

$$A = ar^n + br^{n-1} \dots\dots + yr + z.$$

And $A_x = \dfrac{A}{ar^n}$ in this notation, is the value of an annuity of £1.

The arrangement and notation, in this crude form, possess the practical advantages of the columnar method, which are fairly stated by Baily, who had himself been accustomed to the old method.

I shall give briefly the synonyms and symbols of earlier notations :—

Demoivre makes the annuity 1; he calls $r\ (= 1 + i)$ "the rate of interest" and $r - 1 = i$ the interest of £1; $n =$ the complement of life; $P = V_n - 1$; and $A_n - 1 =$ "the value of the life" $= \dfrac{1 - \frac{r}{n} P}{r - 1}$. He denotes the value of an Annuity upon two Joint Lives, whose single values are M and P, by $\overline{MP}$:

$$\text{So } A_{xy} = 1 + \overline{MP}\,;\ \text{and } A_{xyz} = 1 + \overline{MPZ}.$$

At page 281* he takes $d$ as the interest of £1; $\dfrac{1}{r-1} = \dfrac{1}{i}$ is the "value of the perpetuity." He calls "the expectation of life the time which a person of a given age may justly expect to continue in being" (p. 288); for one life it is "upon supposition of an equal decrement of life" $\frac{1}{2}n$; and for two lives of complements $n$ (the longest) and $p$ it will be $\frac{1}{2}p - \frac{p^2}{2 \cdot 3n} \ldots$, &c. &c.

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* "Treatise of Annuities on Lives."

SIMPSON'S symbols :—

$1 + i \quad = r$ in Annuities.
$\mathrm{V} \quad = E$
Lives X, Y, Z $\quad = A,\ B,\ C.$
$p_x,\ p_{x \cdot 2},\ p_{x \cdot 3} \quad = a,\ a',\ a''.$
$p_y,\ p_{y \cdot 2},\ p_{y \cdot 3} \quad = b,\ b',\ b''.$
$l_x,\ l_{x+1},\ l_{x+2} \quad = Q,\ Q',\ Q''.$
$l_{x-1},\ l_{x-2},\ l_{x-3} \quad = Q_{,},\ Q_{,,},\ Q_{,,,}.$
$\mathrm{A}_x$ and $\mathrm{A}_{xyz} \quad = 1 + \mathrm{P}$; P is the "value of the life, or lives."

DODSON* makes $1 + i = r$; $\frac{1}{r-1} = \mathrm{P}$; $m =$ the complement of life $= 86 - x$; $\mathrm{A}_x = 1 + \mathrm{N}$; $\mathrm{A}_{xyz} = 1 + \overline{\mathrm{NMF}}.$

Mr. MORGAN† expresses $1 + i$ by $r$; and $l_x,\ l_{x+1},\ l_{x+2} \ldots$ by $a, b, c \ldots$; the probabilities that A will live one year or $p_x = \frac{b}{a}$; $p_{x.2} = \frac{c}{a} \ldots$ while $m, n, o, p$ are put for $l_y,\ l_{y+1},\ l_{y+2} \ldots$; and $p_y = \frac{n}{m}$; $\mathrm{A}_x = 1 + \mathrm{A}$; $\mathrm{A}_y = 1 + \mathrm{B}$; $\mathrm{A}_{xy} = 1 + \mathrm{AB}$; $\mathrm{A}_{x+n} = 1 + \mathrm{A}^z$.

Dr. PRICE'S† notation is simple: he appears to have paid little attention to the subject.

Mr. BAILY‡ makes $1 + p = \left(1 + \frac{i}{n}\right)^n = 1 + \varrho$; which when interest is convertible annually becomes identical with $1 + i$: $v^n = (1 + \varrho)^{-n}$; $l_x = a,\ l_{x+1} = a',\ l_{x+2} = a'' \ldots$; $l_y = b,\ l_{y+1} = b',\ l_{y+2} = b'' \ldots$; the lives being indicated by the capital letters A, B, C . . .

$l_{x+n}$ he writes $\alpha$, $l_{x+n+1} = \alpha' \ldots$;

$$l_{y+n} = \beta,\ l_{y+n+1} = \beta' \ldots$$

$$p_{xyz} = \frac{a'b'c'}{abc};\ p_{xyz \cdot n} = \frac{\alpha\beta\gamma}{abc};$$

$$\mu_{xyz \cdot n} = 1 - p_{xyz \cdot n} = 1 - \frac{\alpha\beta\gamma}{abc}.$$

$$\mu_x = \frac{d_x}{l_x} = \frac{a - a'}{a};\ \mu_{x+n-1} = \frac{l_{x+n-1} - l_{x+n}}{l_x}$$

$$= \frac{d_{x+n-1}}{l_x} = \frac{{}_{\prime}\alpha - \alpha}{a} = \text{probability of dying in the } n^{\text{th}} \text{ year after age } x.$$

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* Mathematical Repository.

† *See* Morgan on Assurances, and his Edition of Price on Annuities.

‡ Doctrine of Life Annuities. Baily is a luminous writer, but in his notation he is not happy, and it has gone entirely out of use; so it is a real service to science to bring out a new edition, as Mr. Filipowski has, with a modern notation. Those who have had practical experience know how difficult it is to attain accuracy in such work, and the new edition requires, and is, I am informed, undergoing, careful revision.

The values $\mathrm{A}_{x}$, $\mathrm{A}_{xy}$, $\mathrm{A}_{xyz}$, are written $1 + A$, $1 + AB$, $1 + ABC$.

$\mathrm{A}_{(xyz)-1} = \underset{\prime}{A}\underset{\prime}{B}\underset{\prime}{C}$; $\mathrm{A}_{x+n} = 1 + A^{\circ}$.

$\mathrm{A}_{x|n} = \frac{\mathrm{N}_{x+n}}{\mathrm{D}_x}$; while the value of the deferred annuity in Baily is $A^{\mathrm{d}} = \frac{\mathrm{N}_{x+n+1}}{\mathrm{D}_x}$: so $\mathrm{A}_{x|n} = A^{n} + \frac{\mathrm{D}_{x+n}}{\mathrm{D}_x}$. Again, $\mathrm{A}_{xn} = \frac{\mathrm{N}_{x|n}}{\mathrm{D}_x}$; and the temporary annuity for a term of $n$ years, putting $\mathrm{t} = n$, is in Baily,—

$$\mathrm{A}^{\mathrm{t}} = \frac{\mathrm{N}_{x+1|n}}{\mathrm{D}_x} = \mathrm{A}_{xn} - \frac{(\mathrm{D}_x - \mathrm{D}_{x+n})}{\mathrm{D}_x} = \mathrm{A}_{xn} + \frac{\mathrm{D}_{x+n}}{\mathrm{D}_x} - 1 \quad \therefore$$

$$\mathrm{A}_{xn} = 1 + \mathrm{A}^{\mathrm{t}-1};\ \mathrm{A}_{\overline{xyz}} = 1 + \mathrm{L};\ \mathrm{A}_{\overline{xyz}+n} = 1 + \mathrm{L}^{0}$$

$$\mathrm{A}_x = \mathrm{A}_{xn} + \mathrm{A}_{x|n} = 1 + \mathrm{A}^{\mathrm{t}} + \mathrm{A}^{\mathrm{d}}$$

$$\mathrm{A}_{\overline{xy}} = 1 + \mathrm{L}^{\mathrm{t}} + \mathrm{L}^{\mathrm{d}}$$

$$\Pi_{xyz} = 1 - d\mathrm{A}_{xyz} = \frac{1 - \varrho\,\mathrm{ABC}}{1 + \varrho}$$

$$\pi_{xyz} = a_{xyz} - d = \frac{1 - \varrho\,\mathrm{ABC}}{(1 + \mathrm{ABC})\,(1 + \varrho)}$$

Mr. DAVID JONES for our $r = 1 + i$ writes $1 + i$; and for $\frac{1}{1+i} = v$ he writes $r$; so in his formulas $v^{n}$ is $r^{n}$;

$$\mathrm{A}_x = 1 + a_m;\ \mathrm{A}_{xyz\,\ldots} = 1 + a_{m,\,m_1,\,m_2,\,\&c.};\ \mathrm{A}_{\overset{m}{\overline{xyz}}\,\ldots} = 1 + a_{\overset{v}{\overline{m,\,m_1,\,m_2}}\,\ldots};$$

For $\mathrm{A}_{xn} = \frac{\mathrm{N}_{x|n}}{\mathrm{D}_x}$ Mr. Jones substitutes $a_{(m)_{n|}} = \frac{\mathrm{N}_{x+1|n}}{\mathrm{D}_x}$, which in Davies's notation is written $\frac{\mathrm{N}_{x|n}}{\mathrm{D}_x} = \frac{\mathrm{D}_{x+1} + \mathrm{D}_{x+2} \cdot \cdot \cdot \cdot + \mathrm{D}_{x+n}}{\mathrm{D}_x}$;

So $\mathrm{A}_{xn} - a_{(x)\overline{n}|} = \frac{\mathrm{D}_x - \mathrm{D}_{x+n}}{\mathrm{D}_x}$.

For $\mathrm{A}_{\overset{m}{\overline{xyz\,\ldots\,n}}}$ he uses $a_{\overset{v}{\overline{m,\,m_1,\,m_2,\,\&c.\,\&c.}}\,\overline{n}|}$ which is evidently not its equivalent: it is modified as above.

$$\mathrm{A}_{xyz\,\ldots\,|n} = \frac{\mathrm{N}_{x+n}}{\mathrm{D}_x} = \frac{\mathrm{N}_{x+n-1}}{\mathrm{D}_x} \text{ in his notation;}$$

and $a_{\overline{m}|n} = \frac{\mathrm{N}_{x+n+1}}{\mathrm{D}_x}$ in English Table notation.

$\Pi_x = A_m$; $\Pi_{xy} = A_{m,m_1}$; $\Pi^{1}_{xy} = A_{\underset{(1)}{m},\,m_1}$; $\Pi^{2}_{xy} = A^{\mathrm{I}}_{\underset{(2)}{m},\,m_1} \ldots\ldots$;

$d_x = d_m$; $\mathrm{E}_x = e_m$; $p_{x\,.\,n} = p_{m,\,n}$.

$$\text{Formulas } \Pi_{xy} = 1 - dA_{xy} = r - (1 - r)\, a_{m, m_1} \quad \text{(Jones)}$$

$$\pi_{xy} = a_{xy} - d = \frac{1}{1 + a_{m, m_1}} - (1 - r) \quad \text{(Jones)}$$

$$\pi_{\overline{xy}} = a_{\overline{xy}} - d = \frac{1}{1 + a_m + a_{m_1} - a_{m, m_1}} - (1 - r) \quad \text{(Jones)}$$

$$\pi_{xn} = \frac{M_{x|n}}{N_{x|n}} = \frac{D_{x|n} - dN_{x|n}}{N_{x|n}} = \frac{vN_{x|n} - N_{x+1|n}}{N_{x|n}} = v - \frac{N_{x+1|n}}{N_{x|n}}$$

becomes in Mr. Jones's Tables and notation

$$= \frac{r(N_{m-1} - N_{m+n-1}) - (N_m - N_{m+n})}{N_{m-1} - N_{m+n-1}}.$$

The $N_m$ becomes $N_{m-1}$ awkwardly in nearly all Mr. Jones's formulas for Insurance, in consequence of Mr. Davies having by a slip of his pen, as it were, put $D_m$ in $N_{m-1}$, instead of putting it in $N_m$. Mr. Jones's volumes contain many useful formulas.

It will be seen that $\pi_{xn} = v - \frac{N_{x+1|n}}{N_{x|n}} = \frac{D_{x|n}}{N_{x|n}} + v - 1$; which will be compared with the notation of Mr. Milne.

*Three uses of the literal r.*—This letter was used by Halley, Demoivre, Simpson (in his Treatise on Annuities), Dr. Price, and Mr. Morgan to express the rate $(1 + i)$ at which money increases. Thus $(r - 1)$ was the increase of £1 in one year; $\frac{1}{r}$ = value of £1 due in a year; $r$ = the sum payable at the end of the year, of which £1 is the present value.

Baily changed the significance of $r$; his $1 + r$ is the $r$ of Demoivre. Mr. Milne employed $r$ in the same way as Baily. Baily introduced $1 + \varrho$.

Finally, Mr. David Jones strangely enough put $r$ for the $\frac{1}{r}$ of Demoivre; the $(1 + r)^{-1}$ of Baily; and the $v \left(= \frac{1}{1 + i}\right)$ of Milne, which is now thoroughly established.

In the various reports I have adopted Mr. Milne's $v$, and restored the $r$ to its original sense as it was used by Halley and Demoivre, Price and Morgan.

PROFESSOR DE MORGAN, in two valuable papers, gives a variety of useful formulas. "It is," he says, "Barrett's method, as improved by Mr. Davies (1825), which we "propose to present to the reader, with some extension of notation and generaliza-"tion of processes."—(*Companion to the Almanack for* 1840.) In the notation D, N, S, C, M, and R are given with suffixes; in making $N_x = D_{x+1} + D_{x+2} \ldots$; and $S_x = N_x + N_{x+1} \ldots$ he followed Mr. Davies. His $N_{x-1}$, which frequently occurs, is consequently our $N_x$; his $S_{x-1}$ is our $S_x = D_x + 2\,D_{x+1} + 3\,D_{x+2} \ldots\ldots$

It is difficult to conceive the amount of confusion, which is avoided by taking $N_x = D_x + D_{x+1} \ldots$, precisely as $M_x = C_x + C_{x+1} \ldots\ldots$; and also by taking $A_x = \frac{N_x}{D_x}$, which Professor De Morgan calls "an annuity due." The annuity of the old writers (A) is an annuity deferred *one* year; while their annuity deferred for 19 years is really an annuity deferred 20 years, at the end of which the first payment is made. Their symbols cannot be confounded with ours, as they were never written with suffixes.

In Professor De Morgan's paper, No. 2., for 1842, he writes $D_{xy} = D_{m,\,n} = a_m a_n v^k$, and suggests that $k$ should be taken at $\frac{1}{2}(m + n)$, which we have adopted in the Two-Life Tables. In his second paper he writes $N_{xy\,|\,n}$ for $N_{xy} - N_{x+n,\,y+n}$, which we have also adopted, as it is clear, and contributes to the elegance of the formulas into which it enters.

Professor De Morgan, in his Essay on Probabilities, describes a new notation; and Mr. Peter Hardy, whose loss we have had recently to deplore, has also proposed a notation quite different from that hitherto in use. Both writers should be consulted. Mr. Hardy, in a "Table of the proposed Notation," gives expressions for nearly all the contingencies which occur in practice affecting three lives.

Notwithstanding its incalculable importance, no writer before MR. MILNE had paid sufficient attention to notation; and we are indebted to him for the first complete scheme, which, had it not been for the introduction of the columnar method, would probably now have been in general use.

| | | |
|---|---|---|
| X, Y, Z. (the lives) | are written by Mr. Milne | *A*, *B*, *C*. |
| $l_x$ $l_y$, $l_z$. | ” ” ” ” ” | $a$, $b$, $c$. |
| $l_{x+n}$, $l_{y+n}$, $l_{z+n}$. | ” ” ” ” ” | ${}^n a$, ${}^n b$, ${}^n c$. |
| $l_{x-n}$, $l_{y-n}$, $l_{z-n}$. | ” ” ” ” ” | $a_n$, $b_n$, $c_n$. |
| $p_{x\,.\,n}$, $p_{y\,.\,n}$, $p_{z\,.\,n}$. | ” ” ” ” ” | ${}_n a$, ${}_n b$, ${}_n c$. |
| $p_{(xyz\ldots\ldots\ldots)\,.\,n}$. | ” ” ” ” ” | ${}_n(a\,b\,c$ &c.$)$ |
| $E_x$, $E_y$, $E_z$. | ” ” ” ” ” | a, b, c. |
| $E_{x+n}$, $E_{y+n}$, $E_{z+n}$. | ” ” ” ” ” | ${}^t$a, ${}^t$b, ${}^t$c. |
| $E_{xyz}$, and $E_{\frac{m}{xyz}}$ | ” ” ” ” ” | abc, and $\overset{m}{\overline{\text{abc}}}$. |
| $A_x$, $A_y$, $A_z$. | ” ” ” ” ” | 1 + A; 1 + B; 1 + C. |
| $A_{xyz}$, and $A_{\frac{m}{xyz}}$. | ” ” ” ” ” | 1 + ABC, and 1 + $\overset{m}{\overline{\text{ABC}}}$. |
| $\Pi_x$, $\Pi_y$, $\Pi_z$. | ” ” ” ” ” | $\mathfrak{A}$, $\mathfrak{B}$, $\mathfrak{C}$. |
| $\Pi_{xyz}$. | ” ” ” ” ” | $\mathfrak{A}\mathfrak{B}\mathfrak{C}$. |
| $\pi_x$, $\pi_y$, $\pi_z$. | ” ” ” ” ” | $\odot\mathfrak{A}$, $\odot\mathfrak{B}$, $\odot\mathfrak{C}$. |

| | | |
|---|---|---|
| $\pi_{xyz}$ ; $\pi_{uvw]}$ | are written by Mr. Milne | $\odot\mathfrak{A}\mathfrak{B}\mathfrak{C}.$ |
| $\Pi_{xy} = \Pi_{\overset{1}{x}y} + \Pi_{x\overset{1}{y}}$ | ” ” ” ” ” | $\mathfrak{A}\mathfrak{B} = \underset{1}{\mathfrak{A}}\mathbb{B} + \underset{1}{\mathfrak{B}}\mathbb{A}$ |
| $\Pi_{\overline{xy}} = \Pi_{\overset{2}{x}y} + \Pi_{x\overset{2}{y}}$ | ” ” ” ” ” | $\overline{\mathfrak{A}\mathfrak{B}} = \underset{11}{\mathfrak{A}}\mathbb{B} + \underset{11}{\mathfrak{B}}\mathbb{A}$ |
| $\text{A}_{x+n}$, $\text{A}_{y+n}$. | ” ” ” ” ” | $1 + {}^{t}\text{A}$, $1 + {}^{t}\text{B}$. |
| $\text{A}_{x-n}$, $\text{A}_{y-n}$. | ” ” ” ” ” | $1 + \text{A}_{t}$, $1 + \text{B}_{t}$. |
| $\text{A}_{(xyz)+n}$. | ” ” ” ” ” | $1 + {}^{t}(\text{ABC})$. |
| $\text{A}_{\overline{xy}}$, and $\text{A}_{\overline{xyz}}$. | ” ” ” ” ” | $1 + \overline{\text{AB}}$, and $1 + \overline{\text{ABC}}$. |
| $\text{A}_{\overset{m}{\overline{xyz\ldots\ldots}}}$. | ” ” ” ” ” | $1 + \overset{m}{\overline{\text{ABC \&c.}}}$ |
| $\dfrac{\text{N}_{(xy)+1 \mid t}}{\text{D}_{xy}}$ | ” ” ” ” ” | $\overline{t}\rvert$ AB, or $\overline{n}\rvert$ AB. |
| $\dfrac{\text{N}_{(xy)+n+1}}{\text{D}_{xy}}$ | ” ” ” ” ” | $\rceil_{t}$ AB, or $\rceil_{n}$ AB. |

NOTE.—$\text{A}_{xyt} = \dfrac{\text{N}_{xy \mid t}}{\text{D}_{xy}} = 1 + \overline{t-1}\rvert$ AB in Mr. Milne's notation.

| | | |
|---|---|---|
| $\text{A}_{x \mid y}$, $\text{A}_{xy \mid \overline{wz}}$, | are written by Mr. Milne | $\rceil^{\text{P}}$ A, $\rceil^{\overline{\text{PQ}}}$ AB. |
| $\text{A}_{\overline{xy} \mid z}$ | ” ” ” ” ” | $\rceil^{\text{P}}$ $\overline{\text{AB}}$. |

For the figure 1 Mr. Milne often substitutes dashes; thus ${}^{1}a$, $a_{1}$, ${}^{1}(\text{AB})$, $\text{AB}_{1}$, are often written by him .... ${}'a$, $a_{\prime}$, ${}'(\text{AB})$, $\text{AB}_{\prime}$.

| The probability that X, Y, or Z will die in the $n$th year is written— | The probability of dying in the $n$th year is written by Mr. Milne— |
|---|---|
| $\mu_{x+n-1}$, $\mu_{y+n-1}$, $\mu_{z+n-1}$ | ${}_{n}\mathfrak{a}$, ${}_{n}\mathfrak{b}$, ${}_{n}\mathfrak{c}$. |
| $\mu_{(xyz)+n-1} = \dfrac{l_{xyz+n-1} - l_{xyz+n}}{l_{xyz}} = \dfrac{\text{C}_{xyz+n-1}}{l_{xyz}}$ | ${}_{n}(\mathfrak{a}\,\mathfrak{b}\,\mathfrak{c})$. |
| $\mu_{\overset{m}{\overline{(xyz)}}+n-1}$ | $\overset{m}{\overline{{}_{n}(\mathfrak{a}\,\mathfrak{b}\,\mathfrak{c})}}$. |

| | | |
|---|---|---|
| For $i$ | Mr. Milne writes | $r$ |
| $r$ | | R |
| $\dfrac{1}{1+i} = v$ | | $\dfrac{1}{1+r} = v$. |

The $v$ we owe to Mr. Milne, as well as $\lambda r$ for common logarithm of $r$, and $\kappa r$ for the complement of the logarithm of $r$ or any other quantity, and generally we write $\lambda$ for logarithm, $\kappa$ for complement of logarithm.

$$\pi_x = a_x - d \text{ is written by Mr. Milne } = \frac{1}{1 + \mathrm{A}} + v - 1 = \odot\,\mathfrak{A}$$

$$\pi_{\overset{m}{\overline{xyz}}} = a_{\overset{m}{\overline{xyz}}} - d \quad \text{„} \quad \text{„} \quad \text{„} \quad \text{„} \quad \text{„} \quad \frac{1}{1 + \overset{m}{\overline{\mathrm{A\,B\,C}}}} + v - 1 = \odot\,\overset{m}{\overline{\mathfrak{A}\mathfrak{B}\mathfrak{C}}}$$

$$\pi_{xyz} = a_{xyz} - d \quad \text{„} \quad \text{„} \quad \text{„} \quad \text{„} \quad \text{„} \quad \frac{1}{1 + \mathrm{A\,B\,C}} + v - 1 = \odot\,\mathfrak{A}\mathfrak{B}\mathfrak{C}$$

$$\pi_{\overline{xyz}} = a_{\overline{xyz}} - d \quad \text{„} \quad \text{„} \quad \text{„} \quad \text{„} \quad \text{„} \quad \frac{1}{1 + \overline{\mathrm{A\,B\,C}}} + v - 1 = \odot\cdot\overline{\mathfrak{A}\mathfrak{B}\mathfrak{C}}$$

Annual Premiums for a temporary insurance on the 3 joint lives X, Y, Z:

$$\pi_{xyzn} = \frac{\mathrm{D}_{xyz\,|\,n}}{\mathrm{N}_{xyz\,|\,n}} - d$$

is written by Mr. Milne:

$$\odot\,\overline{{}^{t}|}\,\mathfrak{A}\mathfrak{B}\mathfrak{C} = \frac{1 - \dfrac{{}^{t}(a\,b\,c)}{a\,b\,c}\,v^{t}}{1 + \mathrm{A\,B\,C} - \dfrac{{}^{t}(a\,b\,c)}{a\,b\,c}\,v^{t}\left[1 + {}^{t}(\mathrm{A\,B\,C})\right]} + v - 1.$$

The Journal of the Institute of Actuaries contains many useful formulas by Professor De Morgan, by Mr. Peter Gray, by Mr. Jellicoe, Mr. Brown, Mr. Sprague, Mr. Farren, and other Fellows of the Institute, who either employ the above notations or define their own symbols. The papers of Mr. Gompertz in the Transactions of the Royal Society, two papers by Sir John Lubbock in the Cambridge Philosophical Transactions, vol. 3., Mr. Babbage's Treatise on Insurance, the work of Mr. Edmonds on Annuities, the Tables of Mr. Sang, of Messrs. Gray, Smith, and Orchard, of Mr. Chisholm, and of Mr. Thomson, as well as the contributions to Vital Statistics by Mr. Neison, and the reports of Mr. Finlaison, contain investigations or Tables which may be consulted with advantage.

The above list of symbols, and of what I have ventured to call *synonyms*, will facilitate the use of the formulas in the treatises of Baily, Milne, and Jones. For systematic expositions of the Doctrines of Interest, see the works of Baily, Peter Hardy, and Fédor Thoman; also Griffith Davies on Annuities.

## 4. TYPES OF COMMON CALCULATIONS.

### Two Lives; X aged $x$, and Y aged $y$.

Take X, for example, age 30, and his wife, age 25; let interest be 3 per cent., and the annuity be payable at the beginning of every life-year; the insurances at the end of the death-year.

All the values of annuities, and premiums for the lives taken singly, are given at page 52 for males, page 86 for females. The logarithms of $N_{30,25}$ and $D_{30,25}$ are found under the age ($y = 25$) of the female, page 192; and by using compasses for pointers their differences are readily taken out without transcription.

$$x = 30;\ y = 25$$

$$\begin{aligned}
\text{Constants:}\quad v &= \cdot 9708738\\
\lambda\, v &= \bar{1}\cdot 9871628\\
\lambda\, v^{\frac{1}{2}} &= \bar{1}\cdot 9935814\\
\lambda\, d &= \bar{2}\cdot 4642840
\end{aligned}$$

$$\begin{aligned}
&\lambda\, D_{x,y} && = 5\cdot 6283747\\
&\lambda\, N_{x,y} && = \underline{6\cdot 8526138}\\
&\lambda\, D_{x,y} - \lambda\, N_{x,y} = \lambda\, a_{x,y} && = \bar{2}\cdot 7757609;\ a_{xy} = a_{30,25} = \cdot 059671\\
&\lambda\, N_{x,y} - \lambda\, D_{x,y} = \lambda\, A_{x,y} && = 1\cdot 2242391;\ A_{xy} = A_{30,25} = 16\cdot 7587\\
&\lambda\, d && = \underline{\bar{2}\cdot 4642840}\\
&\lambda\, (dA_{x,y}) && = \bar{1}\cdot 6885231;\ dA_{x,y} = \cdot 48812
\end{aligned}$$

*Survivorship Insurances.*

$$\begin{aligned}
&N_{x,y+1} && = 6{,}919{,}933 \text{ (p. 252)}\\
&N_{x+1,y} && = \underline{6{,}892{,}099} \text{ (p. 254)}\\
& && 2\,)\ \ 27{,}834 = b\\
&\frac{N_{x,y+1} - N_{x+1,y}}{2} && = 13{,}917 \quad 4\cdot 1435456\\
& && \lambda\, v^{\frac{1}{2}} = \bar{1}\cdot 9935814\\
& && \kappa\, D_{x,y} = \underline{\bar{6}\cdot 3716253}\\
& && \kappa\, N_{x,y} = \underline{\bar{7}\cdot 1473862}
\end{aligned}$$

$$\lambda\left(\frac{\frac{1}{2}b}{D_{x,y}}\right) = \lambda\, 13{,}917 + \lambda\, v^{\frac{1}{2}} + \kappa\, D_{x,y} = \bar{2}\cdot 5087523;\ \frac{\frac{1}{2}b}{D_{xy}} = \frac{\frac{1}{2}b}{D_{30,25}} = \cdot 032267$$

$$\lambda\left(\frac{\frac{1}{2}b}{N_{x,y}}\right) = \lambda\, 13{,}917 + \lambda\, v^{\frac{1}{2}} + \kappa\, N_{x,y} = \bar{3}\cdot 2845132;\ \frac{\frac{1}{2}b}{N_{x,y}} = \frac{\frac{1}{2}b}{N_{30,25}} = \cdot 001925$$

**From the above elements all the ordinary values are found.**

$A_{30,25} = 16\cdot 7587$; and £1675·87 is the value of a life annuity of £100 first payment due; its reciprocal is $a_{30,25} = \cdot 059671$; and £100 is the value of an annuity of £5·967; if the first payment is due a year hence £94·033 is the worth of such a life annuity.

$\Pi_{30,25} = 1 - d\mathrm{A}_{30,25} = 1 - {\cdot}48812 = {\cdot}51188$; and the single premium £51·188 insures £100 payable on the *first* death.

$\pi_{30,25} = a_{30,25} + v - 1 = {\cdot}059671 + {\cdot}970874 - 1 = {\cdot}030545$; and £3·0545 is the annual premium for the same sum.

$$\begin{aligned}\Pi_{\overline{30,25}} &= \Pi_{30} + \Pi_{25} + d\mathrm{A}_{30,25} - 1\,; \\ &= {\cdot}41706 + {\cdot}37926 + {\cdot}48812 - 1 = {\cdot}28444\end{aligned}$$

The single premium to insure £100 on the *last* death is £28·444.

$$\mathrm{A}_{\overline{30,25}} = \mathrm{A}_{30} + \mathrm{A}_{25} - \mathrm{A}_{30,25} = 20{\cdot}0143 + 21{\cdot}3120 + (100 - 16{\cdot}7587) - 100 = 24{\cdot}5676$$

$$\begin{array}{r} 20{\cdot}0143 \\ 21{\cdot}3120 \\ -\ 16{\cdot}7587 \\ \hline 24{\cdot}5676 \\ \hline\hline \end{array}$$

$$\begin{aligned}\pi_{\overline{xy}} &= \frac{\Pi_{\overline{x,y}}}{\mathrm{A}_{\overline{x,y}}} = \frac{{\cdot}28444\,;}{24{\cdot}5676\,;} \quad \begin{array}{l} \bar{1}{\cdot}4539907 \\ \underline{\bar{1}{\cdot}3903627} \end{array} \\ \pi_{\overline{x,y}} &= {\cdot}011578\,; \quad \bar{2}{\cdot}0636280\end{aligned}$$

The annual premium payable during the *longest* life to insure £100 on its extinction is £1·1578.

### *Survivorship Insurances.*

$$\Pi_{\overset{1}{30},25} = \frac{\Pi_{30,25}}{2} + \frac{b}{2\,\mathrm{D}_{30,25}} = {\cdot}25594 + {\cdot}03227 = {\cdot}28821$$

$$\Pi_{30,\overset{1}{25}} = \frac{\Pi_{30,25}}{2} - \frac{b}{2\,\mathrm{D}_{30,25}} = {\cdot}25594 - {\cdot}03227 = {\cdot}22367$$

Thus the single premium to insure £100 on the death of X, age 30, provided it happen during the life of Y, is £28·821. The premium for the corresponding insurance on Y is £22·367; and, by addition, the two premiums make £51·188 = the single premium to insure £100 on the *first* death, be it X or Y.

$$\pi_{\overset{1}{30},25} = \frac{\pi_{30,25}}{2} + \frac{b}{2\,\mathrm{N}_{30,25}} = \frac{{\cdot}030545}{2} + {\cdot}001925 = {\cdot}015273 + {\cdot}001925 = {\cdot}017198$$

$\pi_{30,\overset{1}{25}} = \dfrac{\pi_{30,25}}{2} - \dfrac{b}{2\,\mathrm{N}_{30,25}} = {\cdot}015273 - {\cdot}001925 = {\cdot}013348$. The premium payable during the joint lives to insure £100 on the death of X, if it happen during the life of Y, is £1·720; and the premium to insure £100 on the death of Y during X's life is £1·335; by addition the two premiums are £3·055, which entitles the insurant to £100 on the death of the *first* life, be it X or Y.

$\Pi_{\overset{2}{30},25} = \Pi_{30} - \Pi_{\overset{1}{30},25} = {\cdot}41706 - {\cdot}28821 = {\cdot}12885$. The single premium to insure £100 on the death of X age 30, provided he die *second*, is £12·885.

$\Pi_{30,\overset{2}{25}} = \Pi_{25} - \Pi_{30,\overset{1}{25}} = {\cdot}37926 - {\cdot}22367 = {\cdot}15559$. The single premium to insure £100 on the death of Y age 25, provided she die *after* X, is £15·559.

By addition ${\cdot}12885 + {\cdot}15559 = \Pi_{\overline{x,y}} = {\cdot}28444$.

### *Reversionary Life Annuities.*

$A_{y|x} = A_y - A_{xy}$ = value of reversionary annuity of £1 on life of Y after death of X.

$$\begin{aligned} A_{25} &= 21{\cdot}3120 \\ A_{30,\,25} &= \underline{16{\cdot}7587} \\ & \phantom{=}\ \ 4{\cdot}5533 \end{aligned}$$

£455·33 is the value of a reversionary annuity of £100 on life of a woman aged 25, after the death of a man aged 30.

$$\pi'_{y|x} = \frac{A_y - A_{xy}}{A_{xy}} = \frac{A_y}{A_{xy}} - 1 = \frac{A_{y|x}}{A_{xy}} = \frac{A_{25}}{A_{30,\,25}} - 1$$

$$\begin{aligned} \lambda\, A_{25} &= 1{\cdot}3286241 \text{ (p. 85)} \\ \lambda\, A_{30,\,25} &= \underline{1{\cdot}2242391} \text{ (p. 192)} \\ & \phantom{=}\ 0{\cdot}1043850\,;\ \pi'_{30|25} = 1{\cdot}27170 - 1. \end{aligned}$$

£27·170 is the annual premium payable during the joint life of X and Y to provide a survivorship annuity of £100 on the life of Y, to commence after death of X.

### THREE LIVES; X AGED $x$, Y AGED $y$, AND Z AGED $z$.

$x = 20$ a male.
$y = 50$ a male.
$z = 90$ a male.

$$\lambda\, N_{xyz} - \lambda\, D_{xyz} = \lambda\, A_{xyz} = 0{\cdot}4781061\,;\ A_{xyz} = 3{\cdot}0068$$

$A_{xyz}$ = value of an annuity of £1 on *three* joint lives of the above ages (interest 3 per cent.) = 3·0068.

$A_{\overset{\bullet}{\overline{xyz}}} = A_{xy} + A_{xz} + A_{yz} - 2\,A_{xyz}$ = the value of an annuity of £1 payable as long as any *two* out of three lives of the above ages survive.

$$\begin{aligned} \lambda\, N_{xy} - \lambda\, D_{xy} &= 1{\cdot}1173029\,;\ A_{xy} = 13{\cdot}1010 \\ \lambda\, N_{xz} - \lambda\, D_{xz} &= 0{\cdot}4950014\,;\ A_{xz} = 3{\cdot}1261 \\ \lambda\, N_{yz} - \lambda\, D_{yz} &= 0{\cdot}4848982\,;\ A_{yz} = 3{\cdot}0542 \\ & \qquad\quad - 6{\cdot}0136 = \underline{3{\cdot}9864 - 10} = -\,2\,A_{xyz} \\ & \qquad\qquad\quad A_{\overset{\bullet}{\overline{xyz}}} = 13{\cdot}2677 \end{aligned}$$

$A_{\overline{xyz}} = A_x + A_y + A_z - (A_{xy} + A_{xz} + A_{yz}) + A_{xyz}$ = the value of an annuity of £1 on the *longest* of *three* lives.

$$\left.\begin{array}{rcr} A_x & = & 22\cdot0612 \\ A_y & = & 14\cdot4242 \\ A_z & = & 3\cdot1788 \end{array}\right\} \text{(pp. 52–3)}$$

$$\begin{array}{rcl} A_{xyz} & = & 3\cdot0068 \\ A_{xy} + A_{xz} + A_{yz} & = & 80\cdot7187 - 100 = -19\cdot2813 \\ \hline A_{\overline{xyz}} & = & 23\cdot3897 \end{array}$$

$\Pi_{xyz} = 1 - dA_{xyz}$ = single premium to insure £1 payable at the *first* death.

$$\begin{array}{lll} A_{xyz} = 3\cdot0068 & 0\cdot4781061 & \\ \lambda\, d = & \bar{2}\cdot4642840 & \\ \hline \lambda\,(dA_{xyz}) = & \bar{2}\cdot9423901\,; & dA_{xyz} = \cdot08758 \\ & & \cdot91242 = 1 - dA_{xyz} = \Pi_{xyz} \end{array}$$

[*Note.*—In this and similar cases $dA_{xyz}$ is the present value of the interest of £1 payable during the joint lives $= viA_{xyz}$.]

$\Pi_{\overset{2}{xyz}} = 1 - dA_{\overset{2}{xyz}}$ = single premium to insure £1 payable at the *second* death.

$$\begin{array}{lll} A_{\overset{2}{xyz}} = 13\cdot2677 & 1\cdot1227957 & \\ \lambda\, d = & \bar{2}\cdot4642840 & \\ \hline & \bar{1}\cdot5870797\,; & dA_{\overset{2}{xyz}} = \cdot38644 \\ & & \cdot61356 = 1 - dA_{\overset{2}{xyz}} = \Pi_{\overset{2}{xyz}} \end{array}$$

$\Pi_{\overline{xyz}} = 1 - dA_{\overline{xyz}}$ = single premium to insure £1 payable at the *third* death.

$$\begin{array}{lll} A_{\overline{xyz}} = 23\cdot3897 & 1\cdot3690247 & \\ \lambda\, d = & \bar{2}\cdot4642840 & \\ \hline & \bar{1}\cdot8333087\,; & dA_{\overline{xyz}} = \cdot68125 \\ & & \cdot31875 = 1 - dA_{\overline{xyz}} = \Pi_{\overline{xyz}} \end{array}$$

$\pi_{xyz} = a_{xyz} + v - 1$ = annual premium to be paid during the joint lives to insure £1 at the *first* death.

$$\begin{array}{lll} \lambda\, A_{xyz} = & 0\cdot4781061 & \\ \lambda\, a_{xyz} = & \bar{1}\cdot5218939\,; & a_{xyz} = \cdot332578 \\ v = & & \phantom{a_{xyz} = }\cdot970874 \\ \hline & & \phantom{a_{xyz} = }\cdot303452 = \pi_{xyz} \end{array}$$

$\pi_{\overset{2}{\overline{xyz}}} = a_{\overset{2}{\overline{xyz}}} + v - 1 =$ annual premium to be paid during the co-existence of any two lives out of the three to insure £1 at the *second* death.

$$\begin{array}{lll} \lambda\, A_{\overset{2}{\overline{xyz}}} = & 1 \cdot 1227957 & \\ \lambda\, a_{\overset{2}{\overline{xyz}}} = & \bar{2} \cdot 8772043\,; \; a_{\overset{2}{\overline{xyz}}} = & \cdot 075371 \\ v \quad = & & \cdot 970874 \\ \hline & & \cdot 046245 = \pi_{\overset{2}{\overline{xyz}}} \end{array}$$

$\pi_{\overline{xyz}} = a_{\overline{xyz}} + v - 1 =$ annual premium to be paid during the longest of three lives to insure £1 at the end of the year of its extinction.

$$\begin{array}{llll} A_{\overline{xyz}} = & 23 \cdot 3897 & 1 \cdot 3690247 & \\ \lambda\, a_{\overline{xyz}} = & & \bar{2} \cdot 6309753\,; \; a_{\overline{xyz}} = & \cdot 042754 \\ v \quad = & & & \cdot 970874 \\ \hline & & & \cdot 013628 = \pi_{\overline{xyz}} \end{array}$$

### Annual Premium for Deferred Annuity.

Let the life be a male age 20; and the first payment of the annuity fall due at age 65.

$$\frac{N_{x+n}}{N_{x\,|\,n}} = \frac{N_{65}}{N_{20} - N_{65}}$$

$$\begin{array}{ll} \lambda\, N_{65} & = 5 \cdot 3107273 \\ \lambda\, (N_{20} - N_{65}) & = 6 \cdot 5877590 \\ \hline & \bar{2} \cdot 7229683\,; \; \cdot 052840 \end{array}$$

Thus £5·284 is the annual premium payable by X age 20 to provide a deferred annuity of £100,—first payment should the life survive at age 65.

### Deferred Annuity.—Annual Premiums returnable on Death occurring before the Age $x + n$.

$$\frac{N_{x+n}}{N_{x\,|\,n} - R_{x\,|\,n} + nM_{x+n}} = \frac{N_{65}}{N_{20\,|\,45} - R_{20\,|\,45} + 45\,M_{65}}$$

$$\begin{array}{rlrll} N_{20\,|\,45} & = 3{,}870{,}428 & & \lambda\, N_{65} = 5 \cdot 3107273 & \\ 45\, M_{65} & = \phantom{0{,}}725{,}202 & 2{,}805{,}754 & 6 \cdot 4480496 & \\ 10{,}000{,}000 + R_{65} - R_{20} & = 8{,}210{,}124 & & \bar{2} \cdot 8626777 & \cdot 072892 \\ & & & 1 \cdot 1373223 & 13 \cdot 719 \\ N_{20\,|\,45} + 45\, M_{65} - (R_{20} - R_{65}) & = 2{,}805{,}754 & & & \end{array}$$

£7·2892 is the annual premium to be paid by a man age 20 until he is 64 to entitle him to a deferred annuity of £100, first payment at age 65; and should he die before that age to a return of all the premiums he may have previously paid at the end of his death-year.

$$\frac{N_{x\,|\,n}}{N_{x+n}} = \frac{N_{20} - N_{65}}{N_{65}} = \frac{N_{20}}{N_{65}} - 1$$

$$\begin{array}{lll} \lambda\, N_{20} & 6{\cdot}6101216 & \\ \lambda\, N_{65} & 5{\cdot}3107273 & \\ \hline & 1{\cdot}2993943 & 19{\cdot}925 \\ & & 1{\cdot}0 \\ \hline & & 18{\cdot}925 \end{array}$$

At the age 20, £1 is the annual premium to provide a deferred annuity of £18·925, first payment at 65; but £13·719 is the annuity which the same annual premium of £1 would provide, on condition that in the event of death before the age of 65 all the premiums received should be returned.

### *Temporary Insurance.*

Annual premium to insure £1 for 5 years on two lives, X a male aged 30, and Y a female aged 25.

$$\pi_{xy,n} = \frac{D_{xy\,|\,n}}{N_{xy\,|\,n}} - d\ ;\ \text{and}\ \pi_{30,\,25\,;\,5} = \frac{D_{30,\,25} - D_{35,\,30}}{N_{30,\,25} - N_{35,\,30}} - d.$$

$$\begin{array}{lrll} D_{30,\,25} - D_{35,\,30} = & 94{,}305 & 4{\cdot}9745347 & \\ N_{30,\,25} - N_{35,\,30} = & 1{,}928{,}466 & 6{\cdot}2852120 & \\ \hline & & \bar{2}{\cdot}6893227 & {\cdot}04890 \\ & & d = & {\cdot}02913 \\ \hline & & & {\cdot}01977 = \pi_{30,\,25\,;\,5} \end{array}$$

### *Insurance by continuous Payments of Premium.*

Annual premium payable by daily, or weekly, or monthly instalments to insure on the life of X a male aged 30 £1 payable on the day of his death.

$$\pi'_x = \frac{M'_x}{Q'_x}\ ;\ \text{and}\ \pi'_{30} = \frac{M'_{30}}{Q'_{30}}$$

$$\lambda\, M'_{30} - \lambda\, Q'_{30} = \bar{2}{\cdot}3363753\ ;\ \pi'_{30} = {\cdot}02170$$

Thus, upon this Table £2·170 in annual premium insures £100; upon the common plan the annual premium is £2·084.

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### *The following is a Summary of the Results of the previous Calculations.*

TWO LIVES; X A MALE AGED 30, AND Y A FEMALE AGED 25.

1. $A_{30,\,25}$ = The value of a joint life annuity of £100 on the two lives is . . . . . . . . . . £ 1675·87

2. $a_{30,\,25}$ = The annuity on the two lives which £100 will purchase, first payment due, is . . . . . . 5·967

[*Note.*—The value of the annuity (No. 2.), first payment at the end of a year, is £94·033.]

| | | | £ |
|---|---|---|---|
| 3. | $\Pi_{30,25}$ | = Single Premium to insure £100, payable on the first death X or Y, is . . . . . . . | 51·188 |
| 4. | $\pi_{30,25}$ | = The same sum (£100) is insured by an annual premium of . . . . . . . . . . | 3·055 |
| 5. | $\Pi_{\overline{30,25}}$ | = The single premium to insure £ 100 on the last death is . . . . . . . . . . | 28·444 |
| 6. | $A_{\overline{30,25}}$ | = The present value of an annuity of £100 upon the longest life, first payment due, is . . . . | 2456·76 |
| 7. | $\pi_{\overline{30,25}}$ | = The annual premium payable during the longest life to insure £100, payable at the end of the year of its extinction, is . . . . . . | 1·158 |
| 8. | $\Pi_{\overset{1}{30},25}$ | = The single premium to insure £100 on the death of X aged 30, provided it happen during the life of Y aged 25, is . . . . . . . . | 28·821 |
| 9. | $\Pi_{30,\overset{1}{25}}$ | = The premium for the corresponding insurance on the life of Y is . . . . . . . . | 22·367 |

[*Note.*—The sum of Nos. 8. and 9. = No. 3.]

| | | | |
|---|---|---|---|
| 10. | $\pi_{\overset{1}{30},25}$ | = The annual premium payable during the joint lives to insure £100 on the death of X, if it happen during the life of Y, is . . . . . . . | 1·720 |
| 11. | $\pi_{30,\overset{1}{25}}$ | = The premium for the corresponding insurance on the death of Y is . . . . . . . . . | 1·335 |

[*Note.*—The sum of Nos. 10. and 11. = No. 4.]

| | | | |
|---|---|---|---|
| 12. | $\Pi_{\overset{2}{30},25}$ | = The single premium to insure £100 on the death of X aged 30, provided he die second, is . . . | 12·885 |
| 13. | $\Pi_{30,\overset{2}{25}}$ | = The premium for the corresponding insurance on the life of Y, provided she die after X, is . . | 15·559 |

[*Note.*—The sum of Nos. 12. and 13. = No. 5.]

### *Reversionary Annuities.*

| | | | |
|---|---|---|---|
| 14. | $A_{25\,|\,30}$ | = Value of reversionary annuity of £100 on life of Y aged 25 after death of X aged 30 . . . . | 455·33 |
| 15. | $\pi'_{25\,|\,30}$ | = Annual premium payable during the joint lives of X aged 30 and Y aged 25 to provide a survivorship annuity of £100 on life of Y to commence after the death of X . . . . . . . . . . | 27·170 |

### THREE MALE LIVES, X AGED 20, Y AGED 50, AND Z AGED 90.

| | | | £ |
|---|---|---|---|
| 16. | $A_{20,\, 50,\, 90}$ | = Value of an annuity of £ 100 on the three joint lives | 300·7 |
| 17. | $A_{\overset{2}{\overline{20,\, 50,\, 90}}}$ | = Value of an annuity of £ 100 payable as long as any *two* out of the three lives survive . . . . . | 1326·8 |
| 18. | $A_{\overline{20,\, 50,\, 90}}$ | = Value of an annuity of £ 100 on the *longest* of the three lives . . . . . . . . . . | 2339·0 |
| 19. | $\Pi_{20,\, 50,\, 90}$ | = Single premium to insure £ 100 payable at the *first* death . . . . . . . . . . | 91·242 |
| 20. | $\Pi_{\overset{2}{\overline{20,\, 50,\, 90}}}$ | = Single premium to insure £ 100 payable at the *second* death . . . . . . . . . . | 61·356 |
| 21. | $\Pi_{\overline{20,\, 50,\, 90}}$ | = Single premium to insure £ 100 payable at the *third* death . . . . . . . . . . | 31·875 |
| 22. | $\pi_{20,\, 50,\, 90}$ | = Annual premium to be paid during the joint lives to insure £ 100 at the *first* death . . . . | 30·345 |
| 23. | $\pi_{\overset{2}{\overline{20,\, 50,\, 90}}}$ | = Annual premium to be paid during the co-existence of any two lives out of the three to insure £ 100 at the *second* death . . . . . . . . | 4·625 |
| 24. | $\pi_{\overline{20,\, 50,\, 90}}$ | = Annual premium to be paid during the longest of three lives to insure £ 100 at the end of the year of its extinction . . . . . . . . | 1·363 |

### DEFERRED ANNUITY.

| | | | |
|---|---|---|---|
| 25. | $\frac{N_{65}}{N_{20} - N_{65}}$ | = Annual premium payable by X, a male aged 20, to provide a deferred annuity of £ 100 at age 65 .<br>[*Note.*—An annual premium of £ 1 will provide a deferred annuity of £ 18·925.] | 5·284 |
| 26. | $\frac{N_{65}}{N_{20\,|\,45} - R_{20\,|\,45} + 45\, M_{65}}$ | = Annual premium payable by X, a male aged 20, to provide a deferred annuity of £ 100 at age 65; the premiums paid to be returnable if he die before that age . . . . . . . .<br>[*Note.*—An annual premium of £ 1 will provide a deferred annuity of £ 13·719 under the above conditions.] | 7·289 |

### TEMPORARY INSURANCE.

| | | | |
|---|---|---|---|
| 27. | $\pi_{30,\, 25;\, 5}$ | = Annual premium to insure £ 100 for five years on two lives, X a male aged 30 and Y a female aged 25 . | 1·977 |

### INSURANCE BY CONTINUOUS PAYMENTS OF PREMIUM.

| | | | |
|---|---|---|---|
| 28. | $\pi'_{30}$ | = Annual premium payable by daily or weekly or monthly instalments to insure on the life of X, a male aged 30, £ 100 payable on the day of his death . . | 2·170 |

# APPENDIX.

## Scheutz's Calculating Machine and its Use in the Construction of the English Life Table No. 3.

The following description of the Calculating Machine was sent by the Registrar General to the Exhibition of 1862 for distribution, with specimens of its printed work, of stereotyped plates, and of papier-mâché moulds stamped by its printing apparatus.

The Registrar General would have been glad to send the Machine to be exhibited with the Difference Engine of Mr. Babbage; but it was then in use at the General Register Office, and it was a matter of great importance to complete the new Life Tables, for which there was an urgent demand. Upon other grounds the completion of the work was called for.

The first public money was advanced for the Difference Engine of Mr. Babbage in 1823, and it had been so far completed as to show beyond a doubt the practicability of the conception. His Engine was in the Exhibition of 1862; and the first Machine which the Scheutzes, father and son, constructed was exhibited and won the gold medal at the Exhibition of 1855 in Paris. The powers of the Swedish Machine* had been displayed in the production of thirty pages of five-figure logarithms for the numbers from 1,000 to 10,000†; but it had executed no original work of any extent. Now there are, besides the thousands of machines in the clouds of inventors' brains, many ingenious and beautiful machines in exhibitions of no practical use whatever. How can the spectator know whether they will execute genuine work at all? Who can detect their errors or compare the cost of their work with that of other work of the same kind? A watch to look at is sometimes not a watch to go, according to common observation. Which of these classes of works had we in hand? Here were calculating machines in which everybody was interested, which had existed in pieces or in the state of projects, in which money had been invested for nearly forty years, and which in the completed state had hitherto realized none of the expectations which the country naturally entertained; so it did seem that the time had come for substantial work rather than for exhibition and appeals even to legitimate curiosity.

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* This first Swedish Machine was bought by Mr. Rathbone, an American, and presented by him to the Dudley Observatory at Albany. No account has reached us of any work executed by it in America.

† Specimens of Tables calculated, stereo-moulded, and printed by machinery. Longmans, 1857.

The Machine consists of more than 4,000 pieces, and it is about ten hundredweight.* It had been shaken out of order on its way from the Factory to Somerset House. It might have been injured or destroyed on its journey to or from the Exhibition, and no one would absolutely guarantee its safety there. Under these circumstances the Machine was not exhibited.

So this work was continued uninterruptedly at the General Register Office until it was completed; and I cannot agree with Mr. Babbage, who thinks that it could have been safely carried on in the midst of the crowds of the Exhibition, with incessant interruptions for explanation, and with the possible clang of musical instruments, discordant sounds, or noises in the ears of the operators.

The Machine required incessant attention. The differences had to be inserted at the proper terms of the various series, checking was required, and when the mechanism got out of order it had to be set right. Of the first watch nothing is known, but the first steam-engine was indisputably imperfect; and here we had to do with the second Calculating Machine as it came from the designs of its constructors and from the workshop of the engineer. The idea had been as beautifully embodied in metal by Mr. Bryan Donkin as it had been conceived by the genius of its inventors; but it was untried. So its work had to be watched with anxiety, and its arithmetical music had to be elicited by frequent tuning and skilful handling, in the quiet most congenial to such productions.

This volume is the result; and thus—if I may use the expression—the soul of the Machine is exhibited in a series of Tables which are submitted to the criticism of the consummate judges of this kind of work in England and in the world.

If their approving testimony be won, it will be some compensation to the "English workmen," the firm of Messrs. Donkin and the Messrs. Scheutz, for the loss of a medal at the Exhibition of 1862.

The Machine, I should add, was seen by many scientific men at the General Register Office during the Exhibition; and it was made known that it was accessible then, as it is now, to any accredited person, on application to the Registrar General.

General Register Office,
5th August 1864.

W. FARR.

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* Mr. Bryan Donkin states that Scheutz's Calculating Machine consists of about 4,320 pieces, of which 2,054 are screws, 364 compose the chain, and 902 are other parts of the mechanism. The weight of the Machine (exclusive of case) is by his estimate about 10 cwt.

PASCAL, Leibnitz, and other mathematicians conceived the idea of performing numerical operations mechanically; and Mr. Babbage invented a calculating machine, of which, for various reasons, he did not complete the construction. It was, however, lucidly described in the Edinburgh Review for July 1834 by Dr. Lardner. The article inspired Mr. Scheutz, a Swede, with enthusiasm in the cause, and he exclaimed, "I also will make a calculating machine." With his son, after many sacrifices, and many years of labour, he succeeded. The machine was brought to England, and its Inventors were received in the most friendly way by Mr. Babbage, who bore open testimony to the originality of the Swedes. A Committee of the Royal Society reported favourably on the machine, and it was exhibited in the rooms at Somerset House, where Mr. Gravatt, a Fellow of the Society, displayed its powers and uses to some of the principal scientific authorities of the kingdom. The machine won a gold medal for its Inventors at the French Exhibition, and was purchased by a liberal American for an Institution in the United States.

Mr. Babbage's account of the labours of the Inventors, and his son's description of the machine containing several hundred different pieces, in the lucid notation of his father, will be found full of interest and instruction. Those two papers, the Edinburgh Review, Weld's History of the Royal Society, the Preface to Scheutz's Specimen Tables, and the Report of the Committee of the Royal Society, give the history of the two machines.

Scheutz's machine had thus passed its preliminary examination satisfactorily.

At that time it appeared to be desirable to construct a new Life Table from the materials accumulated at the General Register Office by the registration of births and deaths in seventeen years (1838–1854), and by the two enumerations of the population of England and Wales in 1841 and 1851.* The Tables for single lives, and the various combinations of joint lives, male and female, involve a great deal of numerical computation; and as it was found that the calculations of the series, thrown into a form which is described elsewhere,† could be performed by the machine, the Registrar General was pleased to bring the matter under the notice of Sir George Lewis, then Secretary of State for the Home Department.

And in doing so he pointed out the importance which had been justly attached by the most eminent scientific men of the country, by Her Majesty's Government, and by Parliament, to the machine of Mr. Babbage, for which, though it had not been completed, 17,000*l.* of money had been granted, besides the money expended by Mr. Babbage himself.‡ Here was a machine in working order, suggested to its Inventors by the English machine, and which Mr. Scheutz and the Messrs. Donkin offered to construct, with several improvements, for 1,200*l.*, of which the interest at 5 per cent. was 60*l.* a year. The Astronomer Royal concurred with the Registrar General in advising Her Majesty's Government to order a new machine; and accordingly the contract was entered into, and a machine was constructed by the Messrs. Donkin from Mr. Scheutz's drawings, superior, as it was reported to the Registrar General, to the first machine.

In constructing a new machine of many pieces, to execute a great number of exact movements, several new tools were required, and the workmen had to be specially instructed. This involved expense, from which the Messrs. Donkin, however, did not shrink.

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* Deaths 6,470,720, with ages distinguished.

† Paper presented to the Royal Society, March 17, read April 7, 1859. See Transactions of that year.

‡ The following statement occurs in Mr. Babbage's "Passages from the Life of a Philosopher":—"As to "the expense actually incurred upon the first Difference Engine, that of the Government was about 17,000*l.* "On my own part and out of my own private resources I have sacrificed upon this and other works of "science upwards of 20,000*l.*" (p. 103.)

The machine has been extensively tried, and it has, upon the whole, answered every expectation. But it is a delicate instrument, and requires considerable skill in the manipulation. It consists of a multitude of pieces, and some of these occasionally get deranged, so as to print errors, which can, however, by a due system of checks, be almost invariably detected and rectified. It approaches infallibility in certain respects, but it is not infallible, except in very skilful hands. The weakest point of the machine is the printing apparatus, and that admits of evident improvement.

The machine calculates and prints series of a particular kind, and to the execution of these operations its utility is therefore limited. Its scope is less ambitious than the new analytical machine for which Mr. Babbage abandoned his first invention, as that machine seeks to embrace the whole field of analysis.*

The machine simply performs the operation of addition, but by various expedients the other arithmetical operations can be reduced to this elementary process. Thus the machine, by adding the arithmetical complement of a number to another, virtually produces the same result as by direct subtraction. For subtracting 0·0293838 from 9·8530811 we have 9·8236973. Now the arithmetical complement of 0·0293838, obtained by subtracting it from 10·0000000, is 9·9706162 ; so the machine adding this to the number gives the following result :

$$\begin{array}{r} 9\cdot8530811 \\ +\text{arithmetical complement of } 0\cdot0293838=9\cdot9706162 \\ \hline 19\cdot8236973 \end{array}$$

It is *ten* more than that obtained by direct subtraction ; and the machine *does not* print the *ten,* so it disappears from the result. *Subtraction* by this simple expedient is performed by the same operations as *addition ;* so by introducing logarithms and their complements, with proper Tables, multiplication and division are also reduced to the same operations as addition.

The calculations for the English Life Table are brought within the compass of the machine at the General Register Office by a method which we will now describe as plainly as possible, and which is based on that of finite differences discovered by Newton.

The machine will not calculate the series of double square numbers $1^4$ ; $2^4$ ; $3^4$ ; $4^4$ ; general term $x^4$ ; or 1, 18, 81, 256, 625, &c. directly by multiplication ; but if the differences of these numbers are taken four times, the fourth order of differences will be found constant. They run thus :

| $x$ | (The Function.)<br>$xxxx=x^4$ | $\delta^1$ | $\delta^2$ | $\delta^3$ | $\delta^4$ |
|---|---|---|---|---|---|
| 1 | 1 | 15 | 50 | 60 | 24 |
| 2 | 16 | 65 | 110 | 84 | 24 |
| 3 | 81 | 175 | 194 | 108 | |
| 4 | 256 | 369 | 302 | | |
| 5 | 625 | 671 | | | |
| 6 | 1296 | | | | |

There is a row of calculating wheels for the Function, and a row for each of the four orders of differences ; each wheel being figured 0, 1, 2, 3, 4, 5, 6, 7, 8, 9. These are set. And thus this series may be continued to any extent, by adding the constant numbers of $\delta^4$ to those of $\delta^3$ ; those under $\delta^3$ to $\delta^2$ ; those under $\delta^2$ to $\delta^1$ ; those under $\delta^1$ to 1, 16, &c.

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* See a Paper in the Transactions of the British Association.

called the function, or the series of double squares. The machine performs all these additions, and stereoglyphs the series in a leaden or a papier-mâché mould, which serves for stereotyping.

To calculate Interest Tables a series of this kind is required; namely, 1 divided by 1·03, and the quotient again divided by 1·03, &c., so on 100 times. Thus the value of 1*l.* payable at the end of one year, of 1*l.* payable at the end of two years, of three years, four years, &c., is found, reckoning the interest of money at 3 per cent. Now the machine will not perform these divisions, and will not therefore give the numbers directly, but it will calculate the logarithms of these numbers by inserting 0·0000000,5000000 in the function wheels, and constantly adding to it $\delta^1$=9·987162[7],7529484. The machine prints 0·0000000; 9·9871628; 9·9743256; and the other logarithms in pages 6 and 7 of the volume. It will be observed that the bracketed figure [7] is augmented by the machine, and becomes 8. In truth it is followed by a 7; and as 7·7 is nearer to 8·0 than to 7·0, the correction is necessary to make the approximation as near the truth as is possible, with seven decimals. By a very simple arrangement in the setting—that is, by substituting, as above, 5 for the eighth 0 from the decimal point in the first number of the function—the machine effects all the corrections usual in such cases; thus, 7,0; 7,1; 7,2; 7,3; 7,4 are printed as 7, and 7,5; 7,6; 7,7; 7,8; 7,9 are printed 8 in the seventh decimal place.

The book of logarithms gives, in the corresponding numbers, the value of 1*l.* payable at the end of each year. Thus the value of £1·000 000 payable after the lapse of a year is, ·970,874*l.*; payable after the lapse of 2 years, ·942,596*l.*; payable after the lapse of 3 years, ·915,142*l.*; and so on. The sum of 20 of these successive values is the value of an annuity certain for 20 years, and so on for any other number of years. The interest is here taken at 3 per cent. The values for other rates of interest are calculated in the same way by the machine.

There are many series, of which the fourth difference is not constant; yet the error from the neglect of the subsequent orders of differences is so small, that the series is calculated correctly within required degrees of accuracy, by dividing the long series into periods. This is the case with logarithms, which from given sets of four orders of differences can be calculated by the machine.

Such also is the series of logarithms of the probabilities of living a year after any given age. The chance of living a year increases from birth to the age of 12, 13, or 14; and then it decreases at increasing rates, not like interest, however, in simple geometrical ratios, otherwise the series could be calculated by one order of logarithmic differences. Three orders of logarithmic differences are required; and by making the logarithms of the probability of living a year the first order of differences, the other orders becoming the 2d, 3d, and 4th, we get the series of logarithms corresponding to the numbers out of a given number born, attaining each year of age. The machine has calculated a Table of this kind, showing the numbers living at the end of every quarter of a year of age.

By combining these series for males and females with the interest logarithmic series, and again with each other, the mean duration of life is determined, as well as the value of annuities on one or two lives of the same or of different ages. These Tables have been calculated by the machine, at certain rates of interest.

The art is to shape the formulas and the numerical operations so that they can be executed by the machine.

The following example arranged by Mr. Lewis of this Department displays the method of calculating the Column $\lambda l_x$ Males from the age 20 to 50, and gives some idea of the way in which the Machine has been rendered available in the production of this Volume of Tables.

Referring to the Table of Differences on the next page, it will be seen that the original Differences for the Male ages 20–50 are these :—

$$\begin{aligned}\text{Function} = \lambda l_{20} &= 5{\cdot}5232361,0000\\ \lambda p_{20}=\delta^1 &= 9{\cdot}9963874,0000\\ \delta^2 &= 9{\cdot}9999196,4155\\ \delta^3 &= 0{\cdot}0000026,4330\\ \delta^4 &= 9{\cdot}9999991,6530\end{aligned}$$

but when they are ready for the machine they are arranged in the following order :

$u_x = \lambda l_{20} = u_{20} = 5{\cdot}5232361,5000$

$\delta^1_{x-1} = \lambda p_{19} = \delta^1_{19} = 9{\cdot}9964712,3645$
$\delta^2_{x-1} = \delta^2_{19} = 9{\cdot}9999161,6355$
} These two differences are taken from those against age 19

$\delta^3_{x-2} = \delta^3_{18} = 0{\cdot}0000043,1270$
$\delta^4_{x-2} = \delta^4_{18} = 9{\cdot}9999991,6530$
} These two differences are taken from those against age 18

$\delta^4$ being *constant* remains unchanged.

$u_{20}$ is then placed upon the first or *Function* row of figure wheels in the machine, $\delta^1_{19}$ on the second row, $\delta^2_{19}$ on the third row, and so on.

The handle of the machine is then turned, and the effect of the first half-stroke is that the numbers on the third and fifth rows ($\delta^2$ & $\delta^4$) are added to those on the rows immediately above them ($\delta^1$ & $\delta^3$) ; the second half-stroke adds the *new* numbers on $\delta^1$ & $\delta^3$ to the numbers on the $u_{20}$ and $\delta^2$, and thus gives $u_{21}$ as the result of a complete forward and backward motion of the machine.

The way in which the machine adds the differences together will be rendered more intelligible by the example here given :

| Figure Wheels. | Machine as set. | | After the forward motion. | After the backward motion. | |
|---|---|---|---|---|---|
| 1st row ... | $u_{20}$ = | $5{\cdot}5232361,5000$ | $5{\cdot}5232361,5000$ | $5{\cdot}5197135,5000$ | = $u_{21}$ |
| 2d row ... | $\delta^1_{19}$ = | $9{\cdot}9964712,3645$ | $9{\cdot}9963874,0000$ | $9{\cdot}9963874,0000$ | = $\delta^1_{20}$ |
| 3d row ... | $\delta^2_{19}$ = | $9{\cdot}9999161,6355$ | $9{\cdot}9999161,6355$ | $9{\cdot}9999196,4155$ | = $\delta^2_{20}$ |
| 4th row ... | $\delta^3_{18}$ = | $0{\cdot}0000043,1270$ | $0{\cdot}0000034,7800$ | $0{\cdot}0000034,7800$ | = $\delta^3_{19}$ |
| 5th row ... | $\delta^4_{18}$ = | $9{\cdot}9999991,6530$ | $9{\cdot}9999991,6530$ | $9{\cdot}9999991,6530$ | = $\delta^4_{19}$ |

All that is necessary, therefore, when the differences have been once transferred to the machine, is to turn the handle until the requisite number of values of $u_x$ is obtained.

## TABLE 1.—ENGLISH LIFE TABLE No. 3.—DIFFERENCES for interpolating the Logarithms of the Series $l_x$.

| MALES. | | | | FEMALES. | | | |
|---|---|---|---|---|---|---|---|
| ORIGINAL DIFFERENCES. | | MACHINE DIFFERENCES. | | ORIGINAL DIFFERENCES. | | MACHINE DIFFERENCES. | |
| First Series; Ages 0 to 2 (inclusive). | | | | First Series; Ages 0 to 2 (inclusive). | | | |
| | | $U_0$ | 5·7090538,5000 | | | $U_0$ | 5·6886465,5000 |
| $\delta^1$ | 9·9224164,0000 | $\delta^1_{-1}$ | 9·8381414,0000 | $\delta^1$ | 9·9371604,0000 | $\delta^1_{-1}$ | 9·8791136,0000 |
| $\delta^2$ | 0·0487213,0000 | $\delta^2_{-1}$ | 0·0842750,0000 | $\delta^2$ | 0·0350806,0000 | $\delta^2_{-1}$ | 0·0580468,0000 |
| $\delta^3$ | 9·9644463,0000 | $\delta^3_{-2}$ | 9·9644463,0000 | $\delta^3$ | 9·9770338,0000 | $\delta^3_{-2}$ | 9·9770338,0000 |
| $\delta^4$ | 0·0000000,0000 | $\delta^1_{-2}$ | 0·0000000,0000 | $\delta^1$ | 0·0000000,0000 | $\delta^1_{-2}$ | 0·0000000,0000 |
| Second Series; Ages 3 to 6. | | | | Second Series; Ages 3 to 6. | | | |
| $\delta^1$ | 9·9895169,0000 | $\delta^1_{-1}$ | 9·9858742,0000 | $\delta^1$ | 9·9893710,0000 | $\delta^1_{-1}$ | 9·9853575,4167 |
| $\delta^2$ | 0·0026744,0000 | $\delta^2_{-1}$ | 0·0036427,0000 | $\delta^2$ | 0·0028813,0000 | $\delta^2_{-1}$ | 0·0040134,5833 |
| $\delta^3$ | 9·9991916,7000 | $\delta^3_{-2}$ | 9·9988717,3000 | $\delta^3$ | 9·9990614,3667 | $\delta^3_{-2}$ | 9·9986742,4667 |
| $\delta^4$ | 0·0001599,7000 | $\delta^1_{-2}$ | 0·0001599,7000 | $\delta^4$ | 0·0001935,9500 | $\delta^4_{-2}$ | 0·0001935,9500 |
| Third Series; Ages 7 to 19. | | | | Third Series; Ages 7 to 19. | | | |
| $\delta^1$ | 9·9960044,0000 | $\delta^1_{-1}$ | 9·9951697,2323 | $\delta^1$ | 9·9960392,0000 | $\delta^1_{-1}$ | 9·9952729,9561 |
| $\delta^2$ | 0·0006668,2377 | $\delta^2_{-1}$ | 0·0008346,7677 | $\delta^2$ | 0·0006103,1262 | $\delta^2_{-1}$ | 0·0007662,0439 |
| $\delta^3$ | 9·9998453,5257 | $\delta^3_{-2}$ | 9·9998189,4143 | $\delta^3$ | 9·9998563,3596 | $\delta^3_{-2}$ | 9·9998318,8050 |
| $\delta^4$ | 0·0000132,0557 | $\delta^1_{-2}$ | 0·0000132,0557 | $\delta^4$ | 0·0000122,2773 | $\delta^1_{-2}$ | 0·0000122,2773 |
| Fourth Series; Ages 20 to 50. | | | | Fourth Series; Ages 20 to 53. | | | |
| $\delta^1$ | 9·9963874,0000 | $\delta^1_{-1}$ | 9·9964712,3645 | $\delta^1$ | 9·9962646,0000 | $\delta^1_{-1}$ | 9·9963659,5390 |
| $\delta^2$ | 9·9999196,4155 | $\delta^2_{-1}$ | 9·9999161,6355 | $\delta^2$ | 9·9999024,8110 | $\delta^2_{-1}$ | 9·9998986,4610 |
| $\delta^3$ | 0·0000026,4330 | $\delta^3_{-2}$ | 0·0000043,1270 | $\delta^3$ | 0·0000033,6660 | $\delta^3_{-2}$ | 0·0000043,0340 |
| $\delta^4$ | 9·9999991,6530 | $\delta^4_{-2}$ | 9·9999991,6530 | $\delta^4$ | 9·9999995,3160 | $\delta^4_{-2}$ | 9·9999995,3160 |
| Fifth Series; Ages 51 to 109. | | | | Fifth Series; Ages 54 to 109. | | | |
| $\delta^1$ | 9·9911289,3230 | $\delta^1_{-1}$ | 9·9915671,0000 | $\delta^1$ | 9·9913715,1440 | $\delta^1_{-1}$ | 9·9919360,8295 |
| $\delta^2$ | 9·9995551,0210 | $\delta^2_{-1}$ | 9·9995618,3230 | $\delta^2$ | 9·9994204,1685 | $\delta^2_{-1}$ | 9·9994354,3145 |
| $\delta^3$ | 9·9999829,4260 | $\delta^3_{-2}$ | 0·0000035,9700 | $\delta^3$ | 9·9999740,4550 | $\delta^3_{-2}$ | 9·9999959,2530 |
| $\delta^4$ | 9·9999896,7280 | $\delta^4_{-2}$ | 9·9999896,7280 | $\delta^4$ | 9·9999890,6010 | $\delta^4_{-2}$ | 9·9999890,6010 |

**Note.**—The differences used to interpolate the series $\lambda D_x$ ($= \lambda v^x l_x$) are the same as are used in the series $\lambda l_x$, excepting that to $\delta^1_{-1}$ the logarithm of $v$ for the various rates of interest is added: thus the $\delta^1_x = p_x v^1$ in every term of the series.

For the JOINT LIVES *half* the logarithm of $v$ ($= \lambda v^{\frac{1}{2}}$) is added to $\delta^1_{-1}$ of the $\lambda l_x$ series, the differences of the other orders remaining unaltered. The Male and Female Table and the Two-Male Table are interpolated by means of the differences of the series $\lambda l_x$ for males, and the Two-Female Table by the differences of the series $\lambda l_x$ for females.

TABLE 2.—BINOMIAL CO-EFFICIENTS for POSITIVE and INTEGRAL EXPONENTS.

| Binomial Exponent. $n$ | Number of Binomial Term. | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | | Combinations $m$ by $m$ out of $n$ things. | | | | | |
| | | $m=1$ | 2 | 3 | 4 | 5 | $6=m$ |
| **0** | 1 | ... | ... | ... | ... | ... | ... |
| **1** | 1 | 1 | ... | ... | ... | ... | ... |
| **2** | 1 | 2 | 1 | ... | ... | ... | ... |
| **3** | 1 | 3 | 3 | 1 | ... | ... | ... |
| **4** | 1 | 4 | 6 | 4 | 1 | ... | ... |
| **5** | 1 | 5 | 10 | 10 | 5 | 1 | ... |
| **6** | 1 | 6 | 15 | 20 | 15 | 6 | 1 |
| **7** | 1 | 7 | 21 | 35 | 35 | 21 | 7 |
| **8** | 1 | 8 | 28 | 56 | 70 | 56 | 28 |
| **9** | 1 | 9 | 36 | 84 | 126 | 126 | 84 |
| **10** | 1 | 10 | 45 | 120 | 210 | 252 | 210 |
| **11** | 1 | 11 | 55 | 165 | 330 | 462 | 462 |
| **12** | 1 | 12 | 66 | 220 | 495 | 792 | 924 |
| **13** | 1 | 13 | 78 | 286 | 715 | 1,287 | 1,716 |
| **14** | 1 | 14 | 91 | 364 | 1,001 | 2,002 | 3,003 |
| **15** | 1 | 15 | 105 | 455 | 1,365 | 3,003 | 5,005 |
| **16** | 1 | 16 | 120 | 560 | 1,820 | 4,368 | 8,008 |
| **17** | 1 | 17 | 136 | 680 | 2,380 | 6,188 | 12,376 |
| **18** | 1 | 18 | 153 | 816 | 3,060 | 8,568 | 18,564 |
| **19** | 1 | 19 | 171 | 969 | 3,876 | 11,628 | 27,132 |
| **20** | 1 | 20 | 190 | 1,140 | 4,845 | 15,504 | 38,760 |
| **21** | 1 | 21 | 210 | 1,330 | 5,985 | 20,349 | 54,264 |
| **22** | 1 | 22 | 231 | 1,540 | 7,315 | 26,334 | 74,613 |
| **23** | 1 | 23 | 253 | 1,771 | 8,855 | 33,649 | 100,947 |
| **24** | 1 | 24 | 276 | 2,024 | 10,626 | 42,504 | 134,596 |
| **25** | 1 | 25 | 300 | 2,300 | 12,650 | 53,130 | 177,100 |
| **26** | 1 | 26 | 325 | 2,600 | 14,950 | 65,780 | 230,230 |
| **27** | 1 | 27 | 351 | 2,925 | 17,550 | 80,730 | 296,010 |
| **28** | 1 | 28 | 378 | 3,276 | 20,475 | 98,280 | 376,740 |
| **29** | 1 | 29 | 406 | 3,654 | 23,751 | 118,755 | 475,020 |
| **30** | 1 | 30 | 435 | 4,060 | 27,405 | 142,506 | 593,775 |
| **31** | 1 | 31 | 465 | 4,495 | 31,465 | 169,911 | 736,281 |
| **32** | 1 | 32 | 496 | 4,960 | 35,960 | 201,376 | 906,192 |
| **33** | 1 | 33 | 528 | 5,456 | 40,920 | 237,336 | 1,107.568 |
| **34** | 1 | 34 | 561 | 5,984 | 46,376 | 278,256 | 1,344,904 |
| **35** | 1 | 35 | 595 | 6,545 | 52,360 | 324,632 | 1,623,160 |
| **36** | 1 | 36 | 630 | 7,140 | 58,905 | 376,992 | 1,947,792 |
| **37** | 1 | 37 | 666 | 7,770 | 66,045 | 435,897 | 2,324,784 |
| **38** | 1 | 38 | 703 | 8,436 | 73,815 | 501,942 | 2,760,681 |
| **39** | 1 | 39 | 741 | 9,139 | 82,251 | 575,757 | 3,262,623 |
| **40** | 1 | 40 | 780 | 9,880 | 91,390 | 658,008 | 3,838,380 |
| **41** | 1 | 41 | 820 | 10,660 | 101,270 | 749,398 | 4,496,388 |
| **42** | 1 | 42 | 861 | 11,480 | 111,930 | 850,668 | 5,245,786 |
| **43** | 1 | 43 | 903 | 12,341 | 123,410 | 962,598 | 6,096,454 |
| **44** | 1 | 44 | 946 | 13,244 | 135,751 | 1,086,008 | 7,059,052 |
| **45** | 1 | 45 | 990 | 14,190 | 148,995 | 1,221,759 | 8,145,060 |
| **46** | 1 | 46 | 1,035 | 15,180 | 163,185 | 1,370,754 | 9,366,819 |
| **47** | 1 | 47 | 1,081 | 16,215 | 178,365 | 1,533,939 | 10,737,573 |
| **48** | 1 | 48 | 1,128 | 17,296 | 194,580 | 1,712,304 | 12,271,512 |
| **49** | 1 | 49 | 1,176 | 18,424 | 211,876 | 1,906,884 | 13,983,816 |

General Formula :—When $n$ is any positive and integral number less than 101 the Table supplies the Co-efficients.

$$(a + b)^n = a^n + \frac{n}{1} \cdot a^{n-1} b + \frac{n\,(n-1)}{1 \cdot 2} \cdot a^{n-2} b^2 + \frac{n\,(n-1)\,(n-2)}{1.2.3} \cdot a^{n-3} b^3 \ldots\ldots\ldots$$

TABLE 2.—BINOMIAL CO-EFFICIENTS for POSITIVE and INTEGRAL EXPONENTS—*Continued.*

| **Binomial Exponent.** | **Number of Binomial Term.** | | | | | | |
|---|---|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** |
| | | Combinations $m$ by $m$ out of $n$ things. | | | | | |
| $n$ | | $m=1$ | 2 | 3 | 4 | 5 | $6=m$ |
| **50** | 1 | 50 | 1,225 | 19,600 | 230,300 | 2,118,760 | 15,890,700 |
| **51** | 1 | 51 | 1,275 | 20,825 | 249,900 | 2,349,060 | 18,009,460 |
| **52** | 1 | 52 | 1,326 | 22,100 | 270,725 | 2,598,960 | 20,358,520 |
| **53** | 1 | 53 | 1,378 | 23,426 | 292,825 | 2,869,685 | 22,957,480 |
| **54** | 1 | 54 | 1,431 | 24,804 | 316,251 | 3,162,510 | 25,827,165 |
| **55** | 1 | 55 | 1,485 | 26,235 | 341,055 | 3,478,761 | 28,989,675 |
| **56** | 1 | 56 | 1,540 | 27,720 | 367,290 | 3,819,816 | 32,468,436 |
| **57** | 1 | 57 | 1,596 | 29,260 | 395,010 | 4,187,106 | 36,288,252 |
| **58** | 1 | 58 | 1,653 | 30,856 | 424,270 | 4,582,116 | 40,475,358 |
| **59** | 1 | 59 | 1,711 | 32,509 | 455,126 | 5,006,386 | 45,057,474 |
| **60** | 1 | 60 | 1,770 | 34,220 | 487,635 | 5,461,512 | 50,063,860 |
| **61** | 1 | 61 | 1,830 | 35,990 | 521,855 | 5,949,147 | 55,525,372 |
| **62** | 1 | 62 | 1,891 | 37,820 | 557,845 | 6,471,002 | 61,474,519 |
| **63** | 1 | 63 | 1,953 | 39,711 | 595,665 | 7,028,847 | 67,945,521 |
| **64** | 1 | 64 | 2,016 | 41,664 | 635,376 | 7,624,512 | 74,974,368 |
| **65** | 1 | 65 | 2,080 | 43,680 | 677,040 | 8,259,888 | 82,598,880 |
| **66** | 1 | 66 | 2,145 | 45,760 | 720,720 | 8,936,928 | 90,858,768 |
| **67** | 1 | 67 | 2,211 | 47,905 | 766,480 | 9,657,648 | 99,795,696 |
| **68** | 1 | 68 | 2,278 | 50,116 | 814,385 | 10,424,128 | 109,453,344 |
| **69** | 1 | 69 | 2,346 | 52,394 | 864,501 | 11,238,513 | 119,877,472 |
| **70** | 1 | 70 | 2,415 | 54,740 | 916,895 | 12,103,014 | 131,115,985 |
| **71** | 1 | 71 | 2,485 | 57,155 | 971,635 | 13,019,909 | 143,218,999 |
| **72** | 1 | 72 | 2,556 | 59,640 | 1,028,790 | 13,991,544 | 156,238,908 |
| **73** | 1 | 73 | 2,628 | 62,196 | 1,088,430 | 15,020,334 | 170,230,452 |
| **74** | 1 | 74 | 2,701 | 64,824 | 1,150,626 | 16,108,764 | 185,250,786 |
| **75** | 1 | 75 | 2,775 | 67,525 | 1,215,450 | 17,259,390 | 201,359,550 |
| **76** | 1 | 76 | 2,850 | 70,300 | 1,282,975 | 18,474,840 | 218,618,940 |
| **77** | 1 | 77 | 2,926 | 73,150 | 1,353,275 | 19,757,815 | 237,093,780 |
| **78** | 1 | 78 | 3,003 | 76,076 | 1,426,425 | 21,111,090 | 256,851,595 |
| **79** | 1 | 79 | 3,081 | 79,079 | 1,502,501 | 22,537,515 | 277,962,685 |
| **80** | 1 | 80 | 3,160 | 82,160 | 1,581,580 | 24,040,016 | 300,500,200 |
| **81** | 1 | 81 | 3,240 | 85,320 | 1,663,740 | 25,621,596 | 324,540,216 |
| **82** | 1 | 82 | 3,321 | 88,560 | 1,749,060 | 27,285,336 | 350,161,812 |
| **83** | 1 | 83 | 3,403 | 91,881 | 1,837,620 | 29,034,396 | 377,447,148 |
| **84** | 1 | 84 | 3,486 | 95,284 | 1,929,501 | 30,872,016 | 406,481,544 |
| **85** | 1 | 85 | 3,570 | 98,770 | 2,024,785 | 32,801,517 | 437,353,560 |
| **86** | 1 | 86 | 3,655 | 102,340 | 2,123,555 | 34,826,302 | 470,155,077 |
| **87** | 1 | 87 | 3,741 | 105,995 | 2,225,895 | 36,949,857 | 504,981,379 |
| **88** | 1 | 88 | 3,828 | 109,736 | 2,331,890 | 39,175,752 | 541,931,236 |
| **89** | 1 | 89 | 3,916 | 113,564 | 2,441,626 | 41,507,642 | 581,106,988 |
| **90** | 1 | 90 | 4,005 | 117,480 | 2,555,190 | 43,949,268 | 622,614,630 |
| **91** | 1 | 91 | 4,095 | 121,485 | 2,672,670 | 46,504,458 | 666,563,898 |
| **92** | 1 | 92 | 4,186 | 125,580 | 2,794,155 | 49,177,128 | 713,068,356 |
| **93** | 1 | 93 | 4,278 | 129,766 | 2,919,735 | 51,971,283 | 762,245,484 |
| **94** | 1 | 94 | 4,371 | 134,044 | 3,049,501 | 54,891,018 | 814,216,767 |
| **95** | 1 | 95 | 4,465 | 138,415 | 3,183,545 | 57,940,519 | 869,107,785 |
| **96** | 1 | 96 | 4,560 | 142,880 | 3,321,960 | 61,124,064 | 927,048,304 |
| **97** | 1 | 97 | 4,656 | 147,440 | 3,464,840 | 64,446,024 | 988,172,368 |
| **98** | 1 | 98 | 4,753 | 152,096 | 3,612,280 | 67,910,864 | 1,052,618,392 |
| **99** | 1 | 99 | 4,851 | 156,849 | 3,764,376 | 71,523,144 | 1,120,529,256 |
| **100** | 1 | 100 | 4,950 | 161,700 | 3,921,225 | 75,287,520 | 1,192,052,400 |

$\frac{n\,(n-1)}{1\cdot 2}$ = combinations of $n$ things two by two : thus there are $\frac{4\cdot 3}{1\cdot 2} = 6$ combinations possible of *four* things, two by two.

$\frac{n\,(n-1)\,(n-2)\,(n-3)}{1\ .\ 2\ .\ 3\ .\ 4} = \frac{6\ .\ 5\ .\ 4\ .\ 3}{1\ .\ 2\ .\ 3\ .\ 4} = 15$ = combinations possible of *six* things, four by four.

## TABLE 3.—YEARLY TABLE :—MALES and FEMALES.

### Logarithms of the Series $d_x$.

| MALES. | | | | FEMALES. | | | |
|---|---|---|---|---|---|---|---|
| **Age** ($x$) | $\lambda\, d_x$ | **Age** ($x$) | $\lambda\, d_x$ | **Age** ($x$) | $\lambda\, d_x$ | **Age** ($x$) | $\lambda\, d_x$ |
| 0 | 4·9228240 | 55 | 3·7113010 | 0 | 4·8180543 | 55 | 3·6472851 |
| 1 | 4·4396642 | 56 | 3·7227162 | 1 | 4·4176211 | 56 | 3·6653934 |
| 2 | 4·1527469 | 57 | 3·7346398 | 2 | 4·1468409 | 57 | 3·6827766 |
| 3 | 3·9644011 | 58 | 3·7469454 | 3 | 3·9658130 | 58 | 3·6997510 |
| 4 | 3·8273046 | 59 | 3·7598189 | 4 | 3·8192806 | 59 | 3·7165042 |
| 5 | 3·7018269 | 60 | 3·7729815 | 5 | 3·6871721 | 60 | 3·7331170 |
| 6 | 3·5969268 | 61 | 3·7866095 | 6 | 3·5814945 | 61 | 3·7496590 |
| 7 | 3·5198280 | 62 | 3·8003046 | 7 | 3·5117497 | 62 | 3·7660409 |
| 8 | 3·4367985 | 63 | 3·8139144 | 8 | 3·4352071 | 63 | 3·7822576 |
| 9 | 3·3611610 | 64 | 3·8273693 | 9 | 3·3669830 | 64 | 3·7980979 |
| 10 | 3·2973227 | 65 | 3·8401688 | 10 | 3·3106933 | 65 | 3·8135143 |
| 11 | 3·2494430 | 66 | 3·8521749 | 11 | 3·2697464 | 66 | 3·8280796 |
| 12 | 3·2216750 | 67 | 3·8631443 | 12 | 3·2467447 | 67 | 3·8417973 |
| 13 | 3·2140487 | 68 | 3·8726224 | 13 | 3·2417954 | 68 | 3·8542453 |
| 14 | 3·2250507 | 69 | 3·8804134 | 14 | 3·2526103 | 69 | 3·8652225 |
| 15 | 3·2506639 | 70 | 3·8862086 | 15 | 3·2760020 | 70 | 3·8744238 |
| 16 | 3·2851070 | 71 | 3·8896378 | 16 | 3·3072820 | 71 | 3·8815558 |
| 17 | 3·3246939 | 72 | 3·8904210 | 17 | 3·3434086 | 72 | 3·8863779 |
| 18 | 3·3654880 | 73 | 3·8883480 | 18 | 3·3802112 | 73 | 3·8885165 |
| 19 | 3·4050047 | 74 | 3·8830365 | 19 | 3·4164741 | 74 | 3·8878423 |
| 20 | 3·4415380 | 75 | 3·8740757 | 20 | 3·4500951 | 75 | 3·8838317 |
| 21 | 3·4473131 | 76 | 3·8614149 | 21 | 3·4574277 | 76 | 3·8762756 |
| 22 | 3·4527062 | 77 | 3·8444772 | 22 | 3·4641914 | 77 | 3·8650447 |
| 23 | 3·4575791 | 78 | 3·8231481 | 23 | 3·4701164 | 78 | 3·8494808 |
| 24 | 3·4619485 | 79 | 3·7969904 | 24 | 3·4755259 | 79 | 3·8296254 |
| 25 | 3·4662743 | 80 | 3·7658175 | 25 | 3·4805818 | 80 | 3·8049568 |
| 26 | 3·4704105 | 81 | 3·7292458 | 26 | 3·4850112 | 81 | 3·7751734 |
| 27 | 3·4743620 | 82 | 3·6868150 | 27 | 3·4891144 | 82 | 3·7400467 |
| 28 | 3·4784222 | 83 | 3·6383894 | 28 | 3·4930396 | 83 | 3·6992305 |
| 29 | 3·4825878 | 84 | 3·5836521 | 29 | 3·4966529 | 84 | 3·6522463 |
| 30 | 3·4868554 | 85 | 3·5221833 | 30 | 3·5000992 | 85 | 3·5990092 |
| 31 | 3·4913617 | 86 | 3·4533183 | 31 | 3·5033821 | 86 | 3·5388250 |
| 32 | 3·4960990 | 87 | 3·3773063 | 32 | 3·5063697 | 87 | 3·4715851 |
| 33 | 3·5011962 | 88 | 3·2933626 | 33 | 3·5096057 | 88 | 3·3968964 |
| 34 | 3·5066403 | 89 | 3·2013971 | 34 | 3·5125510 | 89 | 3·3144992 |
| 35 | 3·5124175 | 90 | 3·1003705 | 35 | 3·5157414 | 90 | 3·2234959 |
| 36 | 3·5185139 | 91 | 2·9907827 | 36 | 3·5186455 | 91 | 3·1241781 |
| 37 | 3·5253040 | 92 | 2·8715729 | 37 | 3·5219222 | 92 | 3·0157788 |
| 38 | 3·5322446 | 93 | 2·7427251 | 38 | 3·5250448 | 93 | 2·8976271 |
| 39 | 3·5397032 | 94 | 2·6031444 | 39 | 3·5284024 | 94 | 2·7693773 |
| 40 | 3·5476517 | 95 | 2·4548449 | 40 | 3·5317343 | 95 | 2·6314438 |
| 41 | 3·5558197 | 96 | 2·2922561 | 41 | 3·5354207 | 96 | 2·4828736 |
| 42 | 3·5644293 | 97 | 2·1205739 | 42 | 3·5389506 | 97 | 2·3222193 |
| 43 | 3·5735678 | 98 | 1·9344985 | 43 | 3·5428254 | 98 | 2·1522883 |
| 44 | 3·5827450 | 99 | 1·7403627 | 44 | 3·5467894 | 99 | 1·9637878 |
| 45 | 3·5923988 | 100 | 1·5185139 | 45 | 3·5508396 | 100 | 1·7708520 |
| 46 | 3·6021686 | 101 | 1·3222193 | 46 | 3·5552154 | 101 | 1·5563025 |
| 47 | 3·6122539 | 102 | 1·0413927 | 47 | 3·5595476 | 102 | 1·3424227 |
| 48 | 3·6224213 | 103 | 0·8450980 | 48 | 3·5640740 | 103 | 1·0791812 |
| 49 | 3·6326597 | 104 | 0·4771213 | 49 | 3·5687882 | 104 | 0·8450980 |
| 50 | 3·6429589 | 105 | 0·3010300 | 50 | 3·5735678 | 105 | 0·6020600 |
| 51 | 3·6652056 | 106 | 0·0000000 | 51 | 3·5784100 | 106 | 0·3010300 |
| 52 | 3·6774244 | 107 | ... | 52 | 3·5834255 | 107 | 0·0000000 |
| 53 | 3·6888646 | 108 | ... | 53 | 3·5883838 | 108 | ... |
| 54 | 3·7000977 | 109 | ... | 54 | 3·6279800 | 109 | ... |

Table 4.—For calculating the Value of Premiums paid *continuously*, or at short intervals, through the Year, during Life, and of Policies payable at Death.

| Males :—Interest 3 per Cent. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Age | Continuous Payments. | | Payments at Death. | | Age | Continuous Payments. | | Payments at Death. | |
| $(x)$ | $P'_x$ | $Q'_x$ | $C'_x$ | $M'_x$ | $(x)$ | $P'_x$ | $Q'_x$ | $C'_x$ | $M'_x$ |
| 0 | 446,007 | 9,521,583 | 82,499·8 | 229,695·8 | 55 | 40,134 | 505,136 | 997·4 | 26,299·5 |
| 1 | 394,174 | 9,075,576 | 26,330·3 | 147,196·0 | 56 | 37,984 | 465,002 | 994·2 | 25,302·1 |
| 2 | 364,390 | 8,681,402 | 13,203·9 | 120,865·7 | 57 | 35,900 | 427,018 | 992·1 | 24,307·9 |
| 3 | 343,873 | 8,317,012 | 8,308·4 | 107,661·8 | 58 | 33,877 | 391,118 | 990·9 | 23,315·8 |
| 4 | 326,983 | 7,973,139 | 5,882·8 | 99,353·4 | 59 | 31,914 | 357,241 | 990·9 | 22,324·9 |
| 5 | 312,539 | 7,646,156 | 4,278·3 | 93,470·6 | 60 | 30,008 | 325,327 | 991·7 | 21,334·0 |
| 6 | 299,781 | 7,333,617 | 3,262·4 | 89,192·3 | 61 | 28,156 | 295,319 | 993·5 | 20,342·3 |
| 7 | 288,158 | 7,033,836 | 2,652·1 | 85,929·9 | 62 | 26,356 | 267,163 | 995·5 | 19,348·8 |
| 8 | 277,429 | 6,745,678 | 2,126·8 | 83,277·8 | 63 | 24,607 | 240,807 | 997·2 | 18,353·3 |
| 9 | 267,461 | 6,468,249 | 1,734·8 | 81,151·0 | 64 | 22,907 | 216,200 | 998·7 | 17,356·1 |
| 10 | 258,112 | 6,200,788 | 1,454·0 | 79,416·2 | 65 | 21,255 | 193,293 | 998·6 | 16,357·4 |
| 11 | 249,265 | 5,942,676 | 1,264·3 | 77,962·2 | 66 | 19,653 | 172,038 | 996·7 | 15,358·8 |
| 12 | 240,823 | 5,693,411 | 1,151·5 | 76,697·9 | 67 | 18,100 | 152,385 | 992·4 | 14,362·1 |
| 13 | 232,707 | 5,452,588 | 1,098·5 | 75,546·4 | 68 | 16,599 | 134,285 | 984·7 | 13,369·7 |
| 14 | 224,854 | 5,219,881 | 1,093·9 | 74,447·9 | 69 | 15,150 | 117,686 | 973·4 | 12,385·0 |
| 15 | 217,215 | 4,995,027 | 1,126·5 | 73,354·0 | 70 | 13,757 | 102,536 | 957·7 | 11,411·6 |
| 16 | 209,753 | 4,777,812 | 1,184·0 | 72,227·5 | 71 | 12,422 | 88,779 | 937·2 | 10,453·9 |
| 17 | 202,441 | 4,568,059 | 1,259·2 | 71,043·5 | 72 | 11,149 | 76,357 | 911·5 | 9,516·7 |
| 18 | 195,263 | 4,365,618 | 1,342·9 | 69,784·3 | 73 | 9,940 | 65,208 | 880·8 | 8,605·2 |
| 19 | 188,211 | 4,170,355 | 1,428·0 | 68,441·4 | 74 | 8,800 | 55,268 | 844·7 | 7,724·4 |
| 20 | 181,269 | 3,982,144 | 1,508·1 | 67,013·4 | 75 | 7,731 | 46,468 | 803·4 | 6,879·7 |
| 21 | 174,515 | 3,800,875 | 1,483·7 | 65,505·3 | 76 | 6,736 | 38,737 | 757·6 | 6,076·3 |
| 22 | 167,983 | 3,626,360 | 1,458·5 | 64,021·6 | 77 | 5,818 | 32,001 | 707·4 | 5,318·7 |
| 23 | 161,666 | 3,458,377 | 1,432·0 | 62,563·1 | 78 | 4,978 | 26,183 | 653·8 | 4,611·3 |
| 24 | 155,560 | 3,296,711 | 1,404·4 | 61,131·1 | 79 | 4,216 | 21,205 | 597·7 | 3,957·5 |
| 25 | 149,658 | 3,141,151 | 1,377·1 | 59,726·7 | 80 | 3,532 | 16,989 | 540·1 | 3,359·8 |
| 26 | 143,956 | 2,991,493 | 1,349·8 | 58,349·6 | 81 | 2,926 | 13,457 | 482·0 | 2,819·7 |
| 27 | 138,447 | 2,847,537 | 1,322·5 | 56,999·8 | 82 | 2,394 | 10,531 | 424·4 | 2,337·7 |
| 28 | 133,124 | 2,709,090 | 1,296·0 | 55,677·3 | 83 | 1,934 | 8,137 | 368·6 | 1,913·3 |
| 29 | 127,983 | 2,575,966 | 1,270·4 | 54,381·3 | 84 | 1,541 | 6,203 | 315·5 | 1,544·7 |
| 30 | 123,016 | 2,447,983 | 1,245·6 | 53,110·9 | 85 | 1,210 | 4,662 | 265·9 | 1,229·2 |
| 31 | 118,217 | 2,324,967 | 1,221·9 | 51,865·3 | 86 | 936 | 3,452 | 220·3 | 963 3 |
| 32 | 113,581 | 2,206,750 | 1,199·3 | 50,643·4 | 87 | 712 | 2,516 | 179·5 | 743·0 |
| 33 | 109,102 | 2,093,169 | 1,178·1 | 49,444·1 | 88 | 533 | 1,804 | 143·7 | 563·5 |
| 34 | 104,773 | 1,984,067 | 1,158·3 | 48,266·0 | 89 | 392 | 1,271 | 112·9 | 419·8 |
| 35 | 100,590 | 1,879,294 | 1,139·6 | 47,107·7 | 90 | 283 | 879 | 86·8 | 306·9 |
| 36 | 96,546 | 1,778,704 | 1,122·0 | 45,968·1 | 91 | 200 | 596 | 65·5 | 220·1 |
| 37 | 92,636 | 1,682,158 | 1,106·5 | 44,846·1 | 92 | 139 | 396 | 48·3 | 154·6 |
| 38 | 88,855 | 1,589,522 | 1,091·6 | 43,739·6 | 93 | 94 | 257 | 34·9 | 106·3 |
| 39 | 85,198 | 1,500,667 | 1,078·2 | 42,648·0 | 94 | 62 | 163 | 24·6 | 71·4 |
| 40 | 81,661 | 1,415,469 | 1,066·1 | 41,569·8 | 95 | 40 | 101 | 16·9 | 46·8 |
| 41 | 78,238 | 1,333,808 | 1,054·7 | 40,503·7 | 96 | 25 | 61 | 11·3 | 29·9 |
| 42 | 74,925 | 1,255,570 | 1,044·5 | 39,449·0 | 97 | 16 | 36 | 7·4 | 18·6 |
| 43 | 71,718 | 1,180,645 | 1,035·6 | 38,404·5 | 98 | 9 | 20 | 4·7 | 11·2 |
| 44 | 68,613 | 1,108,927 | 1,026·9 | 37,368·9 | 99 | 5 | 11 | 2·9 | 6·5 |
| 45 | 65,606 | 1,040,314 | 1,019·4 | 36,342·0 | 100 | 3 | 6 | 1·7 | 3·6 |
| 46 | 62,695 | 974,708 | 1,012·2 | 35,322·6 | 101 | 2 | 3 | 1·0 | 1·9 |
| 47 | 59,874 | 912,013 | 1,005·8 | 34,310·4 | 102 | 1 | 1 | ·5 | ·9 |
| 48 | 57,142 | 852,139 | 999·7 | 33,304·6 | 103 | ... | ... | ·3 | ·4 |
| 49 | 54,496 | 794,997 | 993·7 | 32,304·9 | 104 | ... | ... | ·1 | ·1 |
| 50 | 51,933 | 740,501 | 987·9 | 31,311·2 | | | | | |
| 51 | 49,436 | 688,568 | 1,009·6 | 30,323·3 | | | | | |
| 52 | 47,002 | 639,132 | 1,008·1 | 29,313·7 | | | | | |
| 53 | 44,641 | 592,130 | 1,004·9 | 28,305·6 | | | | | |
| 54 | 42,353 | 547,489 | 1,001·2 | 27,300·7 | | | | | |

$$Q'_x = P'_x + P'_{x+1} + P'_{x+2} - - - - - - - - - + P'_{x+102}$$
$$M'_x = C'_x + C'_{x+1} + C'_{x+2} - - - - - - - - - + C'_{x+104}$$

## TABLE 5.—LOGARITHMS for calculating the VALUE of PREMIUMS paid *continuously*, or at short intervals, through the year, during Life, and of POLICIES payable at Death.

### MALES :—Interest 3 per Cent.

| **Age** | Continuous Payments. | | Payments at Death. | | **Age** | Continuous Payments. | | Payments at Death. | |
|---|---|---|---|---|---|---|---|---|---|
| ($x$) | $\lambda P'_x$ | $\lambda Q'_x$ | $\lambda C'_x$ | $\lambda M'_x$ | ($x$) | $\lambda P'_x$ | $\lambda Q'_x$ | $\lambda C'_x$ | $\lambda M'_x$ |
| 0 | 5·6493413 | 6·9787091 | 4·9164528 | 5·3611531 | 55 | 4·6035173 | 5·7034084 | 2·9988824 | 4·4199475 |
| 1 | 5·5956875 | 6·9578742 | 4·4204558 | 5·1678960 | 56 | 4·5796049 | 5·6674549 | 2·9974604 | 4·4031566 |
| 2 | 5·5615662 | 6·9385899 | 4·1207012 | 5·0823031 | 57 | 4·5550895 | 5·6304462 | 2·9965468 | 4·3857474 |
| 3 | 5·5363977 | 6·9199673 | 3·9195182 | 5·0320616 | 58 | 4·5299075 | 5·5923078 | 2·9960151 | 4·3676503 |
| 4 | 5·5145256 | 6·9016294 | 3·7695845 | 4·9971828 | 59 | 4·5039852 | 5·5529613 | 2·9960514 | 4·3487896 |
| 5 | 5·4949038 | 6·8834432 | 3·6312696 | 4·9706750 | 60 | 4·4772384 | 5·5123201 | 2·9963768 | 4·3290723 |
| 6 | 5·4768038 | 6·8653182 | 3·5135322 | 4·9503274 | 61 | 4·4495725 | 5·4702914 | 2·9971676 | 4·3084000 |
| 7 | 5·4596307 | 6·8471923 | 3·4235962 | 4·9341443 | 62 | 4·4208826 | 5·4267763 | 2·9980254 | 4·2866540 |
| 8 | 5·4431515 | 6·8290256 | 3·3277295 | 4·9205293 | 63 | 4·3910537 | 5·3816691 | 2·9987980 | 4·2637142 |
| 9 | 5·4272601 | 6·8107867 | 3·2392548 | 4·9092939 | 64 | 4·3599603 | 5·3348557 | 2·9994157 | 4·2394521 |
| 10 | 5·4118084 | 6·7924469 | 3·1625792 | 4·8999091 | 65 | 4·3274665 | 5·2862162 | 2·9993780 | 4·2137143 |
| 11 | 5·3966618 | 6·7739820 | 3·1018623 | 4·8918841 | 66 | 4·2934260 | 5·2356244 | 2·9985468 | 4·1863573 |
| 12 | 5·3816985 | 6·7553726 | 3·0612571 | 4·8847834 | 67 | 4·2576827 | 5·1829423 | 2·9966790 | 4·1572179 |
| 13 | 5·3668102 | 6·7366026 | 3·0407936 | 4·8782138 | 68 | 4·2200695 | 5·1280275 | 2·9933199 | 4·1261217 |
| 14 | 5·3519014 | 6·7176606 | 3·0389583 | 4·8718524 | 69 | 4·1804094 | 5·0707248 | 2·9882737 | 4·0928960 |
| 15 | 5·3368903 | 6·6985378 | 3·0517343 | 4·8654238 | 70 | 4·1385149 | 5·0108764 | 2·9812316 | 4·0573466 |
| 16 | 5·3217082 | 6·6792291 | 3·0733402 | 4·8587026 | 71 | 4·0941882 | 4·9483102 | 2·9718236 | 4·0192784 |
| 17 | 5·3062992 | 6·6597318 | 3·1000899 | 4·8515244 | 72 | 4·0472213 | 4·8828489 | 2·9597696 | 3·9784864 |
| 18 | 5·2906210 | 6·6400457 | 3·1280467 | 4·8437578 | 73 | 3·9973956 | 4·8143009 | 2·9448594 | 3·9347610 |
| 19 | 5·2746446 | 6·6201730 | 3·1547262 | 4·8353189 | 74 | 3·9444823 | 4·7424737 | 2·9267106 | 3·8878648 |
| 20 | 5·2583244 | 6·6001170 | 3·1784223 | 4·8261617 | 75 | 3·8882426 | 4·6671540 | 2·9049126 | 3·8375695 |
| 21 | 5·2418340 | 6·5798836 | 3·1713602 | 4·8162765 | 76 | 3·8284269 | 4·5881260 | 2·8794146 | 3·7836392 |
| 22 | 5·2252646 | 6·5594709 | 3·1639160 | 4·8063265 | 77 | 3·7647754 | 4·5051635 | 2·8496397 | 3·7258055 |
| 23 | 5·2086186 | 6·5388724 | 3·1559517 | 4·7963183 | 78 | 3·6970180 | 4·4180194 | 2·8154733 | 3·6638234 |
| 24 | 5·1918973 | 6·5180808 | 3·1474839 | 4·7862622 | 79 | 3·6248746 | 4·3264383 | 2·7764786 | 3·5974209 |
| 25 | 5·1751012 | 6·4970888 | 3·1389725 | 4·7761685 | 80 | 3·5480540 | 4·2301678 | 2·7324683 | 3·5263134 |
| 26 | 5·1582300 | 6·4758880 | 3·1302714 | 4·7660379 | 81 | 3·4662555 | 4·1289483 | 2·6830594 | 3·4502029 |
| 27 | 5·1412827 | 6·4544694 | 3·1213857 | 4·7558734 | 82 | 3·3791675 | 4·0224696 | 2·6277913 | 3·3687888 |
| 28 | 5·1242574 | 6·4328234 | 3·1126087 | 4·7456781 | 83 | 3·2864686 | 3·9104643 | 2·5665285 | 3·2817831 |
| 29 | 5·1071511 | 6·4109401 | 3·1039371 | 4·7354496 | 84 | 3·1878265 | 3·7926018 | 2·4989540 | 3·1888441 |
| 30 | 5·0899603 | 6·3888084 | 3·0953674 | 4·7251837 | 85 | 3·0828989 | 3·6685723 | 2·4246480 | 3·0896226 |
| 31 | 5·0726806 | 6·3664168 | 3·0870365 | 4·7148769 | 86 | 2·9713331 | 3·5380708 | 2·3429458 | 2·9837616 |
| 32 | 5·0553067 | 6·3437532 | 3·0789366 | 4·7045228 | 87 | 2·8527660 | 3·4007106 | 2·2540965 | 2·8709888 |
| 33 | 5·0378324 | 6·3208043 | 3·0711966 | 4·6941145 | 88 | 2·7268244 | 3·2562365 | 2·1573156 | 2·7508939 |
| 34 | 5·0202507 | 6·2975563 | 3·0638034 | 4·6836413 | 89 | 2·5931246 | 3·1041456 | 2·0525129 | 2·6230424 |
| 35 | 5·0025541 | 6·2739947 | 3·0567434 | 4·6730919 | 90 | 2·4512726 | 2·9439889 | 1·9386491 | 2·4869969 |
| 36 | 4·9847336 | 6·2501037 | 3·0500026 | 4·6624566 | 91 | 2·3008640 | 2·7752463 | 1·8162240 | 2·3426200 |
| 37 | 4·9667800 | 6·2258668 | 3·0439555 | 4·6517247 | 92 | 2·1414842 | 2·5976952 | 1·6841770 | 2·1892095 |
| 38 | 4·9486829 | 6·2012666 | 3·0380588 | 4·6408748 | 93 | 1·9727082 | 2·4099331 | 1·5424920 | 2·0265333 |
| 39 | 4·9304312 | 6·1762843 | 3·0326802 | 4·6298987 | 94 | 1·7941007 | 2·2121876 | 1·3900741 | 1·8536982 |
| 40 | 4·9120129 | 6·1509004 | 3·0277915 | 4·6187779 | 95 | 1·6052160 | 2·0043214 | 1·2289373 | 1·6702459 |
| 41 | 4·8934153 | 6·1250933 | 3·0231223 | 4·6074947 | 96 | 1·4055983 | 1·7853298 | 1·0535113 | 1·4756712 |
| 42 | 4·8746245 | 6·0988409 | 3·0188946 | 4·5960360 | 97 | 1·1947812 | 1·5563025 | 0·8689919 | 1·2695129 |
| 43 | 4·8556264 | 6·0721193 | 3·0151959 | 4·5843822 | 98 | 0·9722881 | 1·3010300 | 0·6700793 | 1·0492180 |
| 44 | 4·8364055 | 6·0449029 | 3·0115359 | 4·5725103 | 99 | 0·7376320 | 1·0413927 | 0·4631062 | 0·8129134 |
| 45 | 4·8169457 | 6·0171645 | 3·0083525 | 4·5604088 | 100 | 0·4903157 | 0·7781513 | 0·2284202 | 0·5563025 |
| 46 | 4·7972299 | 5·9888745 | 3·0052850 | 4·5480527 | 101 | 0·2298316 | 0·4771213 | 0·0192884 | 0·2787536 |
| 47 | 4·7772405 | 5·9600010 | 3·0025331 | 4·5354258 | 102 | $\bar{1}$·9556617 | 0·0000000 | $\bar{1}$·7256246 | $\bar{1}$·9542425 |
| 48 | 4·7569588 | 5·9305105 | 2·9998633 | 4·5225042 | 103 | ... | ... | $\bar{1}$·5164926 | $\bar{1}$·6020600 |
| 49 | 4·7363652 | 5·9003655 | 2·9972645 | 4·5092684 | 104 | ... | ... | $\bar{1}$·1356787 | $\bar{1}$·0000000 |
| 50 | 4·7154395 | 5·8695257 | 2·9947264 | 4·4956997 | | | | | |
| 51 | 4·6940463 | 5·8379468 | 3·0041359 | 4·4817765 | | | | | |
| 52 | 4·6721171 | 5·8055906 | 3·0035175 | 4·4670707 | | | | | |
| 53 | 4·6497357 | 5·7724171 | 3·0021205 | 4·4518724 | | | | | |
| 54 | 4·6268799 | 5·7383754 | 3·0005163 | 4·4361738 | | | | | |

**Note.**—By adding the logarithm of 2 to $\lambda C'_x$ and to $\lambda M'_x$, the logarithms of a Table are obtained, which expresses the probable amount of *sickness* out of the Populations $P'_x$ and $Q'_x$.

TABLE 6.—The PROBABLE LIFETIME (*Vie probable*) and the AFTERLIFETIME (*Vie moyenne*).

| AGE. | PROBABLE LIFETIME. | | AFTERLIFETIME. | | AGE. | PROBABLE LIFETIME. | | AFTERLIFETIME. | |
|---|---|---|---|---|---|---|---|---|---|
| | $T_x$ | | $E_x$ | | | $T_x$ | | $E_x$ | |
| $(x)$ | Males. | Females. | Males. | Females. | $(x)$ | Males. | Females. | Males. | Females. |
| 0 | 44·43 | 46·42 | 39·91 | 41·85 | 50 | 19·71 | 21·08 | 19·54 | 20·75 |
| 1 | 53·11 | 54·08 | 46·65 | 47·31 | 51 | 18·99 | 20·32 | 18·90 | 20·09 |
| 2 | 54·78 | 55·90 | 48·83 | 49·40 | 52 | 18·30 | 19·57 | 18·28 | 19·42 |
| 3 | 55·10 | 56·29 | 49·61 | 50·20 | 53 | 17·60 | 18·82 | 17·67 | 18·75 |
| 4 | 54·92 | 56·18 | 49·81 | 50·43 | 54 | 16·92 | 18·08 | 17·06 | 18·08 |
| 5 | 54·51 | 55·79 | 49·71 | 50·33 | 55 | 16·25 | 17·35 | 16·45 | 17·43 |
| 6 | 53·95 | 55·23 | 49·39 | 50·00 | 56 | 15·58 | 16·64 | 15·86 | 16·79 |
| 7 | 53·28 | 54·57 | 48·92 | 49·53 | 57 | 14·92 | 15·94 | 15·26 | 16·17 |
| 8 | 52·56 | 53·85 | 48·37 | 48·98 | 58 | 14·27 | 15·25 | 14·68 | 15·55 |
| 9 | 51·79 | 53·09 | 47·74 | 48·35 | 59 | 13·63 | 14·58 | 14·10 | 14·94 |
| 10 | 50·98 | 52·29 | 47·05 | 47·67 | 60 | 13·00 | 13·91 | 13·53 | 14·34 |
| 11 | 50·15 | 51·47 | 46·31 | 46·95 | 61 | 12·38 | 13·26 | 12·96 | 13·75 |
| 12 | 49·29 | 50·63 | 45·54 | 46·20 | 62 | 11·78 | 12·63 | 12·41 | 13·17 |
| 13 | 48·43 | 49·78 | 44·76 | 45·44 | 63 | 11·19 | 12·01 | 11·87 | 12·60 |
| 14 | 47·56 | 48·93 | 43·97 | 44·66 | 64 | 10·61 | 11·40 | 11·34 | 12·05 |
| 15 | 46·70 | 48·08 | 43·18 | 43·90 | 65 | 10·05 | 10·81 | 10·82 | 11·51 |
| 16 | 45·84 | 47·23 | 42·40 | 43·14 | 66 | 9·52 | 10·24 | 10·32 | 10·98 |
| 17 | 45·00 | 46·40 | 41·64 | 42·40 | 67 | 8·99 | 9·69 | 9·83 | 10·47 |
| 18 | 44·17 | 45·58 | 40·90 | 41·67 | 68 | 8·49 | 9·15 | 9·36 | 9·97 |
| 19 | 43·35 | 44·78 | 40·17 | 40·97 | 69 | 8·01 | 8·64 | 8·90 | 9·48 |
| 20 | 42·55 | 44·00 | 39·48 | 40·29 | 70 | 7·55 | 8·15 | 8·45 | 9·02 |
| 21 | 41·77 | 43·22 | 38·80 | 39·63 | 71 | 7·10 | 7·68 | 8·03 | 8·57 |
| 22 | 40·99 | 42·45 | 38·13 | 38·98 | 72 | 6·69 | 7·23 | 7·62 | 8·13 |
| 23 | 40·21 | 41·68 | 37·46 | 38·33 | 73 | 6·29 | 6·79 | 7·22 | 7 71 |
| 24 | 39·43 | 40·92 | 36·79 | 37·68 | 74 | 5·91 | 6·39 | 6·85 | 7·31 |
| 25 | 38·66 | 40·15 | 36·12 | 37·04 | 75 | 5·55 | 5·99 | 6·49 | 6·93 |
| 26 | 37·88 | 39·38 | 35·44 | 36·39 | 76 | 5·21 | 5·64 | 6·15 | 6·56 |
| 27 | 37·10 | 38·62 | 34·77 | 35·75 | 77 | 4·89 | 5·29 | 5·82 | 6·21 |
| 28 | 36·32 | 37·85 | 34·10 | 35·10 | 78 | 4·60 | 4·96 | 5·51 | 5·88 |
| 29 | 35·55 | 37·09 | 33·43 | 34·46 | 79 | 4·32 | 4·66 | 5·21 | 5·56 |
| 30 | 34·77 | 36·32 | 32·76 | 33·81 | 80 | 4·04 | 4·37 | 4·93 | 5·26 |
| 31 | 34·00 | 35·56 | 32·09 | 33·17 | 81 | 3·80 | 4·09 | 4·66 | 4·98 |
| 32 | 33·23 | 34·79 | 31·42 | 32·53 | 82 | 3·58 | 3·84 | 4·41 | 4·71 |
| 33 | 32·45 | 34·03 | 30·74 | 31·88 | 83 | 3·36 | 3·61 | 4·17 | 4·45 |
| 34 | 31·68 | 33·26 | 30·07 | 31·23 | 84 | 3·15 | 3·39 | 3·95 | 4·21 |
| 35 | 30·91 | 32·50 | 29·40 | 30·59 | 85 | 2·95 | 3·18 | 3·73 | 3·98 |
| 36 | 30·15 | 31·73 | 28·73 | 29·94 | 86 | 2·79 | 2·98 | 3·53 | 3·76 |
| 37 | 29·38 | 30·97 | 28·06 | 29·29 | 87 | 2·63 | 2·81 | 3·34 | 3·56 |
| 38 | 28·61 | 30·21 | 27·39 | 28·64 | 88 | 2·48 | 2·65 | 3·16 | 3·36 |
| 39 | 27·85 | 29·44 | 26·72 | 27·99 | 89 | 2·34 | 2·50 | 3·00 | 3·18 |
| 40 | 27·09 | 28·68 | 26·06 | 27·34 | 90 | 2·20 | 2·35 | 2·84 | 3·01 |
| 41 | 26·34 | 27·91 | 25·39 | 26·69 | 91 | 2·06 | 2·21 | 2·69 | 2·85 |
| 42 | 25·58 | 27·15 | 24·73 | 26·03 | 92 | 1·94 | 2·07 | 2·55 | 2·70 |
| 43 | 24·83 | 26·39 | 24·07 | 25·38 | 93 | 1·85 | 1·95 | 2·41 | 2·55 |
| 44 | 24·09 | 25·62 | 23·41 | 24·72 | 94 | 1·76 | 1·86 | 2·29 | 2·42 |
| 45 | 23·34 | 24·86 | 22·76 | 24·06 | 95 | 1·67 | 1·76 | 2·17 | 2·29 |
| 46 | 22·61 | 24·10 | 22·11 | 23·40 | 96 | 1·59 | 1·68 | 2·06 | 2·17 |
| 47 | 21·88 | 23·34 | 21·46 | 22·74 | 97 | 1·51 | 1·59 | 1·95 | 2·06 |
| 48 | 21·15 | 22·59 | 20·82 | 22·08 | 98 | 1·44 | 1·51 | 1·85 | 1·96 |
| 49 | 20·42 | 21·83 | 20·17 | 21·42 | 99 | 1·36 | 1·44 | 1·76 | 1·86 |

The POSSIBLE AFTERLIFETIME is $109 - x$.

## TABLE 7. — ANNUITIES AT RISKS OF LOSS VARYING REGULARLY EVERY YEAR, AND EXPRESSED BY THE FRACTIONS $\frac{1}{110}$, TO $\frac{1}{109}$ . . . . . . . TO $\frac{1}{3}$, TO $\frac{1}{2}$, TO $\frac{1}{1}$.

(The Table represents a Life Table on DEMOIVRE's hypothesis in the columnar form.)

Rate of Interest, 3 per Cent.

| $n$ = Complement of Life $= 110 - x$ | $D_n$ | $N_n$ | $\frac{N_n}{D_n} = A_n$ | $\lambda\, n$ | $\lambda\, D_n$ | $\lambda\, N_n$ | $\lambda\left(\frac{N_n}{D_n}\right) = \lambda A_n$ | $x = 110 - n$ |
|---|---|---|---|---|---|---|---|---|
| 110 | 110·000 | 2,676·530 | 24·332 | 2·0413927 | 2·0413927 | 3·4275721 | 1·3861794 | 0 |
| 109 | 105·825 | 2,566·530 | 24·253 | 2·0374265 | 2·0245893 | 3·4093464 | 1·3847571 | 1 |
| 108 | 101·800 | 2,460·705 | 24·172 | 2·0334238 | 2·0077494 | 3·3910596 | 1·3833102 | 2 |
| 107 | 97·920 | 2,358·905 | 24·090 | 2·0293838 | 1·9908721 | 3·3727104 | 1·3818383 | 3 |
| 106 | 94·180 | 2,260·985 | 24·007 | 2·0253059 | 1·9739570 | 3·3542978 | 1·3803408 | 4 |
| 105 | 90·574 | 2,166·805 | 23·923 | 2·0211893 | 1·9570032 | 3·3358198 | 1·3788166 | 5 |
| 104 | 87·098 | 2,076·231 | 23·838 | 2·0170333 | 1·9400100 | 3·3172757 | 1·3772657 | 6 |
| 103 | 83·748 | 1,989·133 | 23·751 | 2·0128372 | 1·9229766 | 3·2986639 | 1·3756873 | 7 |
| 102 | 80·520 | 1,905·385 | 23·664 | 2·0086002 | 1·9059024 | 3·2799827 | 1·3740803 | 8 |
| 101 | 77·408 | 1,824·865 | 23·575 | 2·0043214 | 1·8887864 | 3·2612308 | 1·3724444 | 9 |
| 100 | 74·409 | 1,747·457 | 23·481 | 2·0000000 | 1·8716278 | 3·2424065 | 1·3707787 | 10 |
| 99 | 71·520 | 1,673·048 | 23·393 | 1·9956352 | 1·8544257 | 3·2235084 | 1·3690827 | 11 |
| 98 | 68·735 | 1,601·528 | 23·300 | 1·9912261 | 1·8371794 | 3·2045345 | 1·3673551 | 12 |
| 97 | 66·052 | 1,532·793 | 23·206 | 1·9867717 | 1·8198878 | 3·1854836 | 1·3655958 | 13 |
| 96 | 63·467 | 1,466·741 | 23·110 | 1·9822712 | 1·8025501 | 3·1663534 | 1·3638033 | 14 |
| 95 | 60·977 | 1,403·274 | 23·013 | 1·9777236 | 1·7851652 | 3·1471424 | 1·3619772 | 15 |
| 94 | 58·578 | 1,342·297 | 22·915 | 1·9731279 | 1·7677323 | 3·1278487 | 1·3601164 | 16 |
| 93 | 56·267 | 1,283·719 | 22·815 | 1·9684829 | 1·7502501 | 3·1084700 | 1·3582199 | 17 |
| 92 | 54·040 | 1,227·452 | 22·714 | 1·9637878 | 1·7327178 | 3·0890045 | 1·3562867 | 18 |
| 91 | 51·896 | 1,173·412 | 22·611 | 1·9590414 | 1·7151341 | 3·0694505 | 1·3543164 | 19 |
| 90 | 49·831 | 1,121·516 | 22·506 | 1·9542425 | 1·6974980 | 3·0498055 | 1·3523075 | 20 |
| 89 | 47·842 | 1,071·685 | 22·401 | 1·9493900 | 1·6798083 | 3·0300671 | 1·3502588 | 21 |
| 88 | 45·927 | 1,023·843 | 22·293 | 1·9444827 | 1·6620638 | 3·0102334 | 1·3481696 | 22 |
| 87 | 44·082 | 977·916 | 22·184 | 1·9395193 | 1·6442631 | 2·9903015 | 1·3460384 | 23 |
| 86 | 42·306 | 933·834 | 22·073 | 1·9344985 | 1·6264051 | 2·9702697 | 1·3438646 | 24 |
| 85 | 40·596 | 891·528 | 21·961 | 1·9294189 | 1·6084883 | 2·9501350 | 1·3416467 | 25 |
| 84 | 38·950 | 850·932 | 21·847 | 1·9242793 | 1·5905115 | 2·9298948 | 1·3393833 | 26 |
| 83 | 37·366 | 811·982 | 21·731 | 1·9190781 | 1·5724730 | 2·9095464 | 1·3370734 | 27 |
| 82 | 35·840 | 774·616 | 21·613 | 1·9138139 | 1·5543716 | 2·8890865 | 1·3347149 | 28 |
| 81 | 34·372 | 738·776 | 21·494 | 1·9084850 | 1·5362055 | 2·8685128 | 1·3323073 | 29 |
| 80 | 32·959 | 704·404 | 21·372 | 1·9030900 | 1·5179733 | 2·8478218 | 1·3298485 | 30 |
| 79 | 31·599 | 671·445 | 21·249 | 1·8976271 | 1·4996731 | 2·8270105 | 1·3273374 | 31 |
| 78 | 30·290 | 639·846 | 21·124 | 1·8920946 | 1·4813034 | 2·8060755 | 1·3247721 | 32 |
| 77 | 29·031 | 609·556 | 20·997 | 1·8864907 | 1·4628623 | 2·7850136 | 1·3221513 | 33 |
| 76 | 27·819 | 580·525 | 20·868 | 1·8808135 | 1·4443480 | 2·7638210 | 1·3194730 | 34 |
| 75 | 26·654 | 552·706 | 20·737 | 1·8750613 | 1·4257584 | 2·7424942 | 1·3167358 | 35 |
| 74 | 25·532 | 526·052 | 20·603 | 1·8692317 | 1·4070916 | 2·7210287 | 1·3139371 | 36 |
| 73 | 24·454 | 500·520 | 20·468 | 1·8633229 | 1·3883456 | 2·6994214 | 1·3110758 | 37 |
| 72 | 23·416 | 476·066 | 20·331 | 1·8573325 | 1·3695180 | 2·6776672 | 1·3081492 | 38 |
| 71 | 22·418 | 452·650 | 20·191 | 1·8512583 | 1·3506065 | 2·6557625 | 1·3051560 | 39 |
| 70 | 21·459 | 430·232 | 20·049 | 1·8450980 | 1·3316090 | 2·6337027 | 1·3020937 | 40 |
| 69 | 20·536 | 408·773 | 19·905 | 1·8388491 | 1·3125229 | 2·6114822 | 1·2989593 | 41 |
| 68 | 19·649 | 388·237 | 19·758 | 1·8325089 | 1·2933455 | 2·5890969 | 1·2957514 | 42 |
| 67 | 18·796 | 368·588 | 19·610 | 1·8260748 | 1·2740741 | 2·5665412 | 1·2924671 | 43 |
| 66 | 17·977 | 349·792 | 19·458 | 1·8195439 | 1·2547060 | 2·5438099 | 1·2891039 | 44 |
| 65 | 17·189 | 331·815 | 19·304 | 1·8129134 | 1·2352383 | 2·5208961 | 1·2856578 | 45 |
| 64 | 16·431 | 314·626 | 19·148 | 1·8061800 | 1·2156677 | 2·4977946 | 1·2821269 | 46 |
| 63 | 15·703 | 298·195 | 18·989 | 1·7993405 | 1·1959909 | 2·4745004 | 1·2785095 | 47 |
| 62 | 15·004 | 282·492 | 18·828 | 1·7923917 | 1·1762049 | 2·4510062 | 1·2748013 | 48 |
| 61 | 14·332 | 267·488 | 18·664 | 1·7853298 | 1·1563058 | 2·4273043 | 1·2709985 | 49 |
| 60 | 13·686 | 253·156 | 18·497 | 1·7781513 | 1·1362901 | 2·4033882 | 1·2670981 | 50 |
| 59 | 13·066 | 239·470 | 18·327 | 1·7708520 | 1·1161535 | 2·3792511 | 1·2630976 | 51 |
| 58 | 12·471 | 226·404 | 18·155 | 1·7634280 | 1·0958923 | 2·3548841 | 1·2589918 | 52 |
| 57 | 11·899 | 213·933 | 17·979 | 1·7558749 | 1·0755020 | 2·3302778 | 1·2547758 | 53 |
| 56 | 11·350 | 202·034 | 17·801 | 1·7481880 | 1·0549779 | 2·3054245 | 1·2504466 | 54 |

**Note.**— The series $n$ corresponds with the $l_x$ of the Life Table, and $\frac{n-1}{n}$ corresponds with $p_x$ = probability of living a year, and with $c_x$ = probability that X will pay a bill due at the end of the year.

Demoivre made 86 the extreme limit of his Table as he assumed that none lived after that age, and $86 - x = n$ was his *complement of life;* but 86 is an arbitrary number and for it any other number

Table 7.— Annuities at Risks of Loss varying regularly every Year, and expressed by the Fractions $\frac{1}{110}$, to $\frac{1}{109}$ . . . . . . . to $\frac{1}{3}$, to $\frac{1}{2}$, to $\frac{1}{1}$. (The Table represents a Life Table on Demoivre's hypothesis in the columnar form.)—*Continued.*

Rate of Interest, 3 per Cent.

| $n$ = Complement of Life = 110 − $x$ | $D_n$ | $N_n$ | $\frac{N_n}{D_n} = A_n$ | $\lambda\, n$ | $\lambda\, D_n$ | $\lambda\, N_n$ | $\lambda\left(\frac{N_n}{D_n}\right) = \lambda A_n$ | $x$ = 110 − $n$ |
|---|---|---|---|---|---|---|---|---|
| 55 | 10·822 | 190·684 | 17·620 | 1·7403627 | 1·0343153 | 2·2803142 | 1·2459989 | 55 |
| 54 | 10·316 | 179·862 | 17·435 | 1·7323938 | 1·0135092 | 2·2549394 | 1·2414302 | 56 |
| 53 | 9·830 | 169·546 | 17·248 | 1·7242759 | 0·9925541 | 2·2292876 | 1·2367335 | 57 |
| 52 | 9·364 | 159·716 | 17·057 | 1·7160033 | 0·9714443 | 2·2033484 | 1·2319041 | 58 |
| 51 | 8·916 | 150·352 | 16·863 | 1·7075702 | 0·9501739 | 2·1771092 | 1·2269353 | 59 |
| 50 | 8·487 | 141·436 | 16·666 | 1·6989700 | 0·9287365 | 2·1505599 | 1·2218234 | 60 |
| 49 | 8·075 | 132·949 | 16·465 | 1·6901961 | 0·9071254 | 2·1236850 | 1·2165596 | 61 |
| 48 | 7·680 | 124·874 | 16·261 | 1·6812412 | 0·8853333 | 2·0964720 | 1·2111387 | 62 |
| 47 | 7·301 | 117·194 | 16·053 | 1·6720979 | 0·8633527 | 2·0689054 | 1·2055527 | 63 |
| 46 | 6·937 | 109·893 | 15·841 | 1·6627578 | 0·8411754 | 2·0409701 | 1·1997947 | 64 |
| 45 | 6·589 | 102·956 | 15·626 | 1·6532125 | 0·8187929 | 2·0126517 | 1·1938588 | 65 |
| 44 | 6·255 | 96·367 | 15·408 | 1·6434527 | 0·7961959 | 1·9839283 | 1·1877324 | 66 |
| 43 | 5·934 | 90·112 | 15·185 | 1·6334685 | 0·7733744 | 1·9547826 | 1·1814082 | 67 |
| 42 | 5·628 | 84·178 | 14·958 | 1·6232493 | 0·7503180 | 1·9251986 | 1·1748806 | 68 |
| 41 | 5·334 | 78·550 | 14·728 | 1·6127839 | 0·7270154 | 1·8951462 | 1·1681308 | 69 |
| 40 | 5·052 | 73·216 | 14·493 | 1·6020600 | 0·7034543 | 1·8646060 | 1·1611517 | 70 |
| 39 | 4·782 | 68·164 | 14·254 | 1·5910646 | 0·6796216 | 1·8335551 | 1·1539335 | 71 |
| 38 | 4·524 | 63·382 | 14·011 | 1·5797836 | 0·6555034 | 1·8019659 | 1·1464625 | 72 |
| 37 | 4·276 | 58·858 | 13·763 | 1·5682017 | 0·6310843 | 1·7698055 | 1·1387212 | 73 |
| 36 | 4·040 | 54·582 | 13·511 | 1·5563025 | 0·6063479 | 1·7370494 | 1·1307015 | 74 |
| 35 | 3·813 | 50·542 | 13·255 | 1·5440680 | 0·5812761 | 1·7036524 | 1·1223763 | 75 |
| 34 | 3·596 | 46·729 | 12·994 | 1·5314789 | 0·5558498 | 1·6695865 | 1·1137367 | 76 |
| 33 | 3·389 | 43·133 | 12·728 | 1·5185139 | 0·5300476 | 1·6348097 | 1·1047621 | 77 |
| 32 | 3·190 | 39·744 | 12·457 | 1·5051500 | 0·5038465 | 1·5992716 | 1·0954251 | 78 |
| 31 | 3·001 | 36·554 | 12·182 | 1·4913617 | 0·4772209 | 1·5629349 | 1·0857140 | 79 |
| 30 | 2·819 | 33·553 | 11·901 | 1·4771213 | 0·4501433 | 1·5257314 | 1·0755881 | 80 |
| 29 | 2·646 | 30·734 | 11·615 | 1·4623980 | 0·4225828 | 1·4876191 | 1·0650363 | 81 |
| 28 | 2·480 | 28·088 | 11·324 | 1·4471580 | 0·3945056 | 1·4485208 | 1·0540152 | 82 |
| 27 | 2·322 | 25·608 | 11·028 | 1·4313638 | 0·3658741 | 1·4083757 | 1·0425016 | 83 |
| 26 | 2·171 | 23·286 | 10·726 | 1·4149733 | 0·3366464 | 1·3670949 | 1·0304485 | 84 |
| 25 | 2·027 | 21·115 | 10·419 | 1·3979400 | 0·3067759 | 1·3245911 | 1·0178152 | 85 |
| 24 | 1·889 | 19·088 | 10·105 | 1·3802112 | 0·2762099 | 1·2807604 | 1·0045505 | 86 |
| 23 | 1·757 | 17·199 | 9·786 | 1·3617278 | 0·2448893 | 1·2355032 | 0·9906139 | 87 |
| 22 | 1·632 | 15·442 | 9·461 | 1·3424227 | 0·2127469 | 1·1887035 | 0·9759566 | 88 |
| 21 | 1·513 | 13·810 | 9·130 | 1·3222193 | 0·1797063 | 1·1401937 | 0·9604874 | 89 |
| 20 | 1·399 | 12·297 | 8·793 | 1·3010300 | 0·1456798 | 1·0897992 | 0·9441194 | 90 |
| 19 | 1·290 | 10·898 | 8·449 | 1·2787536 | 0·1105662 | 1·0373468 | 0·9267806 | 91 |
| 18 | 1·186 | 9·608 | 8·098 | 1·2552725 | 0·0742478 | 0·9826330 | 0·9083852 | 92 |
| 17 | 1·088 | 8·422 | 7·742 | 1·2304489 | 0·0365870 | 0·9254152 | 0·8888282 | 93 |
| 16 | ·994 | 7·334 | 7·378 | 1·2041200 | $\bar{1}$·9974209 | 0·8653409 | 0·8679200 | 94 |
| 15 | ·905 | 6·340 | 7·007 | 1·1760913 | $\bar{1}$·9565550 | 0·8020893 | 0·8455343 | 95 |
| 14 | ·820 | 5·435 | 6·629 | 1·1461280 | $\bar{1}$·9137544 | 0·7351995 | 0·8214451 | 96 |
| 13 | ·739 | 4·615 | 6·244 | 1·1139434 | $\bar{1}$·8687326 | 0·6641717 | 0·7954391 | 97 |
| 12 | ·662 | 3·876 | 5·851 | 1·0791812 | $\bar{1}$·8211332 | 0·5883838 | 0·7672506 | 98 |
| 11 | ·590 | 3·214 | 5·452 | 1·0413927 | $\bar{1}$·7705075 | 0·5070459 | 0·7365384 | 99 |
| 10 | ·520 | 2·624 | 5·043 | 1·0000000 | $\bar{1}$·7162775 | 0·4189638 | 0·7026863 | 100 |
| 9 | ·455 | 2·104 | 4·628 | 0·9542425 | $\bar{1}$·6576828 | 0·3230457 | 0·6653629 | 101 |
| 8 | ·392 | 1·649 | 4·203 | 0·9030900 | $\bar{1}$·5936931 | 0·2172207 | 0·6235276 | 102 |
| 7 | ·333 | 1·257 | 3·771 | 0·8450980 | $\bar{1}$·5228639 | 0·0993353 | 0·5764714 | 103 |
| 6 | ·277 | ·924 | 3·331 | 0·7781513 | $\bar{1}$·4430799 | $\bar{1}$·9656720 | 0·5225921 | 104 |
| 5 | ·224 | ·647 | 2·883 | 0·6989700 | $\bar{1}$·3510614 | $\bar{1}$·8109043 | 0·4598429 | 105 |
| 4 | ·174 | ·423 | 2·427 | 0·6020600 | $\bar{1}$·2413142 | $\bar{1}$·6263404 | 0·3850262 | 106 |
| 3 | ·127 | ·249 | 1·962 | 0·4771213 | $\bar{1}$·1035383 | $\bar{1}$·3961993 | 0·2926610 | 107 |
| 2 | ·082 | ·122 | 1·485 | 0·3010300 | $\bar{2}$·9146097 | $\bar{1}$·0863598 | 0·1717501 | 108 |
| 1 | ·040 | ·040 | 1·003 | 0·0000000 | $\bar{2}$·6007425 | $\bar{2}$·6020600 | 0·0013175 | 109 |

may be substituted. Thus if instead of 86, the number 110 is substituted, $110 - x = n$; and $110 - n = x =$ age.

For many purposes it will be found convenient to make twice the probable lifetime $(2\ T_x) = n$ in this Table. (See Table 6.)

### TABLE 8.—VALUE of an ANNUITY of £1 on TWO, THREE, FOUR, and FIVE JOINT LIVES of EQUAL AGES. (Interest 3 per Cent.)

| AGES. | TWO LIVES. Male and Female. | THREE LIVES. 2 Males, 1 Female. | FOUR LIVES. 2 Males, 2 Females. | FIVE LIVES. 3 Males. 2 Females. | AGES. | TWO LIVES. Male and Female. | THREE LIVES. 2 Males, 1 Female. | FOUR LIVES. 2 Males, 2 Females. | FIVE LIVES. 3 Males, 2 Females. |
|---|---|---|---|---|---|---|---|---|---|
| | $A_{xy}$ | $A_{xxy}$ | $A_{xxyy}$ | $A_{xxxyy}$ | | $A_{xy}$ | $A_{xxy}$ | $A_{xxyy}$ | $A_{xxxyy}$ |
| 0 | 12·986 | 8·907 | 6·530 | 4·804 | 45 | 12·757 | 10·567 | 9·261 | 8·153 |
| 1 | 17·058 | 13·455 | 10·875 | 8·943 | 46 | 12·478 | 10·312 | 9·033 | 7·944 |
| 2 | 18·843 | 15·619 | 13·202 | 11·348 | 47 | 12·193 | 10·053 | 8·801 | 7·732 |
| 3 | 19·753 | 16·780 | 14·519 | 12·766 | 48 | 11·902 | 9·790 | 8·564 | 7·516 |
| 4 | 20·278 | 17·480 | 15·347 | 13·683 | 49 | 11·606 | 9·522 | 8·323 | 7·295 |
| 5 | 20·580 | 17·912 | 15·874 | 14·288 | 50 | 11·304 | 9·250 | 8·075 | 7·070 |
| 6 | 20·721 | 18·144 | 16·172 | 14·647 | 51 | 10·995 | 8·972 | 7·822 | 6·839 |
| 7 | 20·753 | 18·239 | 16·314 | 14·834 | 52 | 10·685 | 8·699 | 7·570 | 6·613 |
| 8 | 20·722 | 18·252 | 16·362 | 14·917 | 53 | 10·370 | 8·422 | 7·312 | 6·383 |
| 9 | 20·629 | 18·183 | 16·317 | 14·896 | 54 | 10·048 | 8·140 | 7·047 | 6·147 |
| 10 | 20·485 | 18·049 | 16·196 | 14·789 | 55 | 9·734 | 7·865 | 6·795 | 5·922 |
| 11 | 20·301 | 17·864 | 16·016 | 14·616 | 56 | 9·420 | 7·591 | 6·544 | 5·698 |
| 12 | 20·089 | 17·642 | 15·793 | 14·393 | 57 | 9·106 | 7·317 | 6·296 | 5·477 |
| 13 | 19·857 | 17·395 | 15·541 | 14·138 | 58 | 8·792 | 7·044 | 6·049 | 5·257 |
| 14 | 19·615 | 17·134 | 15·274 | 13·865 | 59 | 8·479 | 6·772 | 5·805 | 5·039 |
| 15 | 19·368 | 16·868 | 15·003 | 13·588 | 60 | 8·167 | 6·502 | 5·562 | 4·823 |
| 16 | 19·123 | 16·607 | 14·736 | 13·316 | 61 | 7·857 | 6·234 | 5·323 | 4·610 |
| 17 | 18·886 | 16·356 | 14·482 | 13·059 | 62 | 7·549 | 5·969 | 5·087 | 4·402 |
| 18 | 18·660 | 16·120 | 14·247 | 12·822 | 63 | 7·245 | 5·709 | 4·856 | 4·197 |
| 19 | 18·448 | 15·904 | 14·034 | 12·611 | 64 | 6·945 | 5·453 | 4·631 | 3·998 |
| 20 | 18·251 | 15·709 | 13·847 | 12·429 | 65 | 6·650 | 5·204 | 4·411 | 3·804 |
| 21 | 18·072 | 15·537 | 13·688 | 12·279 | 66 | 6·361 | 4·961 | 4·197 | 3·617 |
| 22 | 17·892 | 15·365 | 13·530 | 12·130 | 67 | 6·079 | 4·725 | 3·991 | 3·436 |
| 23 | 17·710 | 15·192 | 13·371 | 11·981 | 68 | 5·805 | 4·497 | 3·792 | 3·264 |
| 24 | 17·525 | 15·018 | 13·213 | 11·832 | 69 | 5·538 | 4·277 | 3·602 | 3·098 |
| 25 | 17·339 | 14·841 | 13·053 | 11·682 | 70 | 5·280 | 4·066 | 3·420 | 2·941 |
| 26 | 17·149 | 14·662 | 12·892 | 11·531 | 71 | 5·031 | 3·864 | 3·247 | 2·792 |
| 27 | 16·957 | 14·480 | 12·728 | 11·379 | 72 | 4·792 | 3·671 | 3·082 | 2·651 |
| 28 | 16·761 | 14·295 | 12·563 | 11·224 | 73 | 4·562 | 3·487 | 2·926 | 2·518 |
| 29 | 16·561 | 14·107 | 12·396 | 11·067 | 74 | 4·343 | 3·313 | 2·779 | 2·393 |
| 30 | 16·358 | 13·915 | 12·225 | 10·908 | 75 | 4·133 | 3·149 | 2·641 | 2·276 |
| 31 | 16·150 | 13·720 | 12·052 | 10·746 | 76 | 3·933 | 2·993 | 2·511 | 2·167 |
| 32 | 15·938 | 13·521 | 11·876 | 10·581 | 77 | 3·744 | 2·847 | 2·389 | 2·065 |
| 33 | 15·722 | 13·318 | 11·696 | 10·413 | 78 | 3·564 | 2·709 | 2·275 | 1·970 |
| 34 | 15·502 | 13·110 | 11·513 | 10·242 | 79 | 3·393 | 2·580 | 2·169 | 1·883 |
| 35 | 15·276 | 12·899 | 11·327 | 10·068 | 80 | 3·232 | 2·458 | 2·070 | 1·803 |
| 36 | 15·046 | 12·684 | 11·137 | 9·890 | 81 | 3·081 | 2·345 | 1·978 | 1·730 |
| 37 | 14·812 | 12·465 | 10·943 | 9·710 | 82 | 2·938 | 2·239 | 1·892 | 1·660 |
| 38 | 14·572 | 12·241 | 10·746 | 9·526 | 83 | 2·803 | 2·140 | 1·813 | 1·596 |
| 39 | 14·328 | 12·014 | 10·545 | 9·339 | 84 | 2·676 | 2·048 | 1·740 | 1·574 |
| 40 | 14·078 | 11·782 | 10·340 | 9·149 | 85 | 2·558 | 1·963 | 1·676 | 1·637 |
| 41 | 13·824 | 11·547 | 10·132 | 8·956 | | | | | |
| 42 | 13·565 | 11·308 | 9·920 | 8·760 | | | | | |
| 43 | 13·301 | 11·065 | 9·704 | 8·561 | | | | | |
| 44 | 13·032 | 10·818 | 9·484 | 8·358 | | | | | |

**Note.**—$x$ denotes the age of the Male life and $y$ the age of the Female.

Table 9.—Value of an Annuity of £1 on a Single Life and on Two Joint Lives of Equal Ages. (Interest 3 per Cent.)

| Ages. | Male. | Female. | Male and Female of Equal Ages. | Two Males of Equal Ages. | Two Females of Equal Ages. |
|---|---|---|---|---|---|
| | $A_x$ | $A_y$ | $A_{xy}$ | $A_{xx}$ | $A_{yy}$ |
| | £ | £ | £ | £ | £ |
| 0 | 19·151 | 19·850 | 12·986 | 12·567 | 13·421 |
| 5 | 24·437 | 24·481 | 20·580 | 20·599 | 20·565 |
| 10 | 24·107 | 24·147 | 20·485 | 20·520 | 20·453 |
| 20 | 22·061 | 22·209 | 18·251 | 18·227 | 18·282 |
| 30 | 20·014 | 20·337 | 16·358 | 16·228 | 16·497 |
| 40 | 17·474 | 18·035 | 14·078 | 13·796 | 14·379 |
| 50 | 14·424 | 15·094 | 11·304 | 10·956 | 11·675 |
| 60 | 11·018 | 11·527 | 8·167 | 7·941 | 8·408 |
| 70 | 7·610 | 8·016 | 5·280 | 5·122 | 5·449 |

Table 10.—Value of Life Annuity of £1 deduced (1) by making the *Complement of Life* $= n = 2\,T_x$; and (2) by making the *Complement of Life* $= n = 2\,E_x$.

Males. Interest 3 per Cent.

| Age. | Estimated *Complement of Life.* | | Value of Life Annuity. | | |
|---|---|---|---|---|---|
| ($x$) | $2\,T_x$ | $2\,E_x$ | $n = 2\,T_x$ | $n = 2\,E_x$ | Exact Value. |
| | | | £ | £ | £ |
| 4 | 109·84 | 99·62 | 24·319 | 23·449 | 24·302 |
| 10 | 101·96 | 94·10 | 23·660 | 22·925 | 24·107 |
| 20 | 85·10 | 78·96 | 21·972 | 21·244 | 22·061 |
| 30 | 69·54 | 65·52 | 19·983 | 19·384 | 20·014 |
| 40 | 54·18 | 52·12 | 17·468 | 17·080 | 17·474 |
| 50 | 39·42 | 39·08 | 14·354 | 14·273 | 14·424 |
| 60 | 26·00 | 27·06 | 10·726 | 11·052 | 11·018 |
| 70 | 15·10 | 16·90 | 7·044 | 7·706 | 7·610 |

# MONETARY TABLES.

# Table of Shillings, Pence, and Farthings, reduced to the Decimal Parts of £1.

| s. d. | Decimal. | s. d. | Decimal. | s. d. | Decimal. | s. d. | Decimal. | s. d. | Decimal. |
|---|---|---|---|---|---|---|---|---|---|
| | £ | | £ | | £ | | £ | | £ |
| 0 | ·00000 | 1 0 | ·05000 | 2 0 | ·10000 | 3 0 | ·15000 | 4 0 | ·20000 |
| 0¼ | ·00104 | 1 0¼ | ·05104 | 2 0¼ | ·10104 | 3 0¼ | ·15104 | 4 0¼ | ·20104 |
| 0½ | ·00208 | 1 0½ | ·05208 | 2 0½ | ·10208 | 3 0½ | ·15208 | 4 0½ | ·20208 |
| 0¾ | ·00313 | 1 0¾ | ·05313 | 2 0¾ | ·10313 | 3 0¾ | ·15313 | 4 0¾ | ·20313 |
| 1 | ·00417 | 1 1 | ·05417 | 2 1 | ·10417 | 3 1 | ·15417 | 4 1 | ·20417 |
| 1¼ | ·00521 | 1 1¼ | ·05521 | 2 1¼ | ·10521 | 3 1¼ | ·15521 | 4 1¼ | ·20521 |
| 1½ | ·00625 | 1 1½ | ·05625 | 2 1½ | ·10625 | 3 1½ | ·15625 | 4 1½ | ·20625 |
| 1¾ | ·00729 | 1 1¾ | ·05729 | 2 1¾ | ·10729 | 3 1¾ | ·15729 | 4 1¾ | ·20729 |
| 2 | ·00833 | 1 2 | ·05833 | 2 2 | ·10833 | 3 2 | ·15833 | 4 2 | ·20833 |
| 2¼ | ·00938 | 1 2¼ | ·05938 | 2 2¼ | ·10938 | 3 2¼ | ·15938 | 4 2¼ | ·20938 |
| 2½ | ·01042 | 1 2½ | ·06042 | 2 2½ | ·11042 | 3 2½ | ·16042 | 4 2½ | ·21042 |
| 2¾ | ·01146 | 1 2¾ | ·06146 | 2 2¾ | ·11146 | 3 2¾ | ·16146 | 4 2¾ | ·21146 |
| 3 | ·01250 | 1 3 | ·06250 | 2 3 | ·11250 | 3 3 | ·16250 | 4 3 | ·21250 |
| 3¼ | ·01354 | 1 3¼ | ·06354 | 2 3¼ | ·11354 | 3 3¼ | ·16354 | 4 3¼ | ·21354 |
| 3½ | ·01458 | 1 3½ | ·06458 | 2 3½ | ·11458 | 3 3½ | ·16458 | 4 3½ | ·21458 |
| 3¾ | ·01563 | 1 3¾ | ·06563 | 2 3¾ | ·11563 | 3 3¾ | ·16563 | 4 3¾ | ·21563 |
| 4 | ·01667 | 1 4 | ·06667 | 2 4 | ·11667 | 3 4 | ·16667 | 4 4 | ·21667 |
| 4¼ | ·01771 | 1 4¼ | ·06771 | 2 4¼ | ·11771 | 3 4¼ | ·16771 | 4 4¼ | ·21771 |
| 4½ | ·01875 | 1 4½ | ·06875 | 2 4½ | ·11875 | 3 4½ | ·16875 | 4 4½ | ·21875 |
| 4¾ | ·01979 | 1 4¾ | ·06979 | 2 4¾ | ·11979 | 3 4¾ | ·16979 | 4 4¾ | ·21979 |
| 5 | ·02083 | 1 5 | ·07083 | 2 5 | ·12083 | 3 5 | ·17083 | 4 5 | ·22083 |
| 5¼ | ·02188 | 1 5¼ | ·07188 | 2 5¼ | ·12188 | 3 5¼ | ·17188 | 4 5¼ | ·22188 |
| 5½ | ·02292 | 1 5½ | ·07292 | 2 5½ | ·12292 | 3 5½ | ·17292 | 4 5½ | ·22292 |
| 5¾ | ·02396 | 1 5¾ | ·07396 | 2 5¾ | ·12396 | 3 5¾ | ·17396 | 4 5¾ | ·22396 |
| 6 | ·02500 | 1 6 | ·07500 | 2 6 | ·12500 | 3 6 | ·17500 | 4 6 | ·22500 |
| 6¼ | ·02604 | 1 6¼ | ·07604 | 2 6¼ | ·12604 | 3 6¼ | ·17604 | 4 6¼ | ·22604 |
| 6½ | ·02708 | 1 6½ | ·07708 | 2 6½ | ·12708 | 3 6½ | ·17708 | 4 6½ | ·22708 |
| 6¾ | ·02813 | 1 6¾ | ·07813 | 2 6¾ | ·12813 | 3 6¾ | ·17813 | 4 6¾ | ·22813 |
| 7 | ·02917 | 1 7 | ·07917 | 2 7 | ·12917 | 3 7 | ·17917 | 4 7 | ·22917 |
| 7¼ | ·03021 | 1 7¼ | ·08021 | 2 7¼ | ·13021 | 3 7¼ | ·18021 | 4 7¼ | ·23021 |
| 7½ | ·03125 | 1 7½ | ·08125 | 2 7½ | ·13125 | 3 7½ | ·18125 | 4 7½ | ·23125 |
| 7¾ | ·03229 | 1 7¾ | ·08229 | 2 7¾ | ·13229 | 3 7¾ | ·18229 | 4 7¾ | ·23229 |
| 8 | ·03333 | 1 8 | ·08333 | 2 8 | ·13333 | 3 8 | ·18333 | 4 8 | ·23333 |
| 8¼ | ·03438 | 1 8¼ | ·08438 | 2 8¼ | ·13438 | 3 8¼ | ·18438 | 4 8¼ | ·23438 |
| 8½ | ·03542 | 1 8½ | ·08542 | 2 8½ | ·13542 | 3 8½ | ·18542 | 4 8½ | ·23542 |
| 8¾ | ·03646 | 1 8¾ | ·08646 | 2 8¾ | ·13646 | 3 8¾ | ·18646 | 4 8¾ | ·23646 |
| 9 | ·03750 | 1 9 | ·08750 | 2 9 | ·13750 | 3 9 | ·18750 | 4 9 | ·23750 |
| 9¼ | ·03854 | 1 9¼ | ·08854 | 2 9¼ | ·13854 | 3 9¼ | ·18854 | 4 9¼ | ·23854 |
| 9½ | ·03958 | 1 9½ | ·08958 | 2 9½ | ·13958 | 3 9½ | ·18958 | 4 9½ | ·23958 |
| 9¾ | ·04063 | 1 9¾ | ·09063 | 2 9¾ | ·14063 | 3 9¾ | ·19063 | 4 9¾ | ·24063 |
| 10 | ·04167 | 1 10 | ·09167 | 2 10 | ·14167 | 3 10 | ·19167 | 4 10 | ·24167 |
| 10¼ | ·04271 | 1 10¼ | ·09271 | 2 10¼ | ·14271 | 3 10¼ | ·19271 | 4 10¼ | ·24271 |
| 10½ | ·04375 | 1 10½ | ·09375 | 2 10½ | ·14375 | 3 10½ | ·19375 | 4 10½ | ·24375 |
| 10¾ | ·04479 | 1 10¾ | ·09479 | 2 10¾ | ·14479 | 3 10¾ | ·19479 | 4 10¾ | ·24479 |
| 11 | ·04583 | 1 11 | ·09583 | 2 11 | ·14583 | 3 11 | ·19583 | 4 11 | ·24583 |
| 11¼ | ·04688 | 1 11¼ | ·09688 | 2 11¼ | ·14688 | 3 11¼ | ·19688 | 4 11¼ | ·24688 |
| 11½ | ·04792 | 1 11½ | ·09792 | 2 11½ | ·14792 | 3 11½ | ·19792 | 4 11½ | ·24792 |
| 11¾ | ·04896 | 1 11¾ | ·09896 | 2 11¾ | ·14896 | 3 11¾ | ·19896 | 4 11¾ | ·24896 |

## Table of **Shillings, Pence,** and **Farthings,** reduced to the Decimal Parts of **£1.**

| *s.* *d.* | **Decimal.** | *s.* *d.* | **Decimal.** | *s.* *d.* | **Decimal.** | *s.* *d.* | **Decimal.** | *s.* *d.* | **Decimal.** |
|---|---|---|---|---|---|---|---|---|---|
|  | £ |  | £ |  | £ |  | £ |  | £ |
| **5 0** | ·25000 | **6 0** | ·30000 | **7 0** | ·35000 | **8 0** | ·40000 | **9 0** | ·45000 |
| 5 0¼ | ·25104 | 6 0¼ | ·30104 | 7 0¼ | ·35104 | 8 0¼ | ·40104 | 9 0¼ | ·45104 |
| 5 0½ | ·25208 | 6 0½ | ·30208 | 7 0½ | ·35208 | 8 0½ | ·40208 | 9 0½ | ·45208 |
| 5 0¾ | ·25313 | 6 0¾ | ·30313 | 7 0¾ | ·35313 | 8 0¾ | ·40313 | 9 0¾ | ·45313 |
| **5 1** | ·25417 | **6 1** | ·30417 | **7 1** | ·35417 | **8 1** | ·40417 | **9 1** | ·45417 |
| 5 1¼ | ·25521 | 6 1¼ | ·30521 | 7 1¼ | ·35521 | 8 1¼ | ·40521 | 9 1¼ | ·45521 |
| 5 1½ | ·25625 | 6 1½ | ·30625 | 7 1½ | ·35625 | 8 1½ | ·40625 | 9 1½ | ·45625 |
| 5 1¾ | ·25729 | 6 1¾ | ·30729 | 7 1¾ | ·35729 | 8 1¾ | ·40729 | 9 1¾ | ·45729 |
| **5 2** | ·25833 | **6 2** | ·30833 | **7 2** | ·35833 | **8 2** | ·40833 | **9 2** | ·45833 |
| 5 2¼ | ·25938 | 6 2¼ | ·30938 | 7 2¼ | ·35938 | 8 2¼ | ·40938 | 9 2¼ | ·45938 |
| 5 2½ | ·26042 | 6 2½ | ·31042 | 7 2½ | ·36042 | 8 2½ | ·41042 | 9 2½ | ·46042 |
| 5 2¾ | ·26146 | 6 2¾ | ·31146 | 7 2¾ | ·36146 | 8 2¾ | ·41146 | 9 2¾ | ·46146 |
| **5 3** | ·26250 | **6 3** | ·31250 | **7 3** | ·36250 | **8 3** | ·41250 | **9 3** | ·46250 |
| 5 3¼ | ·26354 | 6 3¼ | ·31354 | 7 3¼ | ·36354 | 8 3¼ | ·41354 | 9 3¼ | ·46354 |
| 5 3½ | ·26458 | 6 3½ | ·31458 | 7 3½ | ·36458 | 8 3½ | ·41458 | 9 3½ | ·46458 |
| 5 3¾ | ·26563 | 6 3¾ | ·31563 | 7 3¾ | ·36563 | 8 3¾ | ·41563 | 9 3¾ | ·46563 |
| **5 4** | ·26667 | **6 4** | ·31667 | **7 4** | ·36667 | **8 4** | ·41667 | **9 4** | ·46667 |
| 5 4¼ | ·26771 | 6 4¼ | ·31771 | 7 4¼ | ·36771 | 8 4¼ | ·41771 | 9 4¼ | ·46771 |
| 5 4½ | ·26875 | 6 4½ | ·31875 | 7 4½ | ·36875 | 8 4½ | ·41875 | 9 4½ | ·46875 |
| 5 4¾ | ·26979 | 6 4¾ | ·31979 | 7 4¾ | ·36979 | 8 4¾ | ·41979 | 9 4¾ | ·46979 |
| **5 5** | ·27083 | **6 5** | ·32083 | **7 5** | ·37083 | **8 5** | ·42083 | **9 5** | ·47083 |
| 5 5¼ | ·27188 | 6 5¼ | ·32188 | 7 5¼ | ·37188 | 8 5¼ | ·42188 | 9 5¼ | ·47188 |
| 5 5½ | ·27292 | 6 5½ | ·32292 | 7 5½ | ·37292 | 8 5½ | ·42292 | 9 5½ | ·47292 |
| 5 5¾ | ·27396 | 6 5¾ | ·32396 | 7 5¾ | ·37396 | 8 5¾ | ·42396 | 9 5¾ | ·47396 |
| **5 6** | ·27500 | **6 6** | ·32500 | **7 6** | ·37500 | **8 6** | ·42500 | **9 6** | ·47500 |
| 5 6¼ | ·27604 | 6 6¼ | ·32604 | 7 6¼ | ·37604 | 8 6¼ | ·42604 | 9 6¼ | ·47604 |
| 5 6½ | ·27708 | 6 6½ | ·32708 | 7 6½ | ·37708 | 8 6½ | ·42708 | 9 6½ | ·47708 |
| 5 6¾ | ·27813 | 6 6¾ | ·32813 | 7 6¾ | ·37813 | 8 6¾ | ·42813 | 9 6¾ | ·47813 |
| **5 7** | ·27917 | **6 7** | ·32917 | **7 7** | ·37917 | **8 7** | ·42917 | **9 7** | ·47917 |
| 5 7¼ | ·28021 | 6 7¼ | ·33021 | 7 7¼ | ·38021 | 8 7¼ | ·43021 | 9 7¼ | ·48021 |
| 5 7½ | ·28125 | 6 7½ | ·33125 | 7 7½ | ·38125 | 8 7½ | ·43125 | 9 7½ | ·48125 |
| 5 7¾ | ·28229 | 6 7¾ | ·33229 | 7 7¾ | ·38229 | 8 7¾ | ·43229 | 9 7¾ | ·48229 |
| **5 8** | ·28333 | **6 8** | ·33333 | **7 8** | ·38333 | **8 8** | ·43333 | **9 8** | ·48333 |
| 5 8¼ | ·28438 | 6 8¼ | ·33438 | 7 8¼ | ·38438 | 8 8¼ | ·43438 | 9 8¼ | ·48438 |
| 5 8½ | ·28542 | 6 8½ | ·33542 | 7 8½ | ·38542 | 8 8½ | ·43542 | 9 8½ | ·48542 |
| 5 8¾ | ·28646 | 6 8¾ | ·33646 | 7 8¾ | ·38646 | 8 8¾ | ·43646 | 9 8¾ | ·48646 |
| **5 9** | ·28750 | **6 9** | ·33750 | **7 9** | ·38750 | **8 9** | ·43750 | **9 9** | ·48750 |
| 5 9¼ | ·28854 | 6 9¼ | ·33854 | 7 9¼ | ·38854 | 8 9¼ | ·43854 | 9 9¼ | ·48854 |
| 5 9½ | ·28958 | 6 9½ | ·33958 | 7 9½ | ·38958 | 8 9½ | ·43958 | 9 9½ | ·48958 |
| 5 9¾ | ·29063 | 6 9¾ | ·34063 | 7 9¾ | ·39063 | 8 9¾ | ·44063 | 9 9¾ | ·49063 |
| **5 10** | ·29167 | **6 10** | ·34167 | **7 10** | ·39167 | **8 10** | ·44167 | **9 10** | ·49167 |
| 5 10¼ | ·29271 | 6 10¼ | ·34271 | 7 10¼ | ·39271 | 8 10¼ | ·44271 | 9 10¼ | ·49271 |
| 5 10½ | ·29375 | 6 10½ | ·34375 | 7 10½ | ·39375 | 8 10½ | ·44375 | 9 10½ | ·49375 |
| 5 10¾ | ·29479 | 6 10¾ | ·34479 | 7 10¾ | ·39479 | 8 10¾ | ·44479 | 9 10¾ | ·49479 |
| **5 11** | ·29583 | **6 11** | ·34583 | **7 11** | ·39583 | **8 11** | ·44583 | **9 11** | ·49583 |
| 5 11¼ | ·29688 | 6 11¼ | ·34688 | 7 11¼ | ·39688 | 8 11¼ | ·44688 | 9 11¼ | ·49688 |
| 5 11½ | ·29792 | 6 11½ | ·34792 | 7 11½ | ·39792 | 8 11½ | ·44792 | 9 11½ | ·49792 |
| 5 11¾ | ·29896 | 6 11¾ | ·34896 | 7 11¾ | ·39896 | 8 11¾ | ·44896 | 9 11¾ | ·49896 |

## Table of Shillings, Pence, and Farthings, reduced to the Decimal Parts of £1.

| *s.* | *d.* | **Decimal.** | *s.* | *d.* | **Decimal.** | *s.* | *d.* | **Decimal.** | *s.* | *d.* | **Decimal.** | *s.* | *d.* | **Decimal.** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | £ | | | £ | | | £ | | | £ | | | £ |
| **10** | **0** | ·50000 | **11** | **0** | ·55000 | **12** | **0** | ·60000 | **13** | **0** | ·65000 | **14** | **0** | ·70000 |
| 10 | 0¼ | ·50104 | 11 | 0¼ | ·55104 | 12 | 0¼ | ·60104 | 13 | 0¼ | ·65104 | 14 | 0¼ | ·70104 |
| 10 | 0½ | ·50208 | 11 | 0½ | ·55208 | 12 | 0½ | ·60208 | 13 | 0½ | ·65208 | 14 | 0½ | ·70208 |
| 10 | 0¾ | ·50313 | 11 | 0¾ | ·55313 | 12 | 0¾ | ·60313 | 13 | 0¾ | ·65313 | 14 | 0¾ | ·70313 |
| **10** | **1** | ·50417 | **11** | **1** | ·55417 | **12** | **1** | ·60417 | **13** | **1** | ·65417 | **14** | **1** | ·70417 |
| 10 | 1¼ | ·50521 | 11 | 1¼ | ·55521 | 12 | 1¼ | ·60521 | 13 | 1¼ | ·65521 | 14 | 1¼ | ·70521 |
| 10 | 1½ | ·50625 | 11 | 1½ | ·55625 | 12 | 1½ | ·60625 | 13 | 1½ | ·65625 | 14 | 1½ | ·70625 |
| 10 | 1¾ | ·50729 | 11 | 1¾ | ·55729 | 12 | 1¾ | ·60729 | 13 | 1¾ | ·65729 | 14 | 1¾ | ·70729 |
| **10** | **2** | ·50833 | **11** | **2** | ·55833 | **12** | **2** | ·60833 | **13** | **2** | ·65833 | **14** | **2** | ·70833 |
| 10 | 2¼ | ·50938 | 11 | 2¼ | ·55938 | 12 | 2¼ | ·60938 | 13 | 2¼ | ·65938 | 14 | 2¼ | ·70938 |
| 10 | 2½ | ·51042 | 11 | 2½ | ·56042 | 12 | 2½ | ·61042 | 13 | 2½ | ·66042 | 14 | 2½ | ·71042 |
| 10 | 2¾ | ·51146 | 11 | 2¾ | ·56146 | 12 | 2¾ | ·61146 | 13 | 2¾ | ·66146 | 14 | 2¾ | ·71146 |
| **10** | **3** | ·51250 | **11** | **3** | ·56250 | **12** | **3** | ·61250 | **13** | **3** | ·66250 | **14** | **3** | ·71250 |
| 10 | 3¼ | ·51354 | 11 | 3¼ | ·56354 | 12 | 3¼ | ·61354 | 13 | 3¼ | ·66354 | 14 | 3¼ | ·71354 |
| 10 | 3½ | ·51458 | 11 | 3½ | ·56458 | 12 | 3½ | ·61458 | 13 | 3½ | ·66458 | 14 | 3½ | ·71458 |
| 10 | 3¾ | ·51563 | 11 | 3¾ | ·56563 | 12 | 3¾ | ·61563 | 13 | 3¾ | ·66563 | 14 | 3¾ | ·71563 |
| **10** | **4** | ·51667 | **11** | **4** | ·56667 | **12** | **4** | ·61667 | **13** | **4** | ·66667 | **14** | **4** | ·71667 |
| 10 | 4¼ | ·51771 | 11 | 4¼ | ·56771 | 12 | 4¼ | ·61771 | 13 | 4¼ | ·66771 | 14 | 4¼ | ·71771 |
| 10 | 4½ | ·51875 | 11 | 4½ | ·56875 | 12 | 4½ | ·61875 | 13 | 4½ | ·66875 | 14 | 4½ | ·71875 |
| 10 | 4¾ | ·51979 | 11 | 4¾ | ·56979 | 12 | 4¾ | ·61979 | 13 | 4¾ | ·66979 | 14 | 4¾ | ·71979 |
| **10** | **5** | ·52083 | **11** | **5** | ·57083 | **12** | **5** | ·62083 | **13** | **5** | ·67083 | **14** | **5** | ·72083 |
| 10 | 5¼ | ·52188 | 11 | 5¼ | ·57188 | 12 | 5¼ | ·62188 | 13 | 5¼ | ·67188 | 14 | 5¼ | ·72188 |
| 10 | 5½ | ·52292 | 11 | 5½ | ·57292 | 12 | 5½ | ·62292 | 13 | 5½ | ·67292 | 14 | 5½ | ·72292 |
| 10 | 5¾ | ·52396 | 11 | 5¾ | ·57396 | 12 | 5¾ | ·62396 | 13 | 5¾ | ·67396 | 14 | 5¾ | ·72396 |
| **10** | **6** | ·52500 | **11** | **6** | ·57500 | **12** | **6** | ·62500 | **13** | **6** | ·67500 | **14** | **6** | ·72500 |
| 10 | 6¼ | ·52604 | 11 | 6¼ | ·57604 | 12 | 6¼ | ·62604 | 13 | 6¼ | ·67604 | 14 | 6¼ | ·72604 |
| 10 | 6½ | ·52708 | 11 | 6½ | ·57708 | 12 | 6½ | ·62708 | 13 | 6½ | ·67708 | 14 | 6½ | ·72708 |
| 10 | 6¾ | ·52813 | 11 | 6¾ | ·57813 | 12 | 6¾ | ·62813 | 13 | 6¾ | ·67813 | 14 | 6¾ | ·72813 |
| **10** | **7** | ·52917 | **11** | **7** | ·57917 | **12** | **7** | ·62917 | **13** | **7** | ·67917 | **14** | **7** | ·72917 |
| 10 | 7¼ | ·53021 | 11 | 7¼ | ·58021 | 12 | 7¼ | ·63021 | 13 | 7¼ | ·68021 | 14 | 7¼ | ·73021 |
| 10 | 7½ | ·53125 | 11 | 7½ | ·58125 | 12 | 7½ | ·63125 | 13 | 7½ | ·68125 | 14 | 7½ | ·73125 |
| 10 | 7¾ | ·53229 | 11 | 7¾ | ·58229 | 12 | 7¾ | ·63229 | 13 | 7¾ | ·68229 | 14 | 7¾ | ·73229 |
| **10** | **8** | ·53333 | **11** | **8** | ·58333 | **12** | **8** | ·63333 | **13** | **8** | ·68333 | **14** | **8** | ·73333 |
| 10 | 8¼ | ·53438 | 11 | 8¼ | ·58438 | 12 | 8¼ | ·63438 | 13 | 8¼ | ·68438 | 14 | 8¼ | ·73438 |
| 10 | 8½ | ·53542 | 11 | 8½ | ·58542 | 12 | 8½ | ·63542 | 13 | 8½ | ·68542 | 14 | 8½ | ·73542 |
| 10 | 8¾ | ·53646 | 11 | 8¾ | ·58646 | 12 | 8¾ | ·63646 | 13 | 8¾ | ·68646 | 14 | 8¾ | ·73646 |
| **10** | **9** | ·53750 | **11** | **9** | ·58750 | **12** | **9** | ·63750 | **13** | **9** | ·68750 | **14** | **9** | ·73750 |
| 10 | 9¼ | ·53854 | 11 | 9¼ | ·58854 | 12 | 9¼ | ·63854 | 13 | 9¼ | ·68854 | 14 | 9¼ | ·73854 |
| 10 | 9½ | ·53958 | 11 | 9½ | ·58958 | 12 | 9½ | ·63958 | 13 | 9½ | ·68958 | 14 | 9½ | ·73958 |
| 10 | 9¾ | ·54063 | 11 | 9¾ | ·59063 | 12 | 9¾ | ·64063 | 13 | 9¾ | ·69063 | 14 | 9¾ | ·74063 |
| **10** | **10** | ·54167 | **11** | **10** | ·59167 | **12** | **10** | ·64167 | **13** | **10** | ·69167 | **14** | **10** | ·74167 |
| 10 | 10¼ | ·54271 | 11 | 10¼ | ·59271 | 12 | 10¼ | ·64271 | 13 | 10¼ | ·69271 | 14 | 10¼ | ·74271 |
| 10 | 10½ | ·54375 | 11 | 10½ | ·59375 | 12 | 10½ | ·64375 | 13 | 10½ | ·69375 | 14 | 10½ | ·74375 |
| 10 | 10¾ | ·54479 | 11 | 10¾ | ·59479 | 12 | 10¾ | ·64479 | 13 | 10¾ | ·69479 | 14 | 10¾ | ·74479 |
| **10** | **11** | ·54583 | **11** | **11** | ·59583 | **12** | **11** | ·64583 | **13** | **11** | ·69583 | **14** | **11** | ·74583 |
| 10 | 11¼ | ·54688 | 11 | 11¼ | ·59688 | 12 | 11¼ | ·64688 | 13 | 11¼ | ·69688 | 14 | 11¼ | ·74688 |
| 10 | 11½ | ·54792 | 11 | 11½ | ·59792 | 12 | 11½ | ·64792 | 13 | 11½ | ·69792 | 14 | 11½ | ·74792 |
| 10 | 11¾ | ·54896 | 11 | 11¾ | ·59896 | 12 | 11¾ | ·64896 | 13 | 11¾ | ·69896 | 14 | 11¾ | ·74896 |

## Table of Shillings, Pence, and Farthings, reduced to the Decimal Parts of £1.

| s. | d. | Decimal. | s. | d. | Decimal. | s. | d. | Decimal. | s. | d. | Decimal. | s. | d. | Decimal. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | £ | | | £ | | | £ | | | £ | | | £ |
| **15** | **0** | ·75000 | **16** | **0** | ·80000 | **17** | **0** | ·85000 | **18** | **0** | ·90000 | **19** | **0** | ·95000 |
| 15 | 0¼ | ·75104 | 16 | 0¼ | ·80104 | 17 | 0¼ | ·85104 | 18 | 0¼ | ·90104 | 19 | 0¼ | ·95104 |
| 15 | 0½ | ·75208 | 16 | 0½ | ·80208 | 17 | 0½ | ·85208 | 18 | 0½ | ·90208 | 19 | 0½ | ·95208 |
| 15 | 0¾ | ·75313 | 16 | 0¾ | ·80313 | 17 | 0¾ | ·85313 | 18 | 0¾ | ·90313 | 19 | 0¾ | ·95313 |
| **15** | **1** | ·75417 | **16** | **1** | ·80417 | **17** | **1** | ·85417 | **18** | **1** | ·90417 | **19** | **1** | ·95417 |
| 15 | 1¼ | ·75521 | 16 | 1¼ | ·80521 | 17 | 1¼ | ·85521 | 18 | 1¼ | ·90521 | 19 | 1¼ | ·95521 |
| 15 | 1½ | ·75625 | 16 | 1½ | ·80625 | 17 | 1½ | ·85625 | 18 | 1½ | ·90625 | 19 | 1½ | ·95625 |
| 15 | 1¾ | ·75729 | 16 | 1¾ | ·80729 | 17 | 1¾ | ·85729 | 18 | 1¾ | ·90729 | 19 | 1¾ | ·95729 |
| **15** | **2** | ·75833 | **16** | **2** | ·80833 | **17** | **2** | ·85833 | **18** | **2** | ·90833 | **19** | **2** | ·95833 |
| 15 | 2¼ | ·75938 | 16 | 2¼ | ·80938 | 17 | 2¼ | ·85938 | 18 | 2¼ | ·90938 | 19 | 2¼ | ·95938 |
| 15 | 2½ | ·76042 | 16 | 2½ | ·81042 | 17 | 2½ | ·86042 | 18 | 2½ | ·91042 | 19 | 2½ | ·96042 |
| 15 | 2¾ | ·76146 | 16 | 2¾ | ·81146 | 17 | 2¾ | ·86146 | 18 | 2¾ | ·91146 | 19 | 2¾ | ·96146 |
| **15** | **3** | ·76250 | **16** | **3** | ·81250 | **17** | **3** | ·86250 | **18** | **3** | ·91250 | **19** | **3** | ·96250 |
| 15 | 3¼ | ·76354 | 16 | 3¼ | ·81354 | 17 | 3¼ | ·86354 | 18 | 3¼ | ·91354 | 19 | 3¼ | ·96354 |
| 15 | 3½ | ·76458 | 16 | 3½ | ·81458 | 17 | 3½ | ·86458 | 18 | 3½ | ·91458 | 19 | 3½ | ·96458 |
| 15 | 3¾ | ·76563 | 16 | 3¾ | ·81563 | 17 | 3¾ | ·86563 | 18 | 3¾ | ·91563 | 19 | 3¾ | ·96563 |
| **15** | **4** | ·76667 | **16** | **4** | ·81667 | **17** | **4** | ·86667 | **18** | **4** | ·91667 | **19** | **4** | ·96667 |
| 15 | 4¼ | ·76771 | 16 | 4¼ | ·81771 | 17 | 4¼ | ·86771 | 18 | 4¼ | ·91771 | 19 | 4¼ | ·96771 |
| 15 | 4½ | ·76875 | 16 | 4½ | ·81875 | 17 | 4½ | ·86875 | 18 | 4½ | ·91875 | 19 | 4½ | ·96875 |
| 15 | 4¾ | ·76979 | 16 | 4¾ | ·81979 | 17 | 4¾ | ·86979 | 18 | 4¾ | ·91979 | 19 | 4¾ | ·96979 |
| **15** | **5** | ·77083 | **16** | **5** | ·82083 | **17** | **5** | ·87083 | **18** | **5** | ·92083 | **19** | **5** | ·97083 |
| 15 | 5¼ | ·77188 | 16 | 5¼ | ·82188 | 17 | 5¼ | ·87188 | 18 | 5¼ | ·92188 | 19 | 5¼ | ·97188 |
| 15 | 5½ | ·77292 | 16 | 5½ | ·82292 | 17 | 5½ | ·87292 | 18 | 5½ | ·92292 | 19 | 5½ | ·97292 |
| 15 | 5¾ | ·77396 | 16 | 5¾ | ·82396 | 17 | 5¾ | ·87396 | 18 | 5¾ | ·92396 | 19 | 5¾ | ·97396 |
| **15** | **6** | ·77500 | **16** | **6** | ·82500 | **17** | **6** | ·87500 | **18** | **6** | ·92500 | **19** | **6** | ·97500 |
| 15 | 6¼ | ·77604 | 16 | 6¼ | ·82604 | 17 | 6¼ | ·87604 | 18 | 6¼ | ·92604 | 19 | 6¼ | ·97604 |
| 15 | 6½ | ·77708 | 16 | 6½ | ·82708 | 17 | 6½ | ·87708 | 18 | 6½ | ·92708 | 19 | 6½ | ·97708 |
| 15 | 6¾ | ·77813 | 16 | 6¾ | ·82813 | 17 | 6¾ | ·87813 | 18 | 6¾ | ·92813 | 19 | 6¾ | ·97813 |
| **15** | **7** | ·77917 | **16** | **7** | ·82917 | **17** | **7** | ·87917 | **18** | **7** | ·92917 | **19** | **7** | ·97917 |
| 15 | 7¼ | ·78021 | 16 | 7¼ | ·83021 | 17 | 7¼ | ·88021 | 18 | 7¼ | ·93021 | 19 | 7¼ | ·98021 |
| 15 | 7½ | ·78125 | 16 | 7½ | ·83125 | 17 | 7½ | ·88125 | 18 | 7½ | ·93125 | 19 | 7½ | ·98125 |
| 15 | 7¾ | ·78229 | 16 | 7¾ | ·83229 | 17 | 7¾ | ·88229 | 18 | 7¾ | ·93229 | 19 | 7¾ | ·98229 |
| **15** | **8** | ·78333 | **16** | **8** | ·83333 | **17** | **8** | ·88333 | **18** | **8** | ·93333 | **19** | **8** | ·98333 |
| 15 | 8¼ | ·78438 | 16 | 8¼ | ·83438 | 17 | 8¼ | ·88438 | 18 | 8¼ | ·93438 | 19 | 8¼ | ·98438 |
| 15 | 8½ | ·78542 | 16 | 8½ | ·83542 | 17 | 8½ | ·88542 | 18 | 8½ | ·93542 | 19 | 8½ | ·98542 |
| 15 | 8¾ | ·78646 | 16 | 8¾ | ·83646 | 17 | 8¾ | ·88646 | 18 | 8¾ | ·93646 | 19 | 8¾ | ·98646 |
| **15** | **9** | ·78750 | **16** | **9** | ·83750 | **17** | **9** | ·88750 | **18** | **9** | ·93750 | **19** | **9** | ·98750 |
| 15 | 9¼ | ·78854 | 16 | 9¼ | ·83854 | 17 | 9¼ | ·88854 | 18 | 9¼ | ·93854 | 19 | 9¼ | ·98854 |
| 15 | 9½ | ·78958 | 16 | 9½ | ·83958 | 17 | 9½ | ·88958 | 18 | 9½ | ·93958 | 19 | 9½ | ·98958 |
| 15 | 9¾ | ·79063 | 16 | 9¾ | ·84063 | 17 | 9¾ | ·89063 | 18 | 9¾ | ·94063 | 19 | 9¾ | ·99063 |
| **15** | **10** | ·79167 | **16** | **10** | ·84167 | **17** | **10** | ·89167 | **18** | **10** | ·94167 | **19** | **10** | ·99167 |
| 15 | 10¼ | ·79271 | 16 | 10¼ | ·84271 | 17 | 10¼ | ·89271 | 18 | 10¼ | ·94271 | 19 | 10¼ | ·99271 |
| 15 | 10½ | ·79375 | 16 | 10½ | ·84375 | 17 | 10½ | ·89375 | 18 | 10½ | ·94375 | 19 | 10½ | ·99375 |
| 15 | 10¾ | ·79479 | 16 | 10¾ | ·84479 | 17 | 10¾ | ·89479 | 18 | 10¾ | ·94479 | 19 | 10¾ | ·99479 |
| **15** | **11** | ·79583 | **16** | **11** | ·84583 | **17** | **11** | ·89583 | **18** | **11** | ·94583 | **19** | **11** | ·99583 |
| 15 | 11¼ | ·79688 | 16 | 11¼ | ·84688 | 17 | 11¼ | ·89688 | 18 | 11¼ | ·94688 | 19 | 11¼ | ·99688 |
| 15 | 11½ | ·79792 | 16 | 11½ | ·84792 | 17 | 11½ | ·89792 | 18 | 11½ | ·94792 | 19 | 11½ | ·99792 |
| 15 | 11¾ | ·79896 | 16 | 11¾ | ·84896 | 17 | 11¾ | ·89896 | 18 | 11¾ | ·94896 | 19 | 11¾ | ·99896 |

Logarithms of the **Present Value of £1,** payable at the end of every Year, from 1 to 109 Years; **Rates of Interest 3, 3¼, 3⅓, and 3½ per Cent.**

$\lambda\ v^{x}$ *

| Years ($x$) | 3 per cent. | Years ($x$) | 3¼ per cent. | Years ($x$) | 3⅓ per cent. | Years ($x$) | 3½ per cent. |
|---|---|---|---|---|---|---|---|
| 0 | 0·0000000 | 0 | 0·0000000 | 0 | 0·0000000 | 0 | 0·0000000 |
| 1 | 9·9871628 | 1 | 9·9861099 | 1 | 9·9857596 | 1 | 9·9850597 |
| 2 | 9·9743256 | 2 | 9·9722199 | 2 | 9·9715191 | 2 | 9·9701193 |
| 3 | 9·9614883 | 3 | 9·9583298 | 3 | 9·9572787 | 3 | 9·9551790 |
| 4 | 9·9486511 | 4 | 9·9444398 | 4 | 9·9430382 | 4 | 9·9402386 |
| 5 | 9·9358139 | 5 | 9·9305497 | 5 | 9·9287978 | 5 | 9·9252983 |
| 6 | 9·9229767 | 6 | 9·9166596 | 6 | 9·9145574 | 6 | 9·9103579 |
| 7 | 9·9101394 | 7 | 9·9027696 | 7 | 9·9003169 | 7 | 9·8954176 |
| 8 | 9·8973022 | 8 | 9·8888795 | 8 | 9·8860765 | 8 | 9·8804772 |
| 9 | 9·8844650 | 9 | 9·8749895 | 9 | 9·8718360 | 9 | 9·8655369 |
| 10 | 9·8716278 | 10 | 9·8610994 | 10 | 9·8575956 | 10 | 9·8505965 |
| 11 | 9·8587905 | 11 | 9·8472093 | 11 | 9·8433552 | 11 | 9·8356562 |
| 12 | 9·8459533 | 12 | 9·8333193 | 12 | 9·8291147 | 12 | 9·8207158 |
| 13 | 9·8331161 | 13 | 9·8194292 | 13 | 9·8148743 | 13 | 9·8057755 |
| 14 | 9·8202789 | 14 | 9·8055392 | 14 | 9·8006339 | 14 | 9·7908351 |
| 15 | 9·8074416 | 15 | 9·7916491 | 15 | 9·7863934 | 15 | 9·7758948 |
| 16 | 9·7946044 | 16 | 9·7777590 | 16 | 9·7721530 | 16 | 9·7609544 |
| 17 | 9·7817672 | 17 | 9·7638690 | 17 | 9·7579125 | 17 | 9·7460141 |
| 18 | 9·7689300 | 18 | 9·7499789 | 18 | 9·7436721 | 18 | 9·7310737 |
| 19 | 9·7560927 | 19 | 9·7360889 | 19 | 9·7294317 | 19 | 9·7161334 |
| 20 | 9·7432555 | 20 | 9·7221988 | 20 | 9·7151912 | 20 | 9·7011930 |
| 21 | 9·7304183 | 21 | 9·7083087 | 21 | 9·7009508 | 21 | 9·6862527 |
| 22 | 9·7175811 | 22 | 9·6944187 | 22 | 9·6867103 | 22 | 9·6713123 |
| 23 | 9·7047438 | 23 | 9·6805286 | 23 | 9·6724699 | 23 | 9·6563720 |
| 24 | 9·6919066 | 24 | 9·6666386 | 24 | 9·6582295 | 24 | 9·6414316 |
| 25 | 9·6790694 | 25 | 9·6527485 | 25 | 9·6439890 | 25 | 9·6264913 |
| 26 | 9·6662322 | 26 | 9·6388584 | 26 | 9·6297486 | 26 | 9·6115509 |
| 27 | 9·6533949 | 27 | 9·6249684 | 27 | 9·6155081 | 27 | 9·5966106 |
| 28 | 9·6405577 | 28 | 9·6110783 | 28 | 9·6012677 | 28 | 9·5816702 |
| 29 | 9·6277205 | 29 | 9·5971883 | 29 | 9·5870273 | 29 | 9·5667299 |
| 30 | 9·6148833 | 30 | 9·5832982 | 30 | 9·5727868 | 30 | 9·5517895 |
| 31 | 9·6020460 | 31 | 9·5694081 | 31 | 9·5585464 | 31 | 9·5368492 |
| 32 | 9·5892088 | 32 | 9·5555181 | 32 | 9·5443059 | 32 | 9·5219088 |
| 33 | 9·5763716 | 33 | 9·5416280 | 33 | 9·5300655 | 33 | 9·5069685 |
| 34 | 9·5635344 | 34 | 9·5277379 | 34 | 9·5158251 | 34 | 9·4920281 |
| 35 | 9·5506971 | 35 | 9·5138479 | 35 | 9·5015846 | 35 | 9·4770878 |
| 36 | 9·5378599 | 36 | 9·4999578 | 36 | 9·4873442 | 36 | 9·4621474 |
| 37 | 9·5250227 | 37 | 9·4860678 | 37 | 9·4731038 | 37 | 9·4472071 |
| 38 | 9·5121855 | 38 | 9·4721777 | 38 | 9·4588633 | 38 | 9·4322667 |
| 39 | 9·4993482 | 39 | 9·4582876 | 39 | 9·4446229 | 39 | 9·4173264 |
| 40 | 9·4865110 | 40 | 9·4443976 | 40 | 9·4303824 | 40 | 9·4023860 |
| 41 | 9·4736738 | 41 | 9·4305075 | 41 | 9·4161420 | 41 | 9·3874457 |
| 42 | 9·4608366 | 42 | 9·4166175 | 42 | 9·4019016 | 42 | 9·3725053 |
| 43 | 9·4479993 | 43 | 9·4027274 | 43 | 9·3876611 | 43 | 9·3575650 |
| 44 | 9·4351621 | 44 | 9·3888373 | 44 | 9·3734207 | 44 | 9·3426246 |
| 45 | 9·4223249 | 45 | 9·3749473 | 45 | 9·3591802 | 45 | 9·3276843 |
| 46 | 9·4094877 | 46 | 9·3610572 | 46 | 9·3449398 | 46 | 9·3127439 |
| 47 | 9·3966504 | 47 | 9·3471672 | 47 | 9·3306994 | 47 | 9·2978036 |
| 48 | 9·3838132 | 48 | 9·3332771 | 48 | 9·3164589 | 48 | 9·2828632 |
| 49 | 9·3709760 | 49 | 9·3193870 | 49 | 9·3022185 | 49 | 9·2679229 |
| 50 | 9·3581388 | 50 | 9·3054970 | 50 | 9·2879780 | 50 | 9·2529825 |
| 51 | 9·3453015 | 51 | 9·2916069 | 51 | 9·2737376 | 51 | 9·2380422 |
| 52 | 9·3324643 | 52 | 9·2777169 | 52 | 9·2594972 | 52 | 9·2231018 |
| 53 | 9·3196271 | 53 | 9·2638268 | 53 | 9·2452567 | 53 | 9·2081615 |
| 54 | 9·3067899 | 54 | 9·2499367 | 54 | 9·2310163 | 54 | 9·1932211 |

* See Note at page 20.

## Logarithms of the Present Value of £1, payable at the end of every Year, from 1 to 109 Years; Rates of Interest 3, 3¼, 3⅓, and 3½ per Cent.

| $\lambda\ v^x$ | | | | | | | |
|---|---|---|---|---|---|---|---|
| Years ($x$) | 3 per cent. | Years ($x$) | 3¼ per cent. | Years ($x$) | 3⅓ per cent. | Years ($x$) | 3½ per cent. |
| 55 | 9·2939526 | 55 | 9·2360467 | 55 | 9·2167758 | 55 | 9·1782808 |
| 56 | 9·2811154 | 56 | 9·2221566 | 56 | 9·2025354 | 56 | 9·1633404 |
| 57 | 9·2682782 | 57 | 9·2082666 | 57 | 9·1882950 | 57 | 9·1484001 |
| 58 | 9·2554410 | 58 | 9·1943765 | 58 | 9·1740545 | 58 | 9·1334597 |
| 59 | 9·2426037 | 59 | 9·1804864 | 59 | 9·1598141 | 59 | 9·1185194 |
| 60 | 9·2297665 | 60 | 9·1665964 | 60 | 9·1455737 | 60 | 9·1035790 |
| 61 | 9·2169293 | 61 | 9·1527063 | 61 | 9·1313332 | 61 | 9·0886387 |
| 62 | 9·2040921 | 62 | 9·1388163 | 62 | 9·1170928 | 62 | 9·0736983 |
| 63 | 9·1912548 | 63 | 9·1249262 | 63 | 9·1028523 | 63 | 9·0587580 |
| 64 | 9·1784176 | 64 | 9·1110361 | 64 | 9·0886119 | 64 | 9·0438176 |
| 65 | 9·1655804 | 65 | 9·0971461 | 65 | 9·0743715 | 65 | 9·0288773 |
| 66 | 9·1527432 | 66 | 9·0832560 | 66 | 9·0601310 | 66 | 9·0139369 |
| 67 | 9·1399059 | 67 | 9·0693660 | 67 | 9·0458906 | 67 | 8·9989966 |
| 68 | 9·1270687 | 68 | 9·0554759 | 68 | 9·0316501 | 68 | 8·9840562 |
| 69 | 9·1142315 | 69 | 9·0415858 | 69 | 9·0174097 | 69 | 8·9691159 |
| 70 | 9·1013943 | 70 | 9·0276958 | 70 | 9·0031693 | 70 | 8·9541755 |
| 71 | 9·0885570 | 71 | 9·0138057 | 71 | 8·9889288 | 71 | 8·9392352 |
| 72 | 9·0757198 | 72 | 8·9999157 | 72 | 8·9746884 | 72 | 8·9242948 |
| 73 | 9·0628826 | 73 | 8·9860256 | 73 | 8·9604479 | 73 | 8·9093545 |
| 74 | 9·0500454 | 74 | 8·9721355 | 74 | 8·9462075 | 74 | 8·8944141 |
| 75 | 9·0372081 | 75 | 8·9582455 | 75 | 8·9319671 | 75 | 8·8794738 |
| 76 | 9·0243709 | 76 | 8·9443554 | 76 | 8·9177266 | 76 | 8·8645334 |
| 77 | 9·0115337 | 77 | 8·9304654 | 77 | 8·9034862 | 77 | 8·8495931 |
| 78 | 8·9986965 | 78 | 8·9165753 | 78 | 8·8892457 | 78 | 8·8346527 |
| 79 | 8·9858592 | 79 | 8·9026852 | 79 | 8·8750053 | 79 | 8·8197124 |
| 80 | 8·9730220 | 80 | 8·8887952 | 80 | 8·8607649 | 80 | 8·8047720 |
| 81 | 8·9601848 | 81 | 8·8749051 | 81 | 8·8465244 | 81 | 8·7898317 |
| 82 | 8·9473476 | 82 | 8·8610151 | 82 | 8·8322840 | 82 | 8·7748913 |
| 83 | 8·9345103 | 83 | 8·8471250 | 83 | 8·8180436 | 83 | 8·7599510 |
| 84 | 8·9216731 | 84 | 8·8332349 | 84 | 8·8038031 | 84 | 8·7450106 |
| 85 | 8·9088359 | 85 | 8·8193449 | 85 | 8·7895627 | 85 | 8·7300703 |
| 86 | 8·8959987 | 86 | 8·8054548 | 86 | 8·7753222 | 86 | 8·7151299 |
| 87 | 8·8831615 | 87 | 8·7915648 | 87 | 8·7610818 | 87 | 8·7001896 |
| 88 | 8·8703242 | 88 | 8·7776747 | 88 | 8·7468414 | 88 | 8·6852492 |
| 89 | 8·8574870 | 89 | 8·7637846 | 89 | 8·7326009 | 89 | 8·6703089 |
| 90 | 8·8446498 | 90 | 8·7498946 | 90 | 8·7183605 | 90 | 8·6553685 |
| 91 | 8·8318126 | 91 | 8·7360045 | 91 | 8·7041200 | 91 | 8·6404282 |
| 92 | 8·8189753 | 92 | 8·7221144 | 92 | 8·6898796 | 92 | 8·6254878 |
| 93 | 8·8061381 | 93 | 8·7082244 | 93 | 8·6756392 | 93 | 8·6105475 |
| 94 | 8·7933009 | 94 | 8·6943343 | 94 | 8·6613987 | 94 | 8·5956071 |
| 95 | 8·7804637 | 95 | 8·6804443 | 95 | 8·6471583 | 95 | 8·5806668 |
| 96 | 8·7676264 | 96 | 8·6665542 | 96 | 8·6329178 | 96 | 8·5657264 |
| 97 | 8·7547892 | 97 | 8·6526641 | 97 | 8·6186774 | 97 | 8·5507861 |
| 98 | 8·7419520 | 98 | 8·6387741 | 98 | 8·6044370 | 98 | 8·5358457 |
| 99 | 8·7291148 | 99 | 8·6248840 | 99 | 8·5901965 | 99 | 8·5209054 |
| 100 | 8·7162775 | 100 | 8·6109940 | 100 | 8·5759561 | 100 | 8·5059650 |
| 101 | 8·7034403 | 101 | 8·5971039 | 101 | 8·5617156 | 101 | 8·4910247 |
| 102 | 8·6906031 | 102 | 8·5832138 | 102 | 8·5474752 | 102 | 8·4760843 |
| 103 | 8·6777659 | 103 | 8·5693238 | 103 | 8·5332348 | 103 | 8·4611440 |
| 104 | 8·6649286 | 104 | 8·5554337 | 104 | 8·5189943 | 104 | 8·4462036 |
| 105 | 8·6520914 | 105 | 8·5415437 | 105 | 8·5047539 | 105 | 8·4312633 |
| 106 | 8·6392542 | 106 | 8·5276536 | 106 | 8·4905135 | 106 | 8·4163229 |
| 107 | 8·6264170 | 107 | 8·5137635 | 107 | 8·4762730 | 107 | 8·4013826 |
| 108 | 8·6135797 | 108 | 8·4998735 | 108 | 8·4620326 | 108 | 8·3864422 |
| 109 | 8·6007425 | 109 | 8·4859834 | 109 | 8·4477921 | 109 | 8·3715019 |

## Logarithms of the Present Value of £1, payable at the end of every Year, from 1 to 109 Years; Rates of Interest 3¾, 4, 5, and 6 per Cent.

$\lambda\ v^x$

| Years ($x$) | 3¾ per cent. | Years ($x$) | 4 per cent. | Years ($x$) | 5 per cent. | Years ($x$) | 6 per cent. |
|---|---|---|---|---|---|---|---|
| 0 | 0·0000000 | 0 | 0·0000000 | 0 | 0·0000000 | 0 | 0·0000000 |
| 1 | 9·9840119 | 1 | 9·9829667 | 1 | 9·9788107 | 1 | 9·9746941 |
| 2 | 9·9680238 | 2 | 9·9659333 | 2 | 9·9576214 | 2 | 9·9493883 |
| 3 | 9·9520357 | 3 | 9·9489000 | 3 | 9·9364321 | 3 | 9·9240824 |
| 4 | 9·9360476 | 4 | 9·9318666 | 4 | 9·9152428 | 4 | 9·8987765 |
| 5 | 9·9200595 | 5 | 9·9148333 | 5 | 9·8940535 | 5 | 9·8734707 |
| 6 | 9·9040714 | 6 | 9·8978000 | 6 | 9·8728642 | 6 | 9·8481648 |
| 7 | 9·8880833 | 7 | 9·8807666 | 7 | 9·8516749 | 7 | 9·8228589 |
| 8 | 9·8720952 | 8 | 9·8637333 | 8 | 9·8304856 | 8 | 9·7975531 |
| 9 | 9·8561071 | 9 | 9·8466999 | 9 | 9·8092963 | 9 | 9·7722472 |
| 10 | 9·8401189 | 10 | 9·8296666 | 10 | 9·7881070 | 10 | 9·7469413 |
| 11 | 9·8241308 | 11 | 9·8126333 | 11 | 9·7669177 | 11 | 9·7216355 |
| 12 | 9·8081427 | 12 | 9·7955999 | 12 | 9·7457284 | 12 | 9·6963296 |
| 13 | 9·7921546 | 13 | 9·7785666 | 13 | 9·7245391 | 13 | 9·6710238 |
| 14 | 9·7761665 | 14 | 9·7615332 | 14 | 9·7033498 | 14 | 9·6457179 |
| 15 | 9·7601784 | 15 | 9·7444999 | 15 | 9·6821605 | 15 | 9·6204120 |
| 16 | 9·7441903 | 16 | 9·7274666 | 16 | 9·6609712 | 16 | 9·5951062 |
| 17 | 9·7282022 | 17 | 9·7104332 | 17 | 9·6397819 | 17 | 9·5698003 |
| 18 | 9·7122141 | 18 | 9·6933999 | 18 | 9·6185926 | 18 | 9·5444944 |
| 19 | 9·6962260 | 19 | 9·6763666 | 19 | 9·5974033 | 19 | 9·5191886 |
| 20 | 9·6802379 | 20 | 9·6593332 | 20 | 9·5762140 | 20 | 9·4938827 |
| 21 | 9·6642498 | 21 | 9·6422999 | 21 | 9·5550247 | 21 | 9·4685768 |
| 22 | 9·6482617 | 22 | 9·6252665 | 22 | 9·5338354 | 22 | 9·4432710 |
| 23 | 9·6322736 | 23 | 9·6082332 | 23 | 9·5126461 | 23 | 9·4179651 |
| 24 | 9·6162855 | 24 | 9·5911999 | 24 | 9·4914568 | 24 | 9·3926592 |
| 25 | 9·6002974 | 25 | 9·5741665 | 25 | 9·4702675 | 25 | 9·3673534 |
| 26 | 9·5843093 | 26 | 9·5571332 | 26 | 9·4490782 | 26 | 9·3420475 |
| 27 | 9·5683212 | 27 | 9·5400998 | 27 | 9·4278889 | 27 | 9·3167416 |
| 28 | 9·5523330 | 28 | 9·5230665 | 28 | 9·4066996 | 28 | 9·2914358 |
| 29 | 9·5363449 | 29 | 9·5060332 | 29 | 9·3855103 | 29 | 9·2661299 |
| 30 | 9·5203568 | 30 | 9·4889998 | 30 | 9·3643210 | 30 | 9·2408240 |
| 31 | 9·5043687 | 31 | 9·4719665 | 31 | 9·3431317 | 31 | 9·2155182 |
| 32 | 9·4883806 | 32 | 9·4549331 | 32 | 9·3219424 | 32 | 9·1902123 |
| 33 | 9·4723925 | 33 | 9·4378998 | 33 | 9·3007531 | 33 | 9·1649064 |
| 34 | 9·4564044 | 34 | 9·4208665 | 34 | 9·2795638 | 34 | 9·1396006 |
| 35 | 9·4404163 | 35 | 9·4038331 | 35 | 9·2583745 | 35 | 9·1142947 |
| 36 | 9·4244282 | 36 | 9·3867998 | 36 | 9·2371852 | 36 | 9·0889889 |
| 37 | 9·4084401 | 37 | 9·3697664 | 37 | 9·2159959 | 37 | 9·0636830 |
| 38 | 9·3924520 | 38 | 9·3527331 | 38 | 9·1948066 | 38 | 9·0383771 |
| 39 | 9·3764639 | 39 | 9·3356998 | 39 | 9·1736173 | 39 | 9·0130713 |
| 40 | 9·3604758 | 40 | 9·3186664 | 40 | 9·1524280 | 40 | 8·9877654 |
| 41 | 9·3444877 | 41 | 9·3016331 | 41 | 9·1312387 | 41 | 8·9624595 |
| 42 | 9·3284996 | 42 | 9·2845997 | 42 | 9·1100494 | 42 | 8·9371537 |
| 43 | 9·3125115 | 43 | 9·2675664 | 43 | 9·0888601 | 43 | 8·9118478 |
| 44 | 9·2965234 | 44 | 9·2505331 | 44 | 9·0676708 | 44 | 8·8865419 |
| 45 | 9·2805353 | 45 | 9·2334997 | 45 | 9·0464815 | 45 | 8·8612361 |
| 46 | 9·2645472 | 46 | 9·2164664 | 46 | 9·0252922 | 46 | 8·8359302 |
| 47 | 9·2485590 | 47 | 9·1994331 | 47 | 9·0041029 | 47 | 8·8106243 |
| 48 | 9·2325709 | 48 | 9·1823997 | 48 | 8·9829136 | 48 | 8·7853185 |
| 49 | 9·2165828 | 49 | 9·1653664 | 49 | 8·9617243 | 49 | 8·7600126 |
| 50 | 9·2005947 | 50 | 9·1483330 | 50 | 8·9405350 | 50 | 8·7347067 |
| 51 | 9·1846066 | 51 | 9·1312997 | 51 | 8·9193457 | 51 | 8·7094009 |
| 52 | 9·1686185 | 52 | 9·1142664 | 52 | 8·8981564 | 52 | 8·6840950 |
| 53 | 9·1526304 | 53 | 9·0972330 | 53 | 8·8769671 | 53 | 8·6587891 |
| 54 | 9·1366423 | 54 | 9·0801997 | 54 | 8·8557779 | 54 | 8·6334833 |

**Logarithms of the Present Value of £1**, payable at the end of every Year, from 1 to 109 Years; **Rates of Interest $3\frac{3}{4}$, 4, 5, and 6 per Cent.**

$\lambda\ v^x$

| Years ($x$) | $3\frac{3}{4}$ per cent. | Years ($x$) | 4 per cent. | Years ($x$) | 5 per cent. | Years ($x$) | 6 per cent. |
|---|---|---|---|---|---|---|---|
| 55 | 9·1206542 | 55 | 9·0631663 | 55 | 8·8345886 | 55 | 8·6081774 |
| 56 | 9·1046661 | 56 | 9·0461330 | 56 | 8·8133993 | 56 | 8·5828715 |
| 57 | 9·0886780 | 57 | 9·0290997 | 57 | 8·7922100 | 57 | 8·5575657 |
| 58 | 9·0726899 | 58 | 9·0120663 | 58 | 8·7710207 | 58 | 8·5322598 |
| 59 | 9·0567018 | 59 | 8·9950330 | 59 | 8·7498314 | 59 | 8·5069539 |
| 60 | 9·0407137 | 60 | 8·9779996 | 60 | 8·7286421 | 60 | 8·4816481 |
| 61 | 9·0247256 | 61 | 8·9609663 | 61 | 8·7074528 | 61 | 8·4563422 |
| 62 | 9·0087375 | 62 | 8·9439330 | 62 | 8·6862635 | 62 | 8·4310364 |
| 63 | 8·9927494 | 63 | 8·9268996 | 63 | 8·6650742 | 63 | 8·4057305 |
| 64 | 8·9767613 | 64 | 8·9098663 | 64 | 8·6438849 | 64 | 8·3804246 |
| 65 | 8·9607732 | 65 | 8·8928329 | 65 | 8·6226956 | 65 | 8·3551188 |
| 66 | 8·9447850 | 66 | 8·8757996 | 66 | 8·6015063 | 66 | 8·3298129 |
| 67 | 8·9287969 | 67 | 8·8587663 | 67 | 8·5803170 | 67 | 8·3045070 |
| 68 | 8·9128088 | 68 | 8·8417329 | 68 | 8·5591277 | 68 | 8·2792012 |
| 69 | 8·8968207 | 69 | 8·8246996 | 69 | 8·5379384 | 69 | 8·2538953 |
| 70 | 8·8808326 | 70 | 8·8076662 | 70 | 8·5167491 | 70 | 8·2285894 |
| 71 | 8·8648445 | 71 | 8·7906329 | 71 | 8·4955598 | 71 | 8·2032836 |
| 72 | 8·8488564 | 72 | 8·7735996 | 72 | 8·4743705 | 72 | 8·1779777 |
| 73 | 8·8328683 | 73 | 8·7565662 | 73 | 8·4531812 | 73 | 8·1526718 |
| 74 | 8·8168802 | 74 | 8·7395329 | 74 | 8·4319919 | 74 | 8·1273660 |
| 75 | 8·8008921 | 75 | 8·7224996 | 75 | 8·4108026 | 75 | 8·1020601 |
| 76 | 8·7849040 | 76 | 8·7054662 | 76 | 8·3896133 | 76 | 8·0767542 |
| 77 | 8·7689159 | 77 | 8·6884329 | 77 | 8·3684240 | 77 | 8·0514484 |
| 78 | 8·7529278 | 78 | 8·6713995 | 78 | 8·3472347 | 78 | 8·0261425 |
| 79 | 8·7369397 | 79 | 8·6543662 | 79 | 8·3260454 | 79 | 8·0008366 |
| 80 | 8·7209516 | 80 | 8·6373329 | 80 | 8·3048561 | 80 | 7·9755308 |
| 81 | 8·7049635 | 81 | 8·6202995 | 81 | 8·2836668 | 81 | 7·9502249 |
| 82 | 8·6889754 | 82 | 8·6032662 | 82 | 8·2624775 | 82 | 7·9249190 |
| 83 | 8·6729873 | 83 | 8·5862328 | 83 | 8·2412882 | 83 | 7·8996132 |
| 84 | 8·6569991 | 84 | 8·5691995 | 84 | 8·2200989 | 84 | 7·8743073 |
| 85 | 8·6410110 | 85 | 8·5521662 | 85 | 8·1989096 | 85 | 7·8490015 |
| 86 | 8·6250229 | 86 | 8·5351328 | 86 | 8·1777203 | 86 | 7·8236956 |
| 87 | 8·6090348 | 87 | 8·5180995 | 87 | 8·1565310 | 87 | 7·7983897 |
| 88 | 8·5930467 | 88 | 8·5010661 | 88 | 8·1353417 | 88 | 7·7730839 |
| 89 | 8·5770586 | 89 | 8·4840328 | 89 | 8·1141524 | 89 | 7·7477780 |
| 90 | 8·5610705 | 90 | 8·4669995 | 90 | 8·0929631 | 90 | 7·7224721 |
| 91 | 8·5450824 | 91 | 8·4499661 | 91 | 8·0717738 | 91 | 7·6971663 |
| 92 | 8·5290943 | 92 | 8·4329328 | 92 | 8·0505845 | 92 | 7·6718604 |
| 93 | 8·5131062 | 93 | 8·4158994 | 93 | 8·0293952 | 93 | 7·6465545 |
| 94 | 8·4971181 | 94 | 8·3988661 | 94 | 8·0082059 | 94 | 7·6212487 |
| 95 | 8·4811300 | 95 | 8·3818328 | 95 | 7·9870166 | 95 | 7·5959428 |
| 96 | 8·4651419 | 96 | 8·3647994 | 96 | 7·9658273 | 96 | 7·5706369 |
| 97 | 8·4491538 | 97 | 8·3477661 | 97 | 7·9446380 | 97 | 7·5453311 |
| 98 | 8·4331657 | 98 | 8·3307327 | 98 | 7·9234487 | 98 | 7·5200252 |
| 99 | 8·4171776 | 99 | 8·3136994 | 99 | 7·9022594 | 99 | 7·4947193 |
| 100 | 8·4011895 | 100 | 8·2966661 | 100 | 7·8810701 | 100 | 7·4694135 |
| 101 | 8·3852014 | 101 | 8·2796327 | 101 | 7·8598808 | 101 | 7·4441076 |
| 102 | 8·3692133 | 102 | 8·2625994 | 102 | 7·8386915 | 102 | 7·4188017 |
| 103 | 8·3532251 | 103 | 8·2455661 | 103 | 7·8175022 | 103 | 7·3934959 |
| 104 | 8·3372370 | 104 | 8·2285327 | 104 | 7·7963129 | 104 | 7·3681900 |
| 105 | 8·3212489 | 105 | 8·2114994 | 105 | 7·7751236 | 105 | 7·3428841 |
| 106 | 8·3052608 | 106 | 8·1944660 | 106 | 7·7539343 | 106 | 7·3175783 |
| 107 | 8·2892727 | 107 | 8·1774327 | 107 | 7·7327450 | 107 | 7·2922724 |
| 108 | 8·2732846 | 108 | 8·1603994 | 108 | 7·7115557 | 108 | 7·2669666 |
| 109 | 8·2572965 | 109 | 8·1433660 | 109 | 7·6903664 | 109 | 7·2416607 |

## Logarithms of the Present Value of £1, payable at the end of every Year, from 1 to 109 Years; Rates of Interest 7, 8, 9, and 10 per Cent.

| $\lambda\ v^x$ | | | | | | | |
|---|---|---|---|---|---|---|---|
| Years ($x$) | 7 per cent. | Years ($x$) | 8 per cent. | Years ($x$) | 9 per cent. | Years ($x$) | 10 per cent. |
| 0 | 0·0000000 | 0 | 0·0000000 | 0 | 0·0000000 | 0 | 0·0000000 |
| 1 | 9·9706162 | 1 | 9·9665762 | 1 | 9·9625735 | 1 | 9·9586073 |
| 2 | 9·9412324 | 2 | 9·9331525 | 2 | 9·9251470 | 2 | 9·9172146 |
| 3 | 9·9118487 | 3 | 9·8997287 | 3 | 9·8877205 | 3 | 9·8758219 |
| 4 | 9·8824649 | 4 | 9·8663050 | 4 | 9·8502940 | 4 | 9·8344293 |
| 5 | 9·8530811 | 5 | 9·8328812 | 5 | 9·8128675 | 5 | 9·7930366 |
| 6 | 9·8236973 | 6 | 9·7994575 | 6 | 9·7754410 | 6 | 9·7516439 |
| 7 | 9·7943136 | 7 | 9·7660337 | 7 | 9·7380145 | 7 | 9·7102512 |
| 8 | 9·7649298 | 8 | 9·7326100 | 8 | 9·7005880 | 8 | 9·6688585 |
| 9 | 9·7355460 | 9 | 9·6991862 | 9 | 9·6631615 | 9 | 9·6274658 |
| 10 | 9·7061622 | 10 | 9·6657624 | 10 | 9·6257350 | 10 | 9·5860731 |
| 11 | 9·6767784 | 11 | 9·6323387 | 11 | 9·5883085 | 11 | 9·5446805 |
| 12 | 9·6473947 | 12 | 9·5989149 | 12 | 9·5508820 | 12 | 9·5032878 |
| 13 | 9·6180109 | 13 | 9·5654912 | 13 | 9·5134555 | 13 | 9·4618951 |
| 14 | 9·5886271 | 14 | 9·5320674 | 14 | 9·4760290 | 14 | 9·4205024 |
| 15 | 9·5592433 | 15 | 9·4986437 | 15 | 9·4386025 | 15 | 9·3791097 |
| 16 | 9·5298596 | 16 | 9·4652199 | 16 | 9·4011760 | 16 | 9·3377170 |
| 17 | 9·5004758 | 17 | 9·4317962 | 17 | 9·3637495 | 17 | 9·2963244 |
| 18 | 9·4710920 | 18 | 9·3983724 | 18 | 9·3263230 | 18 | 9·2549317 |
| 19 | 9·4417082 | 19 | 9·3649486 | 19 | 9·2888965 | 19 | 9·2135390 |
| 20 | 9·4123244 | 20 | 9·3315249 | 20 | 9·2514700 | 20 | 9·1721463 |
| 21 | 9·3829407 | 21 | 9·2981011 | 21 | 9·2140435 | 21 | 9·1307536 |
| 22 | 9·3535569 | 22 | 9·2646774 | 22 | 9·1766170 | 22 | 9·0893609 |
| 23 | 9·3241731 | 23 | 9·2312536 | 23 | 9·1391905 | 23 | 9·0479682 |
| 24 | 9·2947893 | 24 | 9·1978299 | 24 | 9·1017640 | 24 | 9·0065756 |
| 25 | 9·2654056 | 25 | 9·1644061 | 25 | 9·0643376 | 25 | 8·9651829 |
| 26 | 9·2360218 | 26 | 9·1309824 | 26 | 9·0269111 | 26 | 8·9237902 |
| 27 | 9·2066380 | 27 | 9·0975586 | 27 | 8·9894846 | 27 | 8·8823975 |
| 28 | 9·1772542 | 28 | 9·0641348 | 28 | 8·9520581 | 28 | 8·8410048 |
| 29 | 9·1478704 | 29 | 9·0307111 | 29 | 8·9146316 | 29 | 8·7996121 |
| 30 | 9·1184867 | 30 | 8·9972873 | 30 | 8·8772051 | 30 | 8·7582194 |
| 31 | 9·0891029 | 31 | 8·9638636 | 31 | 8·8397786 | 31 | 8·7168268 |
| 32 | 9·0597191 | 32 | 8·9304398 | 32 | 8·8023521 | 32 | 8·6754341 |
| 33 | 9·0303353 | 33 | 8·8970161 | 33 | 8·7649256 | 33 | 8·6340414 |
| 34 | 9·0009516 | 34 | 8·8635923 | 34 | 8·7274991 | 34 | 8·5926487 |
| 35 | 8·9715678 | 35 | 8·8301686 | 35 | 8·6900726 | 35 | 8·5512560 |
| 36 | 8·9421840 | 36 | 8·7967448 | 36 | 8·6526461 | 36 | 8·5098633 |
| 37 | 8·9128002 | 37 | 8·7633210 | 37 | 8·6152196 | 37 | 8·4684706 |
| 38 | 8·8834164 | 38 | 8·7298973 | 38 | 8·5777931 | 38 | 8·4270780 |
| 39 | 8·8540327 | 39 | 8·6964735 | 39 | 8·5403666 | 39 | 8·3856853 |
| 40 | 8·8246489 | 40 | 8·6630498 | 40 | 8·5029401 | 40 | 8·3442926 |
| 41 | 8·7952651 | 41 | 8·6296260 | 41 | 8·4655136 | 41 | 8·3028999 |
| 42 | 8·7658813 | 42 | 8·5962023 | 42 | 8·4280871 | 42 | 8·2615072 |
| 43 | 8·7364976 | 43 | 8·5627785 | 43 | 8·3906606 | 43 | 8·2201145 |
| 44 | 8·7071138 | 44 | 8·5293548 | 44 | 8·3532341 | 44 | 8·1787219 |
| 45 | 8·6777300 | 45 | 8·4959310 | 45 | 8·3158076 | 45 | 8·1373292 |
| 46 | 8·6483462 | 46 | 8·4625072 | 46 | 8·2783811 | 46 | 8·0959365 |
| 47 | 8·6189624 | 47 | 8·4290835 | 47 | 8·2409546 | 47 | 8·0545438 |
| 48 | 8·5895787 | 48 | 8·3956597 | 48 | 8·2035281 | 48 | 8·0131511 |
| 49 | 8·5601949 | 49 | 8·3622360 | 49 | 8·1661016 | 49 | 7·9717584 |
| 50 | 8·5308111 | 50 | 8·3288122 | 50 | 8·1286751 | 50 | 7·9303657 |
| 51 | 8·5014273 | 51 | 8·2953885 | 51 | 8·0912486 | 51 | 7·8889731 |
| 52 | 8·4720436 | 52 | 8·2619647 | 52 | 8·0538221 | 52 | 7·8475804 |
| 53 | 8·4426598 | 53 | 8·2285410 | 53 | 8·0163956 | 53 | 7·8061877 |
| 54 | 8·4132760 | 54 | 8·1951172 | 54 | 7·9789691 | 54 | 7·7647950 |

## Logarithms of the Present Value of £1, payable at the end of every Year, from 1 to 109 Years; Rates of Interest 7, 8, 9, and 10 per Cent.

| $\lambda\ v^x$ | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Years** ($x$) | **7 per cent.** | **Years** ($x$) | **8 per cent.** | **Years** ($x$) | **9 per cent.** | **Years** ($x$) | **10 per cent.** |
| 55 | 8·3838922 | 55 | 8·1616934 | 55 | 7·9415426 | 55 | 7·7234023 |
| 56 | 8·3545084 | 56 | 8·1282697 | 56 | 7·9041161 | 56 | 7·6820096 |
| 57 | 8·3251247 | 57 | 8·0948459 | 57 | 7·8666896 | 57 | 7·6406169 |
| 58 | 8·2957409 | 58 | 8·0614222 | 58 | 7·8292631 | 58 | 7·5992243 |
| 59 | 8·2663571 | 59 | 8·0279984 | 59 | 7·7918366 | 59 | 7·5578316 |
| 60 | 8·2369733 | 60 | 7·9945747 | 60 | 7·7544101 | 60 | 7·5164389 |
| 61 | 8·2075896 | 61 | 7·9611509 | 61 | 7·7169836 | 61 | 7·4750462 |
| 62 | 8·1782058 | 62 | 7·9277272 | 62 | 7·6795571 | 62 | 7·4336535 |
| 63 | 8·1488220 | 63 | 7·8943034 | 63 | 7·6421306 | 63 | 7·3922608 |
| 64 | 8·1194382 | 64 | 7·8608796 | 64 | 7·6047041 | 64 | 7·3508681 |
| 65 | 8·0900545 | 65 | 7·8274559 | 65 | 7·5672776 | 65 | 7·3094755 |
| 66 | 8·0606707 | 66 | 7·7940321 | 66 | 7·5298511 | 66 | 7·2680828 |
| 67 | 8·0312869 | 67 | 7·7606084 | 67 | 7·4924246 | 67 | 7·2266901 |
| 68 | 8·0019031 | 68 | 7·7271846 | 68 | 7·4549981 | 68 | 7·1852974 |
| 69 | 7·9725193 | 69 | 7·6937609 | 69 | 7·4175716 | 69 | 7·1439047 |
| 70 | 7·9431356 | 70 | 7·6603371 | 70 | 7·3801451 | 70 | 7·1025120 |
| 71 | 7·9137518 | 71 | 7·6269134 | 71 | 7·3427186 | 71 | 7·0611194 |
| 72 | 7·8843680 | 72 | 7·5934896 | 72 | 7·3052921 | 72 | 7·0197267 |
| 73 | 7·8549842 | 73 | 7·5600658 | 73 | 7·2678657 | 73 | 6·9783340 |
| 74 | 7·8256005 | 74 | 7·5266421 | 74 | 7·2304392 | 74 | 6·9369413 |
| 75 | 7·7962167 | 75 | 7·4932183 | 75 | 7·1930127 | 75 | 6·8955486 |
| 76 | 7·7668329 | 76 | 7·4597946 | 76 | 7·1555862 | 76 | 6·8541559 |
| 77 | 7·7374491 | 77 | 7·4263708 | 77 | 7·1181597 | 77 | 6·8127632 |
| 78 | 7·7080653 | 78 | 7·3929471 | 78 | 7·0807332 | 78 | 6·7713706 |
| 79 | 7·6786816 | 79 | 7·3595233 | 79 | 7·0433067 | 79 | 6·7299779 |
| 80 | 7·6492978 | 80 | 7·3260996 | 80 | 7·0058802 | 80 | 6·6885852 |
| 81 | 7·6199140 | 81 | 7·2926758 | 81 | 6·9684537 | 81 | 6·6471925 |
| 82 | 7·5905302 | 82 | 7·2592521 | 82 | 6·9310272 | 82 | 6·6057998 |
| 83 | 7·5611465 | 83 | 7·2258283 | 83 | 6·8936007 | 83 | 6·5644071 |
| 84 | 7·5317627 | 84 | 7·1924045 | 84 | 6·8561742 | 84 | 6·5230144 |
| 85 | 7·5023789 | 85 | 7·1589808 | 85 | 6·8187477 | 85 | 6·4816218 |
| 86 | 7·4729951 | 86 | 7·1255570 | 86 | 6·7813212 | 86 | 6·4402291 |
| 87 | 7·4436113 | 87 | 7·0921333 | 87 | 6·7438947 | 87 | 6·3988364 |
| 88 | 7·4142276 | 88 | 7·0587095 | 88 | 6·7064682 | 88 | 6·3574437 |
| 89 | 7·3848438 | 89 | 7·0252858 | 89 | 6·6690417 | 89 | 6·3160510 |
| 90 | 7·3554600 | 90 | 6·9918620 | 90 | 6·6316152 | 90 | 6·2746583 |
| 91 | 7·3260762 | 91 | 6·9584383 | 91 | 6·5941887 | 91 | 6·2332657 |
| 92 | 7·2966925 | 92 | 6·9250145 | 92 | 6·5567622 | 92 | 6·1918730 |
| 93 | 7·2673087 | 93 | 6·8915907 | 93 | 6·5193357 | 93 | 6·1504803 |
| 94 | 7·2379249 | 94 | 6·8581670 | 94 | 6·4819092 | 94 | 6·1090876 |
| 95 | 7·2085411 | 95 | 6·8247432 | 95 | 6·4444827 | 95 | 6·0676949 |
| 96 | 7·1791573 | 96 | 6·7913195 | 96 | 6·4070562 | 96 | 6·0263022 |
| 97 | 7·1497736 | 97 | 6·7578957 | 97 | 6·3696297 | 97 | 5·9849095 |
| 98 | 7·1203898 | 98 | 6·7244720 | 98 | 6·3322032 | 98 | 5·9435169 |
| 99 | 7·0910060 | 99 | 6·6910482 | 99 | 6·2947767 | 99 | 5·9021242 |
| 100 | 7·0616222 | 100 | 6·6576245 | 100 | 6·2573502 | 100 | 5·8607315 |
| 101 | 7·0322385 | 101 | 6·6242007 | 101 | 6·2199237 | 101 | 5·8193388 |
| 102 | 7·0028547 | 102 | 6·5907769 | 102 | 6·1824972 | 102 | 5·7779461 |
| 103 | 6·9734709 | 103 | 6·5573532 | 103 | 6·1450707 | 103 | 5·7365534 |
| 104 | 6·9440871 | 104 | 6·5239294 | 104 | 6·1076442 | 104 | 5·6951607 |
| 105 | 6·9147033 | 105 | 6·4905057 | 105 | 6·0702177 | 105 | 5·6537681 |
| 106 | 6·8853196 | 106 | 6·4570819 | 106 | 6·0327912 | 106 | 5·6123754 |
| 107 | 6·8559358 | 107 | 6·4236582 | 107 | 5·9953647 | 107 | 5·5709827 |
| 108 | 6·8265520 | 108 | 6·3902344 | 108 | 5·9579382 | 108 | 5·5295900 |
| 109 | 6·7971682 | 109 | 6·3568107 | 109 | 5·9205117 | 109 | 5·4881973 |

## Present Value of £1, payable at the end of every Year, from 1 to 109 Years; Rates of Interest 3, 3¼, 3⅓, 3½, 3¾, and 4 per Cent.

| Years (x) | $v^x$ * | | | | | | Years (x) |
|---|---|---|---|---|---|---|---|
| | 3 per cent. | 3¼ per cent. | 3⅓ per cent. | 3½ per cent. | 3¾ per cent. | 4 per cent. | |
| 0 | 1·000000 | 1·000000 | 1·000000 | 1·000000 | 1·000000 | 1·000000 | 0 |
| 1 | ·970874 | ·968523 | ·967742 | ·966184 | ·963855 | ·961538 | 1 |
| 2 | ·942596 | ·938037 | ·936524 | ·933511 | ·929017 | ·924556 | 2 |
| 3 | ·915142 | ·908510 | ·906314 | ·901943 | ·895438 | ·888996 | 3 |
| 4 | ·888487 | ·879913 | ·877078 | ·871442 | ·863073 | ·854804 | 4 |
| 5 | ·862609 | ·852216 | ·848785 | ·841973 | ·831878 | ·821927 | 5 |
| 6 | ·837484 | ·825391 | ·821405 | ·813501 | ·801810 | ·790315 | 6 |
| 7 | ·813092 | ·799410 | ·794908 | ·785991 | ·772829 | ·759918 | 7 |
| 8 | ·789409 | ·774247 | ·769266 | ·759412 | ·744895 | ·730690 | 8 |
| 9 | ·766417 | ·749876 | ·744451 | ·733731 | ·717971 | ·702587 | 9 |
| 10 | ·744094 | ·726272 | ·720436 | ·708919 | ·692020 | ·675564 | 10 |
| 11 | ·722421 | ·703411 | ·697196 | ·684946 | ·667008 | ·649581 | 11 |
| 12 | ·701380 | ·681270 | ·674706 | ·661783 | ·642899 | ·624597 | 12 |
| 13 | ·680951 | ·659826 | ·652941 | ·639404 | ·619662 | ·600574 | 13 |
| 14 | ·661118 | ·639056 | ·631879 | ·617782 | ·597264 | ·577475 | 14 |
| 15 | ·641862 | ·618941 | ·611496 | ·596891 | ·575676 | ·555265 | 15 |
| 16 | ·623167 | ·599458 | ·591770 | ·576706 | ·554869 | ·533908 | 16 |
| 17 | ·605016 | ·580589 | ·572681 | ·557204 | ·534813 | ·513373 | 17 |
| 18 | ·587395 | ·562314 | ·554207 | ·538361 | ·515483 | ·493628 | 18 |
| 19 | ·570286 | ·544614 | ·536329 | ·520156 | ·496851 | ·474642 | 19 |
| 20 | ·553676 | ·527471 | ·519028 | ·502566 | ·478892 | ·456387 | 20 |
| 21 | ·537549 | ·510868 | ·502286 | ·485571 | ·461583 | ·438834 | 21 |
| 22 | ·521893 | ·494787 | ·486083 | ·469151 | ·444899 | ·421955 | 22 |
| 23 | ·506692 | ·479213 | ·470403 | ·453286 | ·428819 | ·405726 | 23 |
| 24 | ·491934 | ·464129 | ·455229 | ·437957 | ·413319 | ·390121 | 24 |
| 25 | ·477606 | ·449520 | ·440544 | ·423147 | ·398380 | ·375117 | 25 |
| 26 | ·463695 | ·435370 | ·426333 | ·408838 | ·383981 | ·360689 | 26 |
| 27 | ·450189 | ·421666 | ·412580 | ·395012 | ·370102 | ·346817 | 27 |
| 28 | ·437077 | ·408393 | ·399271 | ·381654 | ·356725 | ·333477 | 28 |
| 29 | ·424346 | ·395538 | ·386391 | ·368748 | ·343831 | ·320651 | 29 |
| 30 | ·411987 | ·383088 | ·373927 | ·356278 | ·331403 | ·308319 | 30 |
| 31 | ·399987 | ·371029 | ·361865 | ·344230 | ·319425 | ·296460 | 31 |
| 32 | ·388337 | ·359350 | ·350192 | ·332590 | ·307879 | ·285058 | 32 |
| 33 | ·377026 | ·348039 | ·338895 | ·321343 | ·296751 | ·274094 | 33 |
| 34 | ·366045 | ·337084 | ·327963 | ·310476 | ·286025 | ·263552 | 34 |
| 35 | ·355383 | ·326473 | ·317384 | ·299977 | ·275687 | ·253415 | 35 |
| 36 | ·345032 | ·316197 | ·307145 | ·289833 | ·265722 | ·243669 | 36 |
| 37 | ·334983 | ·306244 | ·297238 | ·280032 | ·256118 | ·234297 | 37 |
| 38 | ·325226 | ·296604 | ·287649 | ·270562 | ·246861 | ·225285 | 38 |
| 39 | ·315754 | ·287268 | ·278370 | ·261413 | ·237938 | ·216621 | 39 |
| 40 | ·306557 | ·278226 | ·269391 | ·252572 | ·229338 | ·208289 | 40 |
| 41 | ·297628 | ·269468 | ·260701 | ·244031 | ·221049 | ·200278 | 41 |
| 42 | ·288959 | ·260986 | ·252291 | ·235779 | ·213059 | ·192575 | 42 |
| 43 | ·280543 | ·252771 | ·244152 | ·227806 | ·205358 | ·185168 | 43 |
| 44 | ·272372 | ·244815 | ·236277 | ·220102 | ·197935 | ·178046 | 44 |
| 45 | ·264439 | ·237109 | ·228655 | ·212659 | ·190781 | ·171198 | 45 |
| 46 | ·256737 | ·229645 | ·221279 | ·205468 | ·183885 | ·164614 | 46 |
| 47 | ·249259 | ·222417 | ·214141 | ·198520 | ·177239 | ·158283 | 47 |
| 48 | ·241999 | ·215416 | ·207233 | ·191806 | ·170833 | ·152195 | 48 |
| 49 | ·234950 | ·208635 | ·200548 | ·185320 | ·164658 | ·146341 | 49 |
| 50 | ·228107 | ·202068 | ·194079 | ·179053 | ·158707 | ·140713 | 50 |
| 51 | ·221463 | ·195707 | ·187818 | ·172998 | ·152970 | ·135301 | 51 |
| 52 | ·215013 | ·189547 | ·181760 | ·167148 | ·147441 | ·130097 | 52 |
| 53 | ·208750 | ·183581 | ·175896 | ·161496 | ·142112 | ·125093 | 53 |
| 54 | ·202670 | ·177802 | ·170222 | ·156035 | ·136975 | ·120282 | 54 |

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* See Note at page 20.

## Present Value of £1, payable at the end of every Year, from 1 to 109 Years; Rates of Interest 3, $3\frac{1}{4}$, $3\frac{1}{3}$, $3\frac{1}{2}$, $3\frac{3}{4}$, and 4 per Cent.

| | $v^x$ | | | | | | |
|---|---|---|---|---|---|---|---|
| **Years** ($x$) | **3 per cent.** | **$3\frac{1}{4}$ per cent.** | **$3\frac{1}{3}$ per cent.** | **$3\frac{1}{2}$ per cent.** | **$3\frac{3}{4}$ per cent.** | **4 per cent.** | **Years** ($x$) |
| 55 | ·196767 | ·172205 | ·164731 | ·150758 | ·132024 | ·115656 | 55 |
| 56 | ·191036 | ·166785 | ·159417 | ·145660 | ·127252 | ·111207 | 56 |
| 57 | ·185472 | ·161535 | ·154275 | ·140734 | ·122653 | ·106930 | 57 |
| 58 | ·180070 | ·156450 | ·149298 | ·135975 | ·118220 | ·102817 | 58 |
| 59 | ·174825 | ·151526 | ·144482 | ·131377 | ·113947 | ·098863 | 59 |
| 60 | ·169733 | ·146756 | ·139821 | ·126934 | ·109828 | ·095060 | 60 |
| 61 | ·164789 | ·142137 | ·135311 | ·122642 | ·105858 | ·091404 | 61 |
| 62 | ·159990 | ·137663 | ·130946 | ·118495 | ·102032 | ·087889 | 62 |
| 63 | ·155330 | ·133329 | ·126722 | ·114487 | ·098344 | ·084508 | 63 |
| 64 | ·150806 | ·129133 | ·122634 | ·110616 | ·094790 | ·081258 | 64 |
| 65 | ·146413 | ·125068 | ·118678 | ·106875 | ·091364 | ·078133 | 65 |
| 66 | ·142149 | ·121131 | ·114850 | ·103261 | ·088061 | ·075128 | 66 |
| 67 | ·138009 | ·117318 | ·111145 | ·099769 | ·084878 | ·072238 | 67 |
| 68 | ·133989 | ·113625 | ·107560 | ·096395 | ·081810 | ·069460 | 68 |
| 69 | ·130086 | ·110049 | ·104090 | ·093136 | ·078853 | ·066788 | 69 |
| 70 | ·126297 | ·106585 | ·100732 | ·089986 | ·076003 | ·064219 | 70 |
| 71 | ·122619 | ·103230 | ·097483 | ·086943 | ·073256 | ·061749 | 71 |
| 72 | ·119047 | ·099981 | ·094338 | ·084003 | ·070608 | ·059374 | 72 |
| 73 | ·115580 | ·096833 | ·091295 | ·081162 | ·068056 | ·057091 | 73 |
| 74 | ·112214 | ·093785 | ·088350 | ·078418 | ·065596 | ·054895 | 74 |
| 75 | ·108945 | ·090833 | ·085500 | ·075766 | ·063225 | ·052784 | 75 |
| 76 | ·105772 | ·087974 | ·082742 | ·073204 | ·060940 | ·050754 | 76 |
| 77 | ·102691 | ·085205 | ·080073 | ·070728 | ·058738 | ·048801 | 77 |
| 78 | ·099700 | ·082523 | ·077490 | ·068337 | ·056615 | ·046924 | 78 |
| 79 | ·096796 | ·079925 | ·074990 | ·066026 | ·054568 | ·045120 | 79 |
| 80 | ·093977 | ·077410 | ·072571 | ·063793 | ·052596 | ·043384 | 80 |
| 81 | ·091240 | ·074973 | ·070230 | ·061636 | ·050695 | ·041716 | 81 |
| 82 | ·088582 | ·072613 | ·067965 | ·059551 | ·048862 | ·040111 | 82 |
| 83 | ·086002 | ·070327 | ·065772 | ·057538 | ·047096 | ·038569 | 83 |
| 84 | ·083497 | ·068114 | ·063651 | ·055592 | ·045394 | ·037085 | 84 |
| 85 | ·081065 | ·065970 | ·061597 | ·053712 | ·043753 | ·035659 | 85 |
| 86 | ·078704 | ·063893 | ·059610 | ·051896 | ·042172 | ·034287 | 86 |
| 87 | ·076412 | ·061882 | ·057688 | ·050141 | ·040648 | ·032969 | 87 |
| 88 | ·074186 | ·059934 | ·055827 | ·048445 | ·039178 | ·031701 | 88 |
| 89 | ·072026 | ·058048 | ·054026 | ·046807 | ·037762 | ·030481 | 89 |
| 90 | ·069928 | ·056220 | ·052283 | ·045224 | ·036397 | ·029309 | 90 |
| 91 | ·067891 | ·054451 | ·050596 | ·043695 | ·035082 | ·028182 | 91 |
| 92 | ·065914 | ·052737 | ·048964 | ·042217 | ·033814 | ·027098 | 92 |
| 93 | ·063994 | ·051077 | ·047385 | ·040789 | ·032592 | ·026056 | 93 |
| 94 | ·062130 | ·049469 | ·045856 | ·039410 | ·031414 | ·025053 | 94 |
| 95 | ·060320 | ·047912 | ·044377 | ·038077 | ·030278 | ·024090 | 95 |
| 96 | ·058563 | ·046404 | ·042946 | ·036790 | ·029184 | ·023163 | 96 |
| 97 | ·056858 | ·044943 | ·041560 | ·035546 | ·028129 | ·022272 | 97 |
| 98 | ·055202 | ·043529 | ·040220 | ·034344 | ·027112 | ·021416 | 98 |
| 99 | ·053594 | ·042158 | ·038922 | ·033182 | ·026132 | ·020592 | 99 |
| 100 | ·052033 | ·040831 | ·037667 | ·032060 | ·025188 | ·019800 | 100 |
| 101 | ·050517 | ·039546 | ·036452 | ·030976 | ·024277 | ·019039 | 101 |
| 102 | ·049046 | ·038301 | ·035276 | ·029928 | ·023400 | ·018306 | 102 |
| 103 | ·047617 | ·037096 | ·034138 | ·028916 | ·022554 | ·017602 | 103 |
| 104 | ·046231 | ·035928 | ·033037 | ·027939 | ·021739 | ·016925 | 104 |
| 105 | ·044884 | ·034797 | ·031971 | ·026994 | ·020953 | ·016274 | 105 |
| 106 | ·043577 | ·033702 | ·030940 | ·026081 | ·020196 | ·015648 | 106 |
| 107 | ·042307 | ·032641 | ·029941 | ·025199 | ·019466 | ·015046 | 107 |
| 108 | ·041075 | ·031614 | ·028976 | ·024347 | ·018762 | ·014468 | 108 |
| 109 | ·039879 | ·030618 | ·028041 | ·023523 | ·018084 | ·013911 | 109 |

## Present Value of £1, payable at the end of every Year, from 1 to 109 Years; Rates of Interest 5, 6, 7, 8, 9, and 10 per Cent.

| | $v^x$ | | | | | | |
|---|---|---|---|---|---|---|---|
| Years ($x$) | 5 per cent. | 6 per cent. | 7 per cent. | 8 per cent. | 9 per cent. | 10 per cent. | Years ($x$) |
| 0 | 1·000000 | 1·000000 | 1·000000 | 1·000000 | 1·000000 | 1·000000 | 0 |
| 1 | ·952381 | ·943396 | ·934579 | ·925926 | ·917431 | ·909091 | 1 |
| 2 | ·907029 | ·889996 | ·873439 | ·857339 | ·841680 | ·826446 | 2 |
| 3 | ·863838 | ·839619 | ·816298 | ·793832 | ·772183 | ·751315 | 3 |
| 4 | ·822702 | ·792094 | ·762895 | ·735030 | ·708425 | ·683013 | 4 |
| 5 | ·783526 | ·747258 | ·712986 | ·680583 | ·649931 | ·620921 | 5 |
| 6 | ·746215 | ·704961 | ·666342 | ·630170 | ·596267 | ·564474 | 6 |
| 7 | ·710681 | ·665057 | ·622750 | ·583490 | ·547034 | ·513158 | 7 |
| 8 | ·676839 | ·627412 | ·582009 | ·540269 | ·501866 | ·466507 | 8 |
| 9 | ·644609 | ·591898 | ·543934 | ·500249 | ·460428 | ·424098 | 9 |
| 10 | ·613913 | ·558395 | ·508349 | ·463193 | ·422411 | ·385543 | 10 |
| 11 | ·584679 | ·526788 | ·475093 | ·428883 | ·387533 | ·350494 | 11 |
| 12 | ·556837 | ·496969 | ·444012 | ·397114 | ·355535 | ·318631 | 12 |
| 13 | ·530321 | ·468839 | ·414964 | ·367698 | ·326179 | ·289664 | 13 |
| 14 | ·505068 | ·442301 | ·387817 | ·340461 | ·299246 | ·263331 | 14 |
| 15 | ·481017 | ·417265 | ·362446 | ·315242 | ·274538 | ·239392 | 15 |
| 16 | ·458112 | ·393646 | ·338735 | ·291890 | ·251870 | ·217629 | 16 |
| 17 | ·436297 | ·371364 | ·316574 | ·270269 | ·231073 | ·197845 | 17 |
| 18 | ·415521 | ·350344 | ·295864 | ·250249 | ·211994 | ·179859 | 18 |
| 19 | ·395734 | ·330513 | ·276508 | ·231712 | ·194490 | ·163508 | 19 |
| 20 | ·376889 | ·311805 | ·258419 | ·214548 | ·178431 | ·148644 | 20 |
| 21 | ·358942 | ·294155 | ·241513 | ·198656 | ·163698 | ·135131 | 21 |
| 22 | ·341850 | ·277505 | ·225713 | ·183941 | ·150182 | ·122846 | 22 |
| 23 | ·325571 | ·261797 | ·210947 | ·170315 | ·137781 | ·111678 | 23 |
| 24 | ·310068 | ·246979 | ·197147 | ·157699 | ·126405 | ·101526 | 24 |
| 25 | ·295303 | ·232999 | ·184249 | ·146018 | ·115968 | ·092296 | 25 |
| 26 | ·281241 | ·219810 | ·172195 | ·135202 | ·106393 | ·083905 | 26 |
| 27 | ·267848 | ·207368 | ·160930 | ·125187 | ·097608 | ·076278 | 27 |
| 28 | ·255094 | ·195630 | ·150402 | ·115914 | ·089548 | ·069343 | 28 |
| 29 | ·242946 | ·184557 | ·140563 | ·107328 | ·082155 | ·063039 | 29 |
| 30 | ·231377 | ·174110 | ·131367 | ·099377 | ·075371 | ·057309 | 30 |
| 31 | ·220359 | ·164255 | ·122773 | ·092016 | ·069148 | ·052099 | 31 |
| 32 | ·209866 | ·154957 | ·114741 | ·085200 | ·063438 | ·047362 | 32 |
| 33 | ·199873 | ·146186 | ·107235 | ·078889 | ·058200 | ·043057 | 33 |
| 34 | ·190355 | ·137912 | ·100219 | ·073045 | ·053395 | ·039143 | 34 |
| 35 | ·181290 | ·130105 | ·093663 | ·067635 | ·048986 | ·035584 | 35 |
| 36 | ·172657 | ·122741 | ·087535 | ·062625 | ·044941 | ·032349 | 36 |
| 37 | ·164436 | ·115793 | ·081809 | ·057986 | ·041231 | ·029408 | 37 |
| 38 | ·156605 | ·109239 | ·076457 | ·053690 | ·037826 | ·026735 | 38 |
| 39 | ·149148 | ·103056 | ·071455 | ·049713 | ·034703 | ·024304 | 39 |
| 40 | ·142046 | ·097222 | ·066780 | ·046031 | ·031838 | ·022095 | 40 |
| 41 | ·135282 | ·091719 | ·062412 | ·042621 | ·029209 | ·020086 | 41 |
| 42 | ·128840 | ·086527 | ·058329 | ·039464 | ·026797 | ·018260 | 42 |
| 43 | ·122704 | ·081630 | ·054513 | ·036541 | ·024584 | ·016600 | 43 |
| 44 | ·116861 | ·077009 | ·050946 | ·033834 | ·022555 | ·015091 | 44 |
| 45 | ·111297 | ·072650 | ·047613 | ·031328 | ·020692 | ·013719 | 45 |
| 46 | ·105997 | ·068538 | ·044499 | ·029007 | ·018984 | ·012472 | 46 |
| 47 | ·100949 | ·064658 | ·041587 | ·026859 | ·017416 | ·011338 | 47 |
| 48 | ·096142 | ·060998 | ·038867 | ·024869 | ·015978 | ·010307 | 48 |
| 49 | ·091564 | ·057546 | ·036324 | ·023027 | ·014659 | ·009370 | 49 |
| 50 | ·087204 | ·054288 | ·033948 | ·021321 | ·013449 | ·008519 | 50 |
| 51 | ·083051 | ·051215 | ·031727 | ·019742 | ·012338 | ·007744 | 51 |
| 52 | ·079096 | ·048316 | ·029651 | ·018280 | ·011319 | ·007040 | 52 |
| 53 | ·075330 | ·045582 | ·027711 | ·016925 | ·010385 | ·006400 | 53 |
| 54 | ·071743 | ·043001 | ·025899 | ·015672 | ·009527 | ·005818 | 54 |

## Present Value of £1, payable at the end of every Year, from 1 to 109 Years; Rates of Interest 5, 6, 7, 8, 9, and 10 per Cent.

| | $v^x$ | | | | | | |
|---|---|---|---|---|---|---|---|
| **Years** ($x$) | **5 per cent.** | **6 per cent.** | **7 per cent.** | **8 per cent.** | **9 per cent.** | **10 per cent.** | **Years** ($x$) |
| 55 | ·068326 | ·040567 | ·024204 | ·014511 | ·008741 | ·005289 | 55 |
| 56 | ·065073 | ·038271 | ·022621 | ·013436 | ·008019 | ·004809 | 56 |
| 57 | ·061974 | ·036105 | ·021141 | ·012441 | ·007357 | ·004371 | 57 |
| 58 | ·059023 | ·034061 | ·019758 | ·011519 | ·006749 | ·003974 | 58 |
| 59 | ·056212 | ·032133 | ·018465 | ·010666 | ·006192 | ·003613 | 59 |
| 60 | ·053536 | ·030314 | ·017257 | ·009876 | ·005681 | ·003284 | 60 |
| 61 | ·050986 | ·028598 | ·016128 | ·009144 | ·005212 | ·002986 | 61 |
| 62 | ·048558 | ·026980 | ·015073 | ·008467 | ·004781 | ·002714 | 62 |
| 63 | ·046246 | ·025453 | ·014087 | ·007840 | ·004387 | ·002468 | 63 |
| 64 | ·044044 | ·024012 | ·013166 | ·007259 | ·004024 | ·002243 | 64 |
| 65 | ·041946 | ·022653 | ·012304 | ·006721 | ·003692 | ·002039 | 65 |
| 66 | ·039949 | ·021370 | ·011499 | ·006223 | ·003387 | ·001854 | 66 |
| 67 | ·038047 | ·020161 | ·010747 | ·005762 | ·003108 | ·001685 | 67 |
| 68 | ·036235 | ·019020 | ·010044 | ·005336 | ·002851 | ·001532 | 68 |
| 69 | ·034509 | ·017943 | ·009387 | ·004940 | ·002616 | ·001393 | 69 |
| 70 | ·032866 | ·016927 | ·008773 | ·004574 | ·002400 | ·001266 | 70 |
| 71 | ·031301 | ·015969 | ·008199 | ·004236 | ·002202 | ·001151 | 71 |
| 72 | ·029811 | ·015065 | ·007662 | ·003922 | ·002020 | ·001046 | 72 |
| 73 | ·028391 | ·014213 | ·007161 | ·003631 | ·001853 | ·000951 | 73 |
| 74 | ·027039 | ·013408 | ·006693 | ·003362 | ·001700 | ·000865 | 74 |
| 75 | ·025752 | ·012649 | ·006255 | ·003113 | ·001560 | ·000786 | 75 |
| 76 | ·024525 | ·011933 | ·005846 | ·002883 | ·001431 | ·000715 | 76 |
| 77 | ·023357 | ·011258 | ·005463 | ·002669 | ·001313 | ·000650 | 77 |
| 78 | ·022245 | ·010620 | ·005106 | ·002471 | ·001204 | ·000591 | 78 |
| 79 | ·021186 | ·010019 | ·004772 | ·002288 | ·001105 | ·000537 | 79 |
| 80 | ·020177 | ·009452 | ·004460 | ·002119 | ·001014 | ·000488 | 80 |
| 81 | ·019216 | ·008917 | ·004168 | ·001962 | ·000930 | ·000444 | 81 |
| 82 | ·018301 | ·008412 | ·003895 | ·001817 | ·000853 | ·000403 | 82 |
| 83 | ·017430 | ·007936 | ·003640 | ·001682 | ·000783 | ·000367 | 83 |
| 84 | ·016600 | ·007487 | ·003402 | ·001557 | ·000718 | ·000333 | 84 |
| 85 | ·015809 | ·007063 | ·003180 | ·001442 | ·000659 | ·000303 | 85 |
| 86 | ·015056 | ·006663 | ·002972 | ·001335 | ·000604 | ·000276 | 86 |
| 87 | ·014339 | ·006286 | ·002777 | ·001236 | ·000554 | ·000251 | 87 |
| 88 | ·013657 | ·005930 | ·002596 | ·001145 | ·000509 | ·000228 | 88 |
| 89 | ·013006 | ·005595 | ·002426 | ·001060 | ·000467 | ·000207 | 89 |
| 90 | ·012387 | ·005278 | ·002267 | ·000981 | ·000428 | ·000188 | 90 |
| 91 | ·011797 | ·004979 | ·002119 | ·000909 | ·000393 | ·000171 | 91 |
| 92 | ·011235 | ·004697 | ·001980 | ·000841 | ·000360 | ·000156 | 92 |
| 93 | ·010700 | ·004432 | ·001851 | ·000779 | ·000331 | ·000141 | 93 |
| 94 | ·010191 | ·004181 | ·001730 | ·000721 | ·000303 | ·000129 | 94 |
| 95 | ·009705 | ·003944 | ·001616 | ·000668 | ·000278 | ·000117 | 95 |
| 96 | ·009243 | ·003721 | ·001511 | ·000618 | ·000255 | ·000106 | 96 |
| 97 | ·008803 | ·003510 | ·001412 | ·000573 | ·000234 | ·000097 | 97 |
| 98 | ·008384 | ·003312 | ·001319 | ·000530 | ·000215 | ·000088 | 98 |
| 99 | ·007985 | ·003124 | ·001233 | ·000491 | ·000197 | ·000080 | 99 |
| 100 | ·007604 | ·002947 | ·001152 | ·000455 | ·000181 | ·000073 | 100 |
| 101 | ·007242 | ·002780 | ·001077 | ·000421 | ·000166 | ·000066 | 101 |
| 102 | ·006897 | ·002623 | ·001007 | ·000390 | ·000152 | ·000060 | 102 |
| 103 | ·006569 | ·002475 | ·000941 | ·000361 | ·000140 | ·000055 | 103 |
| 104 | ·006256 | ·002334 | ·000879 | ·000334 | ·000128 | ·000050 | 104 |
| 105 | ·005958 | ·002202 | ·000822 | ·000309 | ·000118 | ·000045 | 105 |
| 106 | ·005675 | ·002078 | ·000768 | ·000287 | ·000108 | ·000041 | 106 |
| 107 | ·005404 | ·001960 | ·000718 | ·000265 | ·000099 | ·000037 | 107 |
| 108 | ·005147 | ·001849 | ·000671 | ·000246 | ·000091 | ·000034 | 108 |
| 109 | ·004902 | ·001744 | ·000627 | ·000227 | ·000083 | ·000031 | 109 |

**Present Value of £1 per Annum**, payable at the end of every Year, for any Number of Years not exceeding 109; **Rates of Interest 3, 3¼, 3⅓, 3½, 3¾, and 4 per Cent.**

$$V_x - 1^* = v^1 + v^2 + v^3 \; \dots\dots + v^x .$$

| Years ($x$) | 3 per cent. | 3¼ per cent. | 3⅓ per cent. | 3½ per cent. | 3¾ per cent. | 4 per cent. | Years ($x$) |
|---|---|---|---|---|---|---|---|
| 0 | ·000000 | ·000000 | ·000000 | ·000000 | ·000000 | ·000000 | 0 |
| 1 | ·970874 | ·968523 | ·967742 | ·966184 | ·963855 | ·961538 | 1 |
| 2 | 1·913470 | 1·906560 | 1·904266 | 1·899694 | 1·892872 | 1·886095 | 2 |
| 3 | 2·828611 | 2·815070 | 2·810580 | 2·801637 | 2·788310 | 2·775091 | 3 |
| 4 | 3·717098 | 3·694983 | 3·687658 | 3·673079 | 3·651383 | 3·629895 | 4 |
| 5 | 4·579707 | 4·547199 | 4·536443 | 4·515052 | 4·483261 | 4·451822 | 5 |
| 6 | 5·417191 | 5·372590 | 5·357848 | 5·328553 | 5·285071 | 5·242137 | 6 |
| 7 | 6·230283 | 6·172000 | 6·152756 | 6·114544 | 6·057900 | 6·002055 | 7 |
| 8 | 7·019692 | 6·946247 | 6·922022 | 6·873956 | 6·802795 | 6·732745 | 8 |
| 9 | 7·786109 | 7·696123 | 7·666473 | 7·607687 | 7·520766 | 7·435332 | 9 |
| 10 | 8·530203 | 8·422395 | 8·386909 | 8·316605 | 8·212786 | 8·110896 | 10 |
| 11 | 9·252624 | 9·125806 | 9·084105 | 9·001551 | 8·879794 | 8·760477 | 11 |
| 12 | 9·954004 | 9·807076 | 9·758811 | 9·663334 | 9·522693 | 9·385074 | 12 |
| 13 | 10·634955 | 10·466902 | 10·411752 | 10·302738 | 10·142355 | 9·985648 | 13 |
| 14 | 11·296073 | 11·105958 | 11·043631 | 10·920520 | 10·739619 | 10·563123 | 14 |
| 15 | 11·937935 | 11·724899 | 11·655127 | 11·517411 | 11·315295 | 11·118387 | 15 |
| 16 | 12·561102 | 12·324357 | 12·246897 | 12·094117 | 11·870164 | 11·652296 | 16 |
| 17 | 13·166118 | 12·904946 | 12·819578 | 12·651321 | 12·404977 | 12·165669 | 17 |
| 18 | 13·753513 | 13·467260 | 13·373785 | 13·189682 | 12·920460 | 12·659297 | 18 |
| 19 | 14·323799 | 14·011874 | 13·910114 | 13·709837 | 13·417311 | 13·133939 | 19 |
| 20 | 14·877475 | 14·539345 | 14·429142 | 14·212403 | 13·896203 | 13·590326 | 20 |
| 21 | 15·415024 | 15·050213 | 14·931428 | 14·697974 | 14·357786 | 14·029160 | 21 |
| 22 | 15·936917 | 15·545000 | 15·417511 | 15·167125 | 14·802685 | 14·451115 | 22 |
| 23 | 16·443608 | 16·024213 | 15·887914 | 15·620410 | 15·231504 | 14·856842 | 23 |
| 24 | 16·935542 | 16·488342 | 16·343143 | 16·058368 | 15·644823 | 15·246963 | 24 |
| 25 | 17·413148 | 16·937862 | 16·783687 | 16·481515 | 16·043203 | 15·622080 | 25 |
| 26 | 17·876842 | 17·373232 | 17·210020 | 16·890352 | 16·427184 | 15·982769 | 26 |
| 27 | 18·327031 | 17·794898 | 17·622600 | 17·285365 | 16·797286 | 16·329586 | 27 |
| 28 | 18·764108 | 18·203291 | 18·021871 | 17·667019 | 17·154011 | 16·663063 | 28 |
| 29 | 19·188455 | 18·598829 | 18·408262 | 18·035767 | 17·497842 | 16·983715 | 29 |
| 30 | 19·600441 | 18·981917 | 18·782189 | 18·392045 | 17·829245 | 17·292033 | 30 |
| 31 | 20·000428 | 19·352946 | 19·144054 | 18·736276 | 18·148670 | 17·588494 | 31 |
| 32 | 20·388766 | 19·712296 | 19·494246 | 19·068865 | 18·456549 | 17·873552 | 32 |
| 33 | 20·765792 | 20·060335 | 19·833141 | 19·390208 | 18·753300 | 18·147646 | 33 |
| 34 | 21·131837 | 20·397419 | 20·161104 | 19·700684 | 19·039325 | 18·411198 | 34 |
| 35 | 21·487220 | 20·723892 | 20·478488 | 20·000661 | 19·315012 | 18·664613 | 35 |
| 36 | 21·832252 | 21·040089 | 20·785633 | 20·290494 | 19·580734 | 18·908282 | 36 |
| 37 | 22·167235 | 21·346333 | 21·082871 | 20·570525 | 19·836852 | 19·142579 | 37 |
| 38 | 22·492462 | 21·642937 | 21·370520 | 20·841087 | 20·083713 | 19·367864 | 38 |
| 39 | 22·808215 | 21·930205 | 21·648890 | 21·102500 | 20·321651 | 19·584485 | 39 |
| 40 | 23·114772 | 22·208431 | 21·918281 | 21·355072 | 20·550989 | 19·792774 | 40 |
| 41 | 23·412400 | 22·477899 | 22·178982 | 21·599104 | 20·772038 | 19·993052 | 41 |
| 42 | 23·701359 | 22·738885 | 22·431273 | 21·834883 | 20·985097 | 20·185627 | 42 |
| 43 | 23·981902 | 22·991656 | 22·675425 | 22·062689 | 21·190455 | 20·370795 | 43 |
| 44 | 24·254274 | 23·236471 | 22·911702 | 22·282791 | 21·388390 | 20·548841 | 44 |
| 45 | 24·518713 | 23·473580 | 23·140357 | 22·495450 | 21·579171 | 20·720040 | 45 |
| 46 | 24·775449 | 23·703225 | 23·361636 | 22·700918 | 21·763056 | 20·884654 | 46 |
| 47 | 25·024708 | 23·925642 | 23·575777 | 22·899438 | 21·940295 | 21·042936 | 47 |
| 48 | 25·266707 | 24·141058 | 23·783010 | 23·091244 | 22·111128 | 21·195131 | 48 |
| 49 | 25·501657 | 24·349693 | 23·983558 | 23·276564 | 22·275786 | 21·341472 | 49 |
| 50 | 25·729764 | 24·551761 | 24·177637 | 23·455618 | 22·434493 | 21·482185 | 50 |
| 51 | 25·951227 | 24·747468 | 24·365455 | 23·628616 | 22·587463 | 21·617485 | 51 |
| 52 | 26·166240 | 24·937015 | 24·547215 | 23·795765 | 22·734904 | 21·747582 | 52 |
| 53 | 26·374990 | 25·120596 | 24·723111 | 23·957260 | 22·877016 | 21·872675 | 53 |
| 54 | 26·577660 | 25·298398 | 24·893333 | 24·113295 | 23·013991 | 21·992957 | 54 |

* **Note.**—The $V_x - 1$ for all the Rates excepting 3¼, 3⅓, and 3¾, is compiled from Smart's Tables from 0 to 100 years; for the years 101 to 109, and for the Rates 3¼, 3⅓, and 3¾, the $V_x - 1$ is obtained by the addition of

**Present Value of £1 per Annum,** payable at the end of every Year, for any Number of Years not exceeding 109 ; **Rates of Interest 3, 3¼, 3⅓, 3½, 3¾, and 4 per Cent.**

$$V_x - 1 = v^1 + v^2 + v^3 \; \ldots\ldots + v^x.$$

| Years ($x$) | 3 per cent. | 3¼ per cent. | 3⅓ per cent. | 3½ per cent. | 3¾ per cent. | 4 per cent. | Years ($x$) |
|---|---|---|---|---|---|---|---|
| 55 | 26·774428 | 25·470603 | 25·058064 | 24·264053 | 23·146015 | 22·108612 | 55 |
| 56 | 26·965464 | 25·637388 | 25·217481 | 24·409713 | 23·273267 | 22·219819 | 56 |
| 57 | 27·150936 | 25·798923 | 25·371756 | 24·550448 | 23·395920 | 22·326749 | 57 |
| 58 | 27·331005 | 25·955373 | 25·521054 | 24·686423 | 23·514140 | 22·429567 | 58 |
| 59 | 27·505831 | 26·106899 | 25·665536 | 24·817800 | 23·628087 | 22·528430 | 59 |
| 60 | 27·675564 | 26·253655 | 25·805357 | 24·944734 | 23·737915 | 22·623490 | 60 |
| 61 | 27·840353 | 26·395792 | 25·940668 | 25·067376 | 23·843773 | 22·714894 | 61 |
| 62 | 28·000343 | 26·533455 | 26·071614 | 25·185870 | 23·945805 | 22·802783 | 62 |
| 63 | 28·155673 | 26·666784 | 26·198336 | 25·300358 | 24·044149 | 22·887291 | 63 |
| 64 | 28·306478 | 26·795917 | 26·320970 | 25·410974 | 24·138939 | 22·968549 | 64 |
| 65 | 28·452891 | 26·920985 | 26·439648 | 25·517849 | 24·230303 | 23·046682 | 65 |
| 66 | 28·595040 | 27·042116 | 26·554498 | 25·621110 | 24·318364 | 23·121810 | 66 |
| 67 | 28·733049 | 27·159434 | 26·665643 | 25·720880 | 24·403242 | 23·194048 | 67 |
| 68 | 28·867038 | 27·273059 | 26·773203 | 25·817275 | 24·485052 | 23·263507 | 68 |
| 69 | 28·997124 | 27·383108 | 26·877293 | 25·910411 | 24·563905 | 23·330296 | 69 |
| 70 | 29·123421 | 27·489693 | 26·978025 | 26·000397 | 24·639908 | 23·394515 | 70 |
| 71 | 29·246040 | 27·592923 | 27·075508 | 26·087340 | 24·713164 | 23·456264 | 71 |
| 72 | 29·365087 | 27·692904 | 27·169846 | 26·171343 | 24·783772 | 23·515639 | 72 |
| 73 | 29·480667 | 27·789737 | 27·261141 | 26·252505 | 24·851828 | 23·572730 | 73 |
| 74 | 29·592881 | 27·883522 | 27·349491 | 26·330923 | 24·917424 | 23·627625 | 74 |
| 75 | 29·701826 | 27·974355 | 27·434991 | 26·406689 | 24·980649 | 23·680408 | 75 |
| 76 | 29·807598 | 28·062329 | 27·517733 | 26·479892 | 25·041589 | 23·731162 | 76 |
| 77 | 29·910290 | 28·147534 | 27·597806 | 26·550621 | 25·100327 | 23·779963 | 77 |
| 78 | 30·009990 | 28·230057 | 27·675296 | 26·618957 | 25·156942 | 23·826888 | 78 |
| 79 | 30·106786 | 28·309982 | 27·750286 | 26·684983 | 25·211510 | 23·872008 | 79 |
| 80 | 30·200763 | 28·387392 | 27·822857 | 26·748776 | 25·264106 | 23·915392 | 80 |
| 81 | 30·292003 | 28·462365 | 27·893087 | 26·810411 | 25·314801 | 23·957108 | 81 |
| 82 | 30·380586 | 28·534978 | 27·961052 | 26·869963 | 25·363663 | 23·997219 | 82 |
| 83 | 30·466588 | 28·605305 | 28·026824 | 26·927500 | 25·410759 | 24·035787 | 83 |
| 84 | 30·550086 | 28·673419 | 28·090475 | 26·983092 | 25·456153 | 24·072872 | 84 |
| 85 | 30·631151 | 28·739389 | 28·152072 | 27·036804 | 25·499906 | 24·108531 | 85 |
| 86 | 30·709855 | 28·803282 | 28·211682 | 27·088699 | 25·542078 | 24·142818 | 86 |
| 87 | 30·786267 | 28·865164 | 28·269370 | 27·138840 | 25·582726 | 24·175787 | 87 |
| 88 | 30·860454 | 28·925098 | 28·325197 | 27·187285 | 25·621904 | 24·207487 | 88 |
| 89 | 30·932479 | 28·983146 | 28·379223 | 27·234092 | 25·659666 | 24·237969 | 89 |
| 90 | 31·002407 | 29·039366 | 28·431506 | 27·279316 | 25·696063 | 24·267278 | 90 |
| 91 | 31·070298 | 29·093817 | 28·482102 | 27·323010 | 25·731145 | 24·295459 | 91 |
| 92 | 31·136212 | 29·146554 | 28·531066 | 27·365227 | 25·764959 | 24·322557 | 92 |
| 93 | 31·200206 | 29·197631 | 28·578451 | 27·406017 | 25·797551 | 24·348612 | 93 |
| 94 | 31·262336 | 29·247100 | 28·624307 | 27·445427 | 25·828965 | 24·373666 | 94 |
| 95 | 31·322656 | 29·295012 | 28·668684 | 27·483504 | 25·859243 | 24·397756 | 95 |
| 86 | 31·381219 | 29·341416 | 28·711630 | 27·520294 | 25·888427 | 24·420919 | 96 |
| 97 | 31·438077 | 29·386359 | 28·753190 | 27·555839 | 25·916556 | 24·443191 | 97 |
| 98 | 31·493279 | 29·429888 | 28·793410 | 27·590183 | 25·943668 | 24·464607 | 98 |
| 99 | 31·546872 | 29·472046 | 28·832333 | 27·623365 | 25·969800 | 24·485199 | 99 |
| 100 | 31·598905 | 29·512877 | 28·869999 | 27·655425 | 25·994988 | 24·504999 | 100 |
| 101 | 31·649422 | 29·552423 | 28·906451 | 27·686401 | 26·019265 | 24·524038 | 101 |
| 102 | 31·698468 | 29·590724 | 28·941727 | 27·716329 | 26·042665 | 24·542344 | 102 |
| 103 | 31·746085 | 29·627820 | 28·975865 | 27·745245 | 26·065219 | 24·559946 | 103 |
| 104 | 31·792316 | 29·663748 | 29·008902 | 27·773184 | 26·086958 | 24·576871 | 104 |
| 105 | 31·837200 | 29·698545 | 29·040873 | 27·800178 | 26·107911 | 24·593145 | 105 |
| 106 | 31·880777 | 29·732247 | 29·071813 | 27·826259 | 26·128107 | 24·608793 | 106 |
| 107 | 31·923084 | 29·764888 | 29·101754 | 27·851458 | 26·147573 | 24·623839 | 107 |
| 108 | 31·964159 | 29·796502 | 29·130730 | 27·875805 | 26·166335 | 24·638307 | 108 |
| 109 | 32·004038 | 29·827120 | 29·158771 | 27·899328 | 26·184419 | 24·652218 | 109 |

## Present Value of £1 per Annum, payable at the end of every Year, for any Number of Years not exceeding 109; Rates of Interest 5, 6, 7, 8, 9, and 10 per Cent.

$V_x - 1.$

| Years ($x$) | 5 per cent. | 6 per cent. | 7 per cent. | 8 per cent. | 9 per cent. | 10 per cent. | Years ($x$) |
|---|---|---|---|---|---|---|---|
| 0 | ·000000 | ·000000 | ·000000 | ·000000 | ·000000 | ·000000 | 0 |
| 1 | ·952381 | ·943396 | ·934579 | ·925926 | ·917431 | ·909091 | 1 |
| 2 | 1·859410 | 1·833393 | 1·808018 | 1·783265 | 1·759111 | 1·735537 | 2 |
| 3 | 2·723248 | 2·673012 | 2·624316 | 2·577097 | 2·531295 | 2·486852 | 3 |
| 4 | 3·545951 | 3·465106 | 3·387211 | 3·312127 | 3·239720 | 3·169865 | 4 |
| 5 | 4·329477 | 4·212364 | 4·100197 | 3·992710 | 3·889651 | 3·790787 | 5 |
| 6 | 5·075692 | 4·917324 | 4·766540 | 4·622880 | 4·485919 | 4·355261 | 6 |
| 7 | 5·786373 | 5·582381 | 5·389289 | 5·206370 | 5·032953 | 4·868419 | 7 |
| 8 | 6·463213 | 6·209794 | 5·971299 | 5·746639 | 5·534819 | 5·334926 | 8 |
| 9 | 7·107822 | 6·801692 | 6·515232 | 6·246888 | 5·995247 | 5·759024 | 9 |
| 10 | 7·721735 | 7·360087 | 7·023582 | 6·710081 | 6·417658 | 6·144567 | 10 |
| 11 | 8·306414 | 7·886875 | 7·498674 | 7·138964 | 6·805191 | 6·495061 | 11 |
| 12 | 8·863252 | 8·383844 | 7·942686 | 7·536078 | 7·160725 | 6·813692 | 12 |
| 13 | 9·393573 | 8·852683 | 8·357651 | 7·903776 | 7·486904 | 7·103356 | 13 |
| 14 | 9·898641 | 9·294984 | 8·745468 | 8·244237 | 7·786150 | 7·366687 | 14 |
| 15 | 10·379658 | 9·712249 | 9·107914 | 8·559479 | 8·060688 | 7·606080 | 15 |
| 16 | 10·837770 | 10·105895 | 9·446649 | 8·851369 | 8·312558 | 7·823709 | 16 |
| 17 | 11·274066 | 10·477260 | 9·763223 | 9·121638 | 8·543631 | 8·021553 | 17 |
| 18 | 11·689587 | 10·827603 | 10·059087 | 9·371887 | 8·755625 | 8·201412 | 18 |
| 19 | 12·085321 | 11·158116 | 10·335595 | 9·603599 | 8·950115 | 8·364920 | 19 |
| 20 | 12·462210 | 11·469921 | 10·594014 | 9·818147 | 9·128546 | 8·513564 | 20 |
| 21 | 12·821153 | 11·764077 | 10·835527 | 10·016803 | 9·292244 | 8·648694 | 21 |
| 22 | 13·163003 | 12·041582 | 11·061241 | 10·200744 | 9·442425 | 8·771540 | 22 |
| 23 | 13·488574 | 12·303379 | 11·272187 | 10·371059 | 9·580207 | 8·883218 | 23 |
| 24 | 13·798642 | 12·550358 | 11·469334 | 10·528758 | 9·706612 | 8·984744 | 24 |
| 25 | 14·093945 | 12·783356 | 11·653583 | 10·674776 | 9·822580 | 9·077040 | 25 |
| 26 | 14·375185 | 13·003166 | 11·825779 | 10·809978 | 9·928972 | 9·160945 | 26 |
| 27 | 14·643034 | 13·210534 | 11·986709 | 10·935165 | 10·026580 | 9·237223 | 27 |
| 28 | 14·898127 | 13·406164 | 12·137111 | 11·051078 | 10·116128 | 9·306567 | 28 |
| 29 | 15·141074 | 13·590721 | 12·277674 | 11·158406 | 10·198283 | 9·369606 | 29 |
| 30 | 15·372451 | 13·764831 | 12·409041 | 11·257783 | 10·273654 | 9·426914 | 30 |
| 31 | 15·592811 | 13·929086 | 12·531814 | 11·349799 | 10·342802 | 9·479013 | 31 |
| 32 | 15·802677 | 14·084043 | 12·646555 | 11·434999 | 10·406240 | 9·526376 | 32 |
| 33 | 16·002549 | 14·230230 | 12·753790 | 11·513888 | 10·464441 | 9·569432 | 33 |
| 34 | 16·192904 | 14·368141 | 12·854009 | 11·586934 | 10·517835 | 9·608575 | 34 |
| 35 | 16·374194 | 14·498246 | 12·947672 | 11·654568 | 10·566821 | 9·644159 | 35 |
| 36 | 16·546852 | 14·620987 | 13·035208 | 11·717193 | 10·611763 | 9·676508 | 36 |
| 37 | 16·711287 | 14·736780 | 13·117017 | 11·775179 | 10·652993 | 9·705917 | 37 |
| 38 | 16·867893 | 14·846019 | 13·193473 | 11·828869 | 10·690820 | 9·732651 | 38 |
| 39 | 17·017041 | 14·949075 | 13·264928 | 11·878582 | 10·725523 | 9·756956 | 39 |
| 40 | 17·159086 | 15·046297 | 13·331709 | 11·924613 | 10·757360 | 9·779051 | 40 |
| 41 | 17·294368 | 15·138016 | 13·394120 | 11·967235 | 10·786569 | 9·799137 | 41 |
| 42 | 17·423208 | 15·224543 | 13·452449 | 12·006699 | 10·813366 | 9·817397 | 42 |
| 43 | 17·545912 | 15·306173 | 13·506962 | 12·043240 | 10·837951 | 9·833998 | 43 |
| 44 | 17·662773 | 15·383182 | 13·557908 | 12·077074 | 10·860505 | 9·849089 | 44 |
| 45 | 17·774070 | 15·455832 | 13·605522 | 12·108402 | 10·881197 | 9·862808 | 45 |
| 46 | 17·880067 | 15·524370 | 13·650020 | 12·137409 | 10·900181 | 9·875280 | 46 |
| 47 | 17·981016 | 15·589028 | 13·691608 | 12·164267 | 10·917597 | 9·886618 | 47 |
| 48 | 18·077158 | 15·650027 | 13·730474 | 12·189136 | 10·933575 | 9·896926 | 48 |
| 49 | 18·168722 | 15·707572 | 13·766799 | 12·212163 | 10·948234 | 9·906296 | 49 |
| 50 | 18·255925 | 15·761861 | 13·800746 | 12·233485 | 10·961683 | 9·914814 | 50 |
| 51 | 18·338977 | 15·813076 | 13·832473 | 12·253227 | 10·974021 | 9·922559 | 51 |
| 52 | 18·418073 | 15·861393 | 13·862124 | 12·271506 | 10·985340 | 9·929599 | 52 |
| 53 | 18·493403 | 15·906974 | 13·889836 | 12·288432 | 10·995725 | 9·935999 | 53 |
| 54 | 18·565146 | 15·949976 | 13·915735 | 12·304103 | 11·005252 | 9·941817 | 54 |

**Present Value of £1 per Annum**, payable at the end of every Year, for any Number of Years not exceeding 109; **Rates of Interest 5, 6, 7, 8, 9, and 10 per Cent.**

$V_x - 1.$

| Years (*x*) | 5 per cent. | 6 per cent. | 7 per cent. | 8 per cent. | 9 per cent. | 10 per cent. | Years (*x*) |
|---|---|---|---|---|---|---|---|
| 55 | 18·633472 | 15.990543 | 13·939939 | 12·318614 | 11·013993 | 9·947107 | 55 |
| 56 | 18·698545 | 16·028814 | 13·962560 | 12·332050 | 11·022012 | 9·951915 | 56 |
| 57 | 18·760519 | 16·064919 | 13·983701 | 12·344491 | 11·029369 | 9·956286 | 57 |
| 58 | 18·819542 | 16·098980 | 14·003459 | 12·356010 | 11·036118 | 9·960260 | 58 |
| 59 | 18·875754 | 16·131113 | 14·021924 | 12·366676 | 11·042310 | 9·963873 | 59 |
| 60 | 18·929290 | 16·161428 | 14·039181 | 12·376552 | 11·047991 | 9·967157 | 60 |
| 61 | 18·980276 | 16·190026 | 14·055309 | 12·385696 | 11·053203 | 9·970143 | 61 |
| 62 | 19·028834 | 16·217006 | 14·070383 | 12·394163 | 11·057984 | 9·972857 | 62 |
| 63 | 19·075080 | 16·242458 | 14·084470 | 12·402003 | 11·062371 | 9·975325 | 63 |
| 64 | 19·119124 | 16·266470 | 14·097635 | 12·409262 | 11·066395 | 9·977568 | 64 |
| 65 | 19·161070 | 16·289123 | 14·109940 | 12·415983 | 11·070087 | 9·979607 | 65 |
| 66 | 19·201019 | 16·310493 | 14·121439 | 12·422207 | 11·073475 | 9·981461 | 66 |
| 67 | 19·239066 | 16·330654 | 14·132186 | 12·427969 | 11·076582 | 9·983147 | 67 |
| 68 | 19·275301 | 16·349673 | 14·142230 | 12·433305 | 11·079433 | 9·984679 | 68 |
| 69 | 19·309810 | 16·367617 | 14·151617 | 12·438245 | 11·082049 | 9·986071 | 69 |
| 70 | 19·342677 | 16·384544 | 14·160389 | 12·442820 | 11·084449 | 9·987338 | 70 |
| 71 | 19·373978 | 16·400513 | 14·168588 | 12·447055 | 11·086650 | 9·988489 | 71 |
| 72 | 19·403788 | 16·415578 | 14·176251 | 12·450977 | 11·088670 | 9·989535 | 72 |
| 73 | 19·432179 | 16·429791 | 14·183412 | 12·454608 | 11·090523 | 9·990487 | 73 |
| 74 | 19·459218 | 16·443199 | 14·190104 | 12·457971 | 11·092223 | 9·991351 | 74 |
| 75 | 19·484970 | 16·455848 | 14·196359 | 12·461084 | 11·093782 | 9·992138 | 75 |
| 76 | 19·509495 | 16·467781 | 14·202205 | 12·463967 | 11·095213 | 9·992852 | 76 |
| 77 | 19·532853 | 16·479039 | 14·207668 | 12·466636 | 11·096526 | 9·993502 | 77 |
| 78 | 19·555098 | 16·489659 | 14·212774 | 12·469107 | 11·097730 | 9·994093 | 78 |
| 79 | 19·576284 | 16·499679 | 14·217546 | 12·471396 | 11·098835 | 9·994630 | 79 |
| 80 | 19·596460 | 16·509131 | 14·222005 | 12·473514 | 11·099849 | 9·995118 | 80 |
| 81 | 19·615677 | 16·518048 | 14·226173 | 12·475476 | 11·100778 | 9·995562 | 81 |
| 82 | 19·633978 | 16·526460 | 14·230069 | 12·477293 | 11·101632 | 9·995965 | 82 |
| 83 | 19·651407 | 16·534396 | 14·233709 | 12·478975 | 11·102414 | 9·996332 | 83 |
| 84 | 19·668007 | 16·541883 | 14·237111 | 12·480532 | 11·103132 | 9·996666 | 84 |
| 85 | 19·683816 | 16·548947 | 14·240291 | 12·481974 | 11·103791 | 9·996969 | 85 |
| 86 | 19·698873 | 16·555610 | 14·243262 | 12·483310 | 11·104396 | 9·997244 | 86 |
| 87 | 19·713212 | 16·561896 | 14·246040 | 12·484546 | 11·104950 | 9·997495 | 87 |
| 88 | 19·726869 | 16·567827 | 14·248635 | 12·485691 | 11·105459 | 9·997723 | 88 |
| 89 | 19·739875 | 16·573421 | 14·251061 | 12·486751 | 11·105926 | 9·997930 | 89 |
| 90 | 19·752262 | 16·578699 | 14·253328 | 12·487732 | 11·106354 | 9·998118 | 90 |
| 91 | 19·764059 | 16·583679 | 14·255447 | 12·488641 | 11·106746 | 9·998289 | 91 |
| 92 | 19·775294 | 16·588376 | 14·257427 | 12·489482 | 11·107107 | 9·998444 | 92 |
| 93 | 19·785994 | 16·592808 | 14·259277 | 12·490261 | 11·107438 | 9·998586 | 93 |
| 94 | 19·796185 | 16·596988 | 14·261007 | 12·490983 | 11·107741 | 9·998714 | 94 |
| 95 | 19·805891 | 16·600932 | 14·262623 | 12·491951 | 11·108019 | 9·998831 | 95 |
| 96 | 19·815134 | 16·604653 | 14·264134 | 12·492269 | 11·108274 | 9·998938 | 96 |
| 97 | 19·823937 | 16·608163 | 14·265546 | 12·492842 | 11·108509 | 9·999034 | 97 |
| 98 | 19·832321 | 16·611475 | 14·266865 | 12·493372 | 11·108724 | 9·999122 | 98 |
| 99 | 19·840306 | 16·614599 | 14·268098 | 12·493863 | 11·108921 | 9·999202 | 99 |
| 100 | 19·847910 | 16·617546 | 14·269251 | 12·494318 | 11·109102 | 9·999274 | 100 |
| 101 | 19·855152 | 16·620326 | 14·270328 | 12·494739 | 11·109268 | 9·999340 | 101 |
| 102 | 19·862049 | 16·622949 | 14·271335 | 12·495129 | 11·109420 | 9·999400 | 102 |
| 103 | 19·868618 | 16·625424 | 14·272276 | 12·495490 | 11·109560 | 9·999455 | 103 |
| 104 | 19·874874 | 16·627758 | 14·273155 | 12·495824 | 11·109688 | 9·999505 | 104 |
| 105 | 19·880832 | 16·629960 | 14·273977 | 12·496133 | 11·109806 | 9·999550 | 105 |
| 106 | 19·886507 | 16·632038 | 14·274745 | 12·496420 | 11·109914 | 9·999591 | 106 |
| 107 | 19·891911 | 16·633998 | 14·275463 | 12·496685 | 11·110013 | 9·999628 | 107 |
| 108 | 19·897058 | 16·635847 | 14·276134 | 12·496931 | 11·110104 | 9·999662 | 108 |
| 109 | 19·901960 | 16·637591 | 14·276761 | 12·497158 | 11·110187 | 9·999693 | 109 |

# NOTE.

The Table "LOGARITHMS of the PRESENT VALUE of £1 payable at the end of every Year" ($\lambda v^x$), (pages 6–11), was constructed thus :—

Let $i$ = Simple Interest of £1 in a year; Then $\frac{1}{1+i} = v$ for the different rates of Interest in the Tables. The subjoined Logarithms of $v$ were obtained from Callet's Tables to 15 decimal places :

Interest **3** per cent. ; $\lambda v = \lambda \frac{1}{1.03}$ $= 9\cdot9871627,75294828$ ; $v = \cdot97087379$
Interest **3¼** per cent. ; $\lambda v = \lambda \frac{1}{1.03\frac{1}{4}}$ or $\lambda \frac{4}{4.13}$ $= 9\cdot9861099,39671561$ ; $v = \cdot96852300$
Interest **3⅓** per cent. ; $\lambda v = \lambda \frac{1}{1.03\frac{1}{3}}$ or $\lambda \frac{3}{3.10}$ $= 9\cdot9857595,60885390$ ; $v = \cdot96774194$
Interest **3½** per cent. ; $\lambda v = \lambda \frac{1}{1.03\frac{1}{2}}$ or $\lambda \frac{2}{2.07}$ $= 9\cdot9850596,50207063$ ; $v = \cdot96618357$
Interest **3¾** per cent. ; $\lambda v = \lambda \frac{1}{1.03\frac{3}{4}}$ or $\lambda \frac{4}{4.15}$ $= 9\cdot9840118,94615870$ ; $v = \cdot96385542$
Interest **4** per cent. ; $\lambda v = \lambda \frac{1}{1.04}$ $= 9\cdot9829666,60701220$ ; $v = \cdot96153846$
Interest **5** per cent. ; $\lambda v = \lambda \frac{1}{1.05}$ $= 9\cdot9788107,00930062$ ; $v = \cdot95238095$
Interest **6** per cent. ; $\lambda v = \lambda \frac{1}{1.06}$ $= 9\cdot9746941,34735230$ ; $v = \cdot94339623$
Interest **7** per cent. ; $\lambda v = \lambda \frac{1}{1.07}$ $= 9\cdot9706162,22314790$ ; $v = \cdot93457944$
Interest **8** per cent. ; $\lambda v = \lambda \frac{1}{1.08}$ $= 9\cdot9665762,44513050$ ; $v = \cdot92592593$
Interest **9** per cent. ; $\lambda v = \lambda \frac{1}{1.09}$ $= 9\cdot9625735,02059376$ ; $v = \cdot91743119$
Interest **10** per cent. ; $\lambda v = \lambda \frac{1}{1.10}$ $= 9\cdot9586073,14841775$ ; $v = \cdot90909091$

The succeeding Values of $\lambda v^x$ were calculated by the Calculating Machine to fifteen places of decimals, but only seven decimals are given in the Tables, as the Machine does not print more than eight figures. The $v$ for the various rates per cent. is given above to eight figures, which have been obtained by common arithmetic. The $1 - v = d = \frac{i}{1+i}$ and the $\lambda d$ are thus given accurately. The Table of the $v^x$ (pages 12 to 15) gives the numbers to the $\lambda v^x$, and it has been compared with the Table of the Present Value of £1 in Smart's Tables of Interest, Discount, &c. In Smart's Tables of the $v^x$ eight decimals are given, and they were obtained, it is believed, from the formula $\frac{1}{1+i}$ by the common arithmetical process, for all the years at each rate of interest. But for the purposes of this series of Life Tables it has been deemed desirable that the $\lambda v^x$ should be calculated directly from the formula by the Calculating Machine, and thus the $v^x$ is obtained in an independent manner, from the logarithms so calculated, to six decimal places.

Interest **3** per cent. ; $1 - v = d = \cdot02912621$ ; $\lambda d = \bar{2}\cdot4642840$
Interest **3¼** per cent. ; $1 - v = d = \cdot03147700$ ; $\lambda d = \bar{2}\cdot4979933$
Interest **3⅓** per cent. ; $1 - v = d = \cdot03225806$ ; $\lambda d = \bar{2}\cdot5086382$
Interest **3½** per cent. ; $1 - v = d = \cdot03381643$ ; $\lambda d = \bar{2}\cdot5291278$
Interest **3¾** per cent. ; $1 - v = d = \cdot03614458$ ; $\lambda d = \bar{2}\cdot5580432$
Interest **4** per cent. ; $1 - v = d = \cdot03846154$ ; $\lambda d = \bar{2}\cdot5850268$
Interest **5** per cent. ; $1 - v = d = \cdot04761905$ ; $\lambda d = \bar{2}\cdot6777808$
Interest **6** per cent. ; $1 - v = d = \cdot05660377$ ; $\lambda d = \bar{2}\cdot7528453$
Interest **7** per cent. ; $1 - v = d = \cdot06542056$ ; $\lambda d = \bar{2}\cdot8157143$
Interest **8** per cent. ; $1 - v = d = \cdot07407407$ ; $\lambda d = \bar{2}\cdot8696662$
nterest **9** per cent. ; $1 - v = d = \cdot08256881$ ; $\lambda d = \bar{2}\cdot9168161$
Interest **10** per cent. ; $1 - v = d = \cdot09090909$ ; $\lambda d = \bar{2}\cdot9586073$

The Table of the $V_x - 1$ (pages 16–19) is compiled from Smart's Tables as far as the year 100; for the remaining years the $V_x - 1$ is obtained by the addition of the successive Values of $v^x$.

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Modulus of common logarithms = $k = \cdot43429448$
$\lambda k = \bar{1}\cdot6377843$
$\lambda k^2 = \bar{1}\cdot2755686$

# LIFE TABLES.

## SINGLE LIVES.

### YEARLY TABLE.

**MALE AND FEMALE.**

**Without Interest.**

## YEARLY TABLE:—PERSONS.*

| Age | **Dying** in each year of age 0 – 1, 1 – 2, &c. | **Born,** and **living** at each age. | **Sum** of the **numbers born,** and **living** at each age ($x$), and from age $x$ to the last age in the Table. | **Population,** or the **living** in each year of age 0 – 1, 1 – 2, &c. | (1) **Sum** of the **living** of every age $x$ and upwards to the last Age in the Table; also (2) the **years** which the Persons ($l_x$) **will live.** | (1) The **years** which the Persons at the age $x$ and upwards **will live;** also, (2) the years which they **have lived** over $x$. | Age |
|---|---|---|---|---|---|---|---|
| | | $\Sigma d_x$ | $\Sigma l_x$ | $l_{x+\frac{1}{2}}$ | $\Sigma P_x$ | $\Sigma \frac{1}{2}(Q_x+Q_{x+1}) = Y_{x+1}+(Q_{x+1}+\frac{1}{2}P_x)$ | |
| $x$ | $d_x$ | $l_x$ | $L_x$ | $P_x$ † | $Q_x$ | $Y_x$ | $x$ |
| 0 | 149,493 | 1,000,000 | 41,389,940 | 902,781 | 40,858,184 | 1,309,533,768 | 0 |
| 1 | 53,680 | 850,507 | 40,389,940 | 818,421 | 39,955,403 | 1,269,126,974 | 1 |
| 2 | 28,238 | 796,827 | 39,539,433 | 781,471 | 39,136,982 | 1,229,580,781 | 2 |
| 3 | 18,456 | 768,589 | 38,742,606 | 758,591 | 38,355,511 | 1,190,834,535 | 3 |
| 4 | 13,315 | 750,133 | 37,974,017 | 742,952 | 37,596,920 | 1,152,858,319 | 4 |
| 5 | 9,899 | 736,818 | 37,223,884 | 731,530 | 36,853,968 | 1,115,632,876 | 5 |
| 6 | 7,768 | 726,919 | 36,487,066 | 722,834 | 36,122,438 | 1,079,144,673 | 6 |
| 7 | 6,559 | 719,151 | 35,760,147 | 715,716 | 35,399,604 | 1,043,383,652 | 7 |
| 8 | 5,458 | 712,592 | 35,040,996 | 709,743 | 34,683,888 | 1,008,341,905 | 8 |
| 9 | 4,625 | 707,134 | 34,328,404 | 704,733 | 33,974,145 | 974,012,889 | 9 |
| 10 | 4,028 | 702,509 | 33,621,270 | 700,433 | 33,269,412 | 940,391,111 | 10 |
| 11 | 3,637 | 698,481 | 32,918,761 | 696,626 | 32,568,979 | 907,471,915 | 11 |
| 12 | 3,431 | 694,844 | 32,220,280 | 693,113 | 31,872,353 | 875,251,249 | 12 |
| 13 | 3,382 | 691,413 | 31,525,436 | 689,725 | 31,179,240 | 843,725,452 | 13 |
| 14 | 3,468 | 688,031 | 30,834,023 | 686,316 | 30,489,515 | 812,891,075 | 14 |
| 15 | 3,669 | 684,563 | 30,145,992 | 682,759 | 29,803,199 | 782,744,718 | 15 |
| 16 | 3,957 | 680,894 | 29,461,429 | 678,956 | 29,120,440 | 753,282,899 | 16 |
| 17 | 4,317 | 676,937 | 28,780,535 | 674,827 | 28,441,484 | 724,501,937 | 17 |
| 18 | 4,720 | 672,620 | 28,103,598 | 670,313 | 27,766,657 | 696,397,866 | 18 |
| 19 | 5,150 | 667,900 | 27,430,978 | 665,379 | 27,096,344 | 668,966,366 | 19 |
| 20 | 5,583 | 662,750 | 26,763,078 | 659,970 | 26,430,965 | 642,202,711 | 20 |
| 21 | 5,668 | 657,167 | 26,100,328 | 654,343 | 25,770,995 | 616,101,731 | 21 |
| 22 | 5,748 | 651,499 | 25,443,161 | 648,634 | 25,116,652 | 590,657,907 | 22 |
| 23 | 5,820 | 645,751 | 24,791,662 | 642,850 | 24,468,018 | 565,865,573 | 23 |
| 24 | 5,886 | 639,931 | 24,145,911 | 636,996 | 23,825,168 | 541,718,979 | 24 |
| 25 | 5,950 | 634,045 | 23,505,980 | 631,077 | 23,188,172 | 518,212,309 | 25 |
| 26 | 6,009 | 628,095 | 22,871,935 | 625,098 | 22,557,095 | 495,339,676 | 26 |
| 27 | 6,065 | 622,086 | 22,243,840 | 619,060 | 21,931,997 | 473,095,130 | 27 |
| 28 | 6,121 | 616,021 | 21,621,754 | 612,967 | 21,312,937 | 451,472,663 | 28 |
| 29 | 6,176 | 609,900 | 21,005,733 | 606,819 | 20,699,970 | 430,466,210 | 29 |
| 30 | 6,231 | 603,724 | 20,395,833 | 600,615 | 20,093,151 | 410,069,649 | 30 |
| 31 | 6,287 | 597,493 | 19,792,109 | 594,357 | 19,492,536 | 390,276,805 | 31 |
| 32 | 6,343 | 591,206 | 19,194,616 | 588,042 | 18,898,179 | 371,081,448 | 32 |
| 33 | 6,404 | 584,863 | 18,603,410 | 581,668 | 18,310,137 | 352,477,290 | 33 |
| 34 | 6,466 | 578,459 | 18,018,547 | 575,234 | 17,728,469 | 334,457,987 | 34 |
| 35 | 6,533 | 571,993 | 17,440,088 | 568,735 | 17,153,235 | 317,017,135 | 35 |
| 36 | 6,601 | 565,460 | 16,868,095 | 562,168 | 16,584,500 | 300,148,268 | 36 |
| 37 | 6,678 | 558,859 | 16,302,635 | 555,529 | 16,022,332 | 283,844,852 | 37 |
| 38 | 6,756 | 552,181 | 15,743,776 | 548,813 | 15,466,803 | 268,100,284 | 38 |
| 39 | 6,841 | 545,425 | 15,191,595 | 542,015 | 14,917,990 | 252,907,888 | 39 |
| 40 | 6,931 | 538,584 | 14,646,170 | 535,130 | 14,375,975 | 238,260,905 | 40 |
| 41 | 7,027 | 531,653 | 14,107,586 | 528,152 | 13,840,845 | 224,152,495 | 41 |
| 42 | 7,127 | 524,626 | 13,575,933 | 521,075 | 13,312,693 | 210,575,726 | 42 |
| 43 | 7,236 | 517,499 | 13,051,307 | 513,895 | 12,791,618 | 197,523,571 | 43 |
| 44 | 7,348 | 510,263 | 12,533,808 | 506,604 | 12,277,723 | 184,988,900 | 44 |
| 45 | 7,467 | 502,915 | 12,023,545 | 499,197 | 11,771,119 | 172,964,479 | 45 |
| 46 | 7,592 | 495,448 | 11,520,630 | 491,668 | 11,271,922 | 161,442,959 | 46 |
| 47 | 7,722 | 487,856 | 11,025,182 | 484,011 | 10,780,254 | 150,416,870 | 47 |
| 48 | 7,857 | 480,134 | 10,537,326 | 476,223 | 10,296,243 | 139,878,622 | 48 |
| 49 | 7,997 | 472,277 | 10,057,192 | 468,297 | 9,820,020 | 129,820,490 | 49 |
| 50 | 8,141 | 464,280 | 9,584,915 | 460,228 | 9,351,723 | 120,234,619 | 50 |
| 51 | 8,414 | 456,139 | 9,120,635 | 451,955 | 8,891,495 | 111,113,010 | 51 |
| 52 | 8,590 | 447,725 | 8,664,496 | 443,452 | 8,439,540 | 102,447,492 | 52 |
| 53 | 8,761 | 439,135 | 8,216,771 | 434,776 | 7,996,088 | 94,229,678 | 53 |
| 54 | 9,259 | 430,374 | 7,777,636 | 425,784 | 7,561,312 | 86,450,978 | 54 |

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* The Numbers in this Table of **Persons** are the sums of the corresponding numbers in the Tables of **Males** and **Females**, pp. 26 and 30.

† In the English Life Tables No. 1 and No. 2, $P_x$ was put in the form proposed by Mr. Griffith Davies, $= \frac{1}{2}(l_x + l_{x+1}) = l_{x+1} + \frac{1}{2}d_x$ ; but in this series of Tables it has been calculated directly, and, except in the single case of $P_0$, represents the numbers living in the middle of each year of age ($= l_{x+\frac{1}{2}}$). $P_0$ is the arithmetical mean of the series $l_0$, $l_{\frac{1}{12}}$, $l_{\frac{2}{12}}$ ..... $l_1$.

## YEARLY TABLE:—PERSONS.

| Age | **Dying** in each year of age 0–1, 1–2, &c. | **Born,** and **living** at each age. | **Sum** of the **numbers born,** and **living** at each age ($x$), and from age $x$ to the last age in the Table. | **Population,** or the **living** in each year of age 0–1, 1–2, &c. | (1) **Sum** of the **living** of every age $x$ and upwards to the last age in the Table; also (2) the **years** which the Persons ($l_x$) **will live.** | (1) The **years** which the Persons at the age $x$ and upwards **will live;** also (2) the years which they **have lived** over $x$. | Age |
|---|---|---|---|---|---|---|---|
| | | $\Sigma\, d_x$ | $\Sigma\, l_x$ | $l_{x+\frac{1}{2}}$ | $\Sigma\, P_x$ | $\Sigma\, \frac{1}{2}(Q_x+Q_{x+1}) = Y_{x+1}+(Q_{x+1}+\frac{1}{2}P_x)$ | |
| $x$ | $d_x$ | $l_x$ | $L_x$ | $P_x$ | $Q_x$ | $Y_x$ | $x$ |
| 55 | 9,583 | 421,115 | 7,347,262 | 416,364 | 7,135,528 | 79,102,559 | 55 |
| 56 | 9,909 | 411,532 | 6,926,147 | 406,619 | 6,719,164 | 72,175,213 | 56 |
| 57 | 10,245 | 401,623 | 6,514,615 | 396,543 | 6,312,545 | 65,659,358 | 57 |
| 58 | 10,593 | 391,378 | 6,112,992 | 386,125 | 5,916,002 | 59,545,084 | 58 |
| 59 | 10,958 | 380,785 | 5,721,614 | 375,353 | 5,529,877 | 53,822,145 | 59 |
| 60 | 11,338 | 369,827 | 5,340,829 | 364,207 | 5,154,524 | 48,479,944 | 60 |
| 61 | 11,737 | 358,489 | 4,971,002 | 352,671 | 4,790,317 | 43,507,524 | 61 |
| 62 | 12,149 | 346,752 | 4,612,513 | 340,730 | 4,437,646 | 38,893,543 | 62 |
| 63 | 12,572 | 334,603 | 4,265,761 | 328,371 | 4,096,916 | 34,626,261 | 63 |
| 64 | 13,002 | 322,031 | 3,931,158 | 315,583 | 3,768,545 | 30,693,531 | 64 |
| 65 | 13,430 | 309,029 | 3,609,127 | 302,368 | 3,452,962 | 27,082,777 | 65 |
| 66 | 13,846 | 295,599 | 3,300,098 | 288,727 | 3,150,594 | 23,781,000 | 66 |
| 67 | 14,244 | 281,753 | 3,004,499 | 274,679 | 2,861,867 | 20,774,769 | 67 |
| 68 | 14,607 | 267,509 | 2,722,746 | 260,249 | 2,587,188 | 18,050,242 | 68 |
| 69 | 14,925 | 252,902 | 2,455,237 | 245,476 | 2,326,939 | 15,593,178 | 69 |
| 70 | 15,184 | 237,977 | 2,202,335 | 230,414 | 2,081,463 | 13,388,977 | 70 |
| 71 | 15,369 | 222,793 | 1,964,358 | 215,127 | 1,851,049 | 11,422,721 | 71 |
| 72 | 15,468 | 207,424 | 1,741,565 | 199,697 | 1,635,922 | 9,679,235 | 72 |
| 73 | 15,469 | 191,956 | 1,534,141 | 184,215 | 1,436,225 | 8,143,162 | 73 |
| 74 | 15,363 | 176,487 | 1,342,185 | 168,785 | 1,252,010 | 6,799,045 | 74 |
| 75 | 15,136 | 161,124 | 1,165,698 | 153,520 | 1,083,225 | 5,631,427 | 75 |
| 76 | 14,789 | 145,988 | 1,004,574 | 138,542 | 929,705 | 4,624,962 | 76 |
| 77 | 14,319 | 131,199 | 858,586 | 123,973 | 791,163 | 3,764,528 | 77 |
| 78 | 13,726 | 116,880 | 727,387 | 109,936 | 667,190 | 3,035,351 | 78 |
| 79 | 13,021 | 103,154 | 610,507 | 96,548 | 557,254 | 2,423,130 | 79 |
| 80 | 12,214 | 90,133 | 507,353 | 83,919 | 460,706 | 1,914,150 | 80 |
| 81 | 11,320 | 77,919 | 417,220 | 72,143 | 376,787 | 1,495,403 | 81 |
| 82 | 10,358 | 66,599 | 339,301 | 61,297 | 304,644 | 1,154,688 | 82 |
| 83 | 9,352 | 56,241 | 272,702 | 51,437 | 243,347 | 880,692 | 83 |
| 84 | 8,324 | 46,889 | 216,461 | 42,597 | 191,910 | 663,063 | 84 |
| 85 | 7,300 | 38,565 | 169,572 | 34,788 | 149,313 | 492,452 | 85 |
| 86 | 6,298 | 31,265 | 131,007 | 27,994 | 114,525 | 360,533 | 86 |
| 87 | 5,346 | 24,967 | 99,742 | 22,179 | 86,531 | 260,005 | 87 |
| 88 | 4,459 | 19,621 | 74,775 | 17,284 | 64,352 | 184,563 | 88 |
| 89 | 3,653 | 15,162 | 55,154 | 13,240 | 47,068 | 128,853 | 89 |
| 90 | 2,933 | 11,509 | 39,992 | 9,959 | 33,828 | 88,406 | 90 |
| 91 | 2,310 | 8,576 | 28,483 | 7,349 | 23,869 | 59,557 | 91 |
| 92 | 1,781 | 6,266 | 19,907 | 5,315 | 16,520 | 39,363 | 92 |
| 93 | 1,343 | 4,485 | 13,641 | 3,764 | 11,205 | 25,500 | 93 |
| 94 | 989 | 3,142 | 9,156 | 2,609 | 7,441 | 16,177 | 94 |
| 95 | 713 | 2,153 | 6,014 | 1,766 | 4,832 | 10,041 | 95 |
| 96 | 500 | 1,440 | 3,861 | 1,167 | 3,066 | 6,092 | 96 |
| 97 | 342 | 940 | 2,421 | 752 | 1,899 | 3,609 | 97 |
| 98 | 228 | 598 | 1,481 | 472 | 1,147 | 2,086 | 98 |
| 99 | 147 | 370 | 883 | 288 | 675 | 1,175 | 99 |
| 100 | 92 | 223 | 513 | 171 | 387 | 644 | 100 |
| 101 | 57 | 131 | 290 | 99 | 216 | 342 | 101 |
| 102 | 33 | 74 | 159 | 56 | 117 | 176 | 102 |
| 103 | 19 | 41 | 85 | 30 | 61 | 87 | 103 |
| 104 | 10 | 22 | 44 | 16 | 31 | 41 | 104 |
| 105 | 6 | 12 | 22 | 8 | 15 | 18 | 105 |
| 106 | 3 | 6 | 10 | 4 | 7 | 7 | 106 |
| 107 | 2 | 3 | 4 | 2 | 3 | 2 | 107 |
| 108 | 1 | 1 | 1 | 1 | 1 | ... | 108 |
| 109 | ... | ... | ... | ... | ... | ... | 109 |

| Age | **Numbers attaining each Year of age ($x$) to 1,000,000 born.** | | | **Population maintained at each Year of Age ($x$) by 1,000,000 Annual Births.** | | | **Deaths out of the same Population in each Year of Age ($x$).** | | | Age |
|---|---|---|---|---|---|---|---|---|---|---|
| | $l_x$ | | | $P_x$ | | | $d_x$ | | | |
| $x$ | **Persons.** | **Males.** | **Females.** | **Persons.** | **Males.** | **Females.** | **Persons.** | **Males.** | **Females.** | $x$ |
| 0 | 1,000,000 | 511,745 | 488,255 | 902,781 | 456,820 | 445,961 | 149,493 | 83,719 | 65,774 | 0 |
| 1 | 850,507 | 428,026 | 422,481 | 818,421 | 411,999 | 406,422 | 53,680 | 27,521 | 26,159 | 1 |
| 2 | 796,827 | 400,505 | 396,322 | 781,471 | 392,294 | 389,177 | 28,238 | 14,215 | 14,023 | 2 |
| 3 | 768,589 | 386,290 | 382,299 | 758,591 | 381,312 | 377,279 | 18,456 | 9,213 | 9,243 | 3 |
| 4 | 750,133 | 377,077 | 373,056 | 742,952 | 373,461 | 369,491 | 13,315 | 6,719 | 6,596 | 4 |
| 5 | 736,818 | 370,358 | 366,460 | 731,530 | 367,672 | 363,858 | 9,899 | 5,033 | 4,866 | 5 |
| 6 | 726,919 | 365,325 | 361,594 | 722,834 | 363,244 | 359,590 | 7,768 | 3,953 | 3,815 | 6 |
| 7 | 719,151 | 361,372 | 357,779 | 715,716 | 359,635 | 356,081 | 6,559 | 3,310 | 3,249 | 7 |
| 8 | 712,592 | 358,062 | 354,530 | 709,743 | 356,632 | 353,111 | 5,458 | 2,734 | 2,724 | 8 |
| 9 | 707,134 | 355,328 | 351,806 | 704,733 | 354,133 | 350,600 | 4,625 | 2,297 | 2,328 | 9 |
| 10 | 702,509 | 353,031 | 349,478 | 700,433 | 352,007 | 348,426 | 4,028 | 1,983 | 2,045 | 10 |
| 11 | 698,481 | 351,048 | 347,433 | 696,626 | 350,141 | 346,485 | 3,637 | 1,776 | 1,861 | 11 |
| 12 | 694,844 | 349,272 | 345,572 | 693,113 | 348,431 | 344,682 | 3,431 | 1,666 | 1,765 | 12 |
| 13 | 691,413 | 347,606 | 343,807 | 689,725 | 346,789 | 342,936 | 3,382 | 1,637 | 1,745 | 13 |
| 14 | 688,031 | 345,969 | 342,062 | 686,316 | 345,139 | 341,177 | 3,468 | 1,679 | 1,789 | 14 |
| 15 | 684,563 | 344,290 | 340,273 | 682,759 | 343,415 | 339,344 | 3,669 | 1,781 | 1,888 | 15 |
| 16 | 680,894 | 342,509 | 338,385 | 678,956 | 341,566 | 337,390 | 3,957 | 1,928 | 2,029 | 16 |
| 17 | 676,937 | 340,581 | 336,356 | 674,827 | 339,550 | 335,277 | 4,317 | 2,112 | 2,205 | 17 |
| 18 | 672,620 | 338,469 | 334,151 | 670,313 | 337,336 | 332,977 | 4,720 | 2,320 | 2,400 | 18 |
| 19 | 667,900 | 336,149 | 331,751 | 665,379 | 334,906 | 330,473 | 5,150 | 2,541 | 2,609 | 19 |
| 20 | 662,750 | 333,608 | 329,142 | 659,970 | 332,231 | 327,739 | 5,583 | 2,764 | 2,819 | 20 |
| 21 | 657,167 | 330,844 | 326,323 | 654,343 | 329,448 | 324,895 | 5,668 | 2,801 | 2,867 | 21 |
| 22 | 651,499 | 328,043 | 323,456 | 648,634 | 326,629 | 322,005 | 5,748 | 2,836 | 2,912 | 22 |
| 23 | 645,751 | 325,207 | 320,544 | 642,850 | 323,777 | 319,073 | 5,820 | 2,868 | 2,952 | 23 |
| 24 | 639,931 | 322,339 | 317,592 | 636,996 | 320,894 | 316,102 | 5,886 | 2,897 | 2,989 | 24 |
| 25 | 634,045 | 319,442 | 314,603 | 631,077 | 317,982 | 313,095 | 5,950 | 2,926 | 3,024 | 25 |
| 26 | 628,095 | 316,516 | 311,579 | 625,098 | 315,042 | 310,056 | 6,009 | 2,954 | 3,055 | 26 |
| 27 | 622,086 | 313,562 | 308,524 | 619,060 | 312,075 | 306,985 | 6,065 | 2,981 | 3,084 | 27 |
| 28 | 616,021 | 310,581 | 305,440 | 612,967 | 309,080 | 303,887 | 6,121 | 3,009 | 3,112 | 28 |
| 29 | 609,900 | 307,572 | 302,328 | 606,819 | 306,057 | 300,762 | 6,176 | 3,038 | 3,138 | 29 |
| 30 | 603,724 | 304,534 | 299,190 | 600,615 | 303,004 | 297,611 | 6,231 | 3,068 | 3,163 | 30 |
| 31 | 597,493 | 301,466 | 296,027 | 594,357 | 299,920 | 294,437 | 6,287 | 3,100 | 3,187 | 31 |
| 32 | 591,206 | 298,366 | 292,840 | 588,042 | 296,804 | 291,238 | 6,343 | 3,134 | 3,209 | 32 |
| 33 | 584,863 | 295,232 | 289,631 | 581,668 | 293,651 | 288,017 | 6,404 | 3,171 | 3,233 | 33 |
| 34 | 578,459 | 292,061 | 286,398 | 575,234 | 290,461 | 284,773 | 6,466 | 3,211 | 3,255 | 34 |
| 35 | 571,993 | 288,850 | 283,143 | 568,735 | 287,229 | 281,506 | 6,533 | 3,254 | 3,279 | 35 |
| 36 | 565,460 | 285,596 | 279,864 | 562,168 | 283,952 | 278,216 | 6,601 | 3,300 | 3,301 | 36 |
| 37 | 558,859 | 282,296 | 276,563 | 555,529 | 280,626 | 274,903 | 6,678 | 3,352 | 3,326 | 37 |
| 38 | 552,181 | 278,944 | 273,237 | 548,813 | 277,248 | 271,565 | 6,756 | 3,406 | 3,350 | 38 |
| 39 | 545,425 | 275,538 | 269,887 | 542,015 | 273,813 | 268,202 | 6,841 | 3,465 | 3,376 | 39 |
| 40 | 538,584 | 272,073 | 266,511 | 535,130 | 270,317 | 264,813 | 6,931 | 3,529 | 3,402 | 40 |
| 41 | 531,653 | 268,544 | 263,109 | 528,152 | 266,755 | 261,397 | 7,027 | 3,596 | 3,431 | 41 |
| 42 | 524,626 | 264,948 | 259,678 | 521,075 | 263,123 | 257,952 | 7,127 | 3,668 | 3,459 | 42 |
| 43 | 517,499 | 261,280 | 256,219 | 513,895 | 259,417 | 254,478 | 7,236 | 3,746 | 3,490 | 43 |
| 44 | 510,263 | 257,534 | 252,729 | 506,604 | 255,632 | 250,972 | 7,348 | 3,826 | 3,522 | 44 |
| 45 | 502,915 | 253,708 | 249,207 | 499,197 | 251,763 | 247,434 | 7,467 | 3,912 | 3,555 | 45 |
| 46 | 495,448 | 249,796 | 245,652 | 491,668 | 247,807 | 243,861 | 7,592 | 4,001 | 3,591 | 46 |
| 47 | 487,856 | 245,795 | 242,061 | 484,011 | 243,759 | 240,252 | 7,722 | 4,095 | 3,627 | 47 |
| 48 | 480,134 | 241,700 | 238,434 | 476,223 | 239,617 | 236,606 | 7,857 | 4,192 | 3,665 | 48 |
| 49 | 472,277 | 237,508 | 234,769 | 468,297 | 235,375 | 232,922 | 7,997 | 4,292 | 3,705 | 49 |
| 50 | 464,280 | 233,216 | 231,064 | 460,228 | 231,032 | 229,196 | 8,141 | 4,395 | 3,746 | 50 |
| 51 | 456,139 | 228,821 | 227,318 | 451,955 | 226,525 | 225,430 | 8,414 | 4,626 | 3,788 | 51 |
| 52 | 447,725 | 224,195 | 223,530 | 443,452 | 221,832 | 221,620 | 8,590 | 4,758 | 3,832 | 52 |
| 53 | 439,135 | 219,437 | 219,698 | 434,776 | 217,010 | 217,766 | 8,761 | 4,885 | 3,876 | 53 |
| 54 | 430,374 | 214,552 | 215,822 | 425,784 | 212,061 | 213,723 | 9,259 | 5,013 | 4,246 | 54 |

| Age | **Numbers attaining** each Year of Age ($x$) to **1,000,000 born.** | | | **Population** maintained at each Year of Age ($x$) by **1,000,000 Annual Births.** | | | **Deaths** out of the same Population in each Year of Age ($x$). | | | Age |
|---|---|---|---|---|---|---|---|---|---|---|
| | $l_x$ | | | $P_x$ | | | $d_x$ | | | |
| $x$ | **Persons.** | **Males.** | **Females.** | **Persons.** | **Males.** | **Females.** | **Persons.** | **Males.** | **Females.** | $x$ |
| 55 | 421,115 | 209,539 | 211,576 | 416,364 | 206,984 | 209,380 | 9,583 | 5,144 | 4,439 | 55 |
| 56 | 411,532 | 204,395 | 207,137 | 406,619 | 201,772 | 204,847 | 9,909 | 5,281 | 4,628 | 56 |
| 57 | 401,623 | 199,114 | 202,509 | 396,543 | 196,419 | 200,124 | 10,245 | 5,428 | 4,817 | 57 |
| 58 | 391,378 | 193,686 | 197,692 | 386,125 | 190,914 | 195,211 | 10,593 | 5,584 | 5,009 | 58 |
| 59 | 380,785 | 188,102 | 192,683 | 375,353 | 185,248 | 190,105 | 10,958 | 5,752 | 5,206 | 59 |
| 60 | 369,827 | 182,350 | 187,477 | 364,207 | 179,409 | 184,798 | 11,338 | 5,929 | 5,409 | 60 |
| 61 | 358,489 | 176,421 | 182,068 | 352,671 | 173,386 | 179,285 | 11,737 | 6,118 | 5,619 | 61 |
| 62 | 346,752 | 170,303 | 176,449 | 340,730 | 167,171 | 173,559 | 12,149 | 6,314 | 5,835 | 62 |
| 63 | 334,603 | 163,989 | 170,614 | 328,371 | 160,757 | 167,614 | 12,572 | 6,515 | 6,057 | 63 |
| 64 | 322,031 | 157,474 | 164,557 | 315,583 | 154,139 | 161,444 | 13,002 | 6,720 | 6,282 | 64 |
| 65 | 309,029 | 150,754 | 158,275 | 302,368 | 147,319 | 155,049 | 13,430 | 6,921 | 6,509 | 65 |
| 66 | 295,599 | 143,833 | 151,766 | 288,727 | 140,299 | 148,428 | 13,846 | 7,115 | 6,731 | 66 |
| 67 | 281,753 | 136,718 | 145,035 | 274,679 | 133,091 | 141,588 | 14,244 | 7,297 | 6,947 | 67 |
| 68 | 267,509 | 129,421 | 138,088 | 260,249 | 125,711 | 134,538 | 14,607 | 7,458 | 7,149 | 68 |
| 69 | 252,902 | 121,963 | 130,939 | 245,476 | 118,181 | 127,295 | 14,925 | 7,593 | 7,332 | 69 |
| 70 | 237,977 | 114,370 | 123,607 | 230,414 | 110,533 | 119,881 | 15,184 | 7,695 | 7,489 | 70 |
| 71 | 222,793 | 106,675 | 116,118 | 215,127 | 102,802 | 112,325 | 15,369 | 7,756 | 7,613 | 71 |
| 72 | 207,424 | 98,919 | 108,505 | 199,697 | 95,033 | 104,664 | 15,468 | 7,770 | 7,698 | 72 |
| 73 | 191,956 | 91,149 | 100,807 | 184,215 | 87,274 | 96,941 | 15,469 | 7,733 | 7,736 | 73 |
| 74 | 176,487 | 83,416 | 93,071 | 168,785 | 79,581 | 89,204 | 15,363 | 7,639 | 7,724 | 74 |
| 75 | 161,124 | 75,777 | 85,347 | 153,520 | 72,012 | 81,508 | 15,136 | 7,483 | 7,653 | 75 |
| 76 | 145,988 | 68,294 | 77,694 | 138,542 | 64,629 | 73,913 | 14,789 | 7,268 | 7,521 | 76 |
| 77 | 131,199 | 61,026 | 70,173 | 123,973 | 57,493 | 66,480 | 14,319 | 6,990 | 7,329 | 77 |
| 78 | 116,880 | 54,036 | 62,844 | 109,936 | 50,663 | 59,273 | 13,726 | 6,655 | 7,071 | 78 |
| 79 | 103,154 | 47,381 | 55,773 | 96,548 | 44,196 | 52,352 | 13,021 | 6,266 | 6,755 | 79 |
| 80 | 90,133 | 41,115 | 49,018 | 83,919 | 38,142 | 45,777 | 12,214 | 5,832 | 6,382 | 80 |
| 81 | 77,919 | 35,283 | 42,636 | 72,143 | 32,542 | 39,601 | 11,320 | 5,361 | 5,959 | 81 |
| 82 | 66,599 | 29,922 | 36,677 | 61,297 | 27,428 | 33,869 | 10,358 | 4,862 | 5,496 | 82 |
| 83 | 56,241 | 25,060 | 31,181 | 51,437 | 22,821 | 28,616 | 9,352 | 4,349 | 5,003 | 83 |
| 84 | 46,889 | 20,711 | 26,178 | 42,597 | 18,729 | 23,868 | 8,324 | 3,834 | 4,490 | 84 |
| 85 | 38,565 | 16,877 | 21,688 | 34,788 | 15,151 | 19,637 | 7,300 | 3,328 | 3,972 | 85 |
| 86 | 31,265 | 13,549 | 17,716 | 27,994 | 12,070 | 15,924 | 6,298 | 2,840 | 3,458 | 86 |
| 87 | 24,967 | 10,709 | 14,258 | 22,179 | 9,462 | 12,717 | 5,346 | 2,384 | 2,962 | 87 |
| 88 | 19,621 | 8,325 | 11,296 | 17,284 | 7,292 | 9,992 | 4,459 | 1,965 | 2,494 | 88 |
| 89 | 15,162 | 6,360 | 8,802 | 13,240 | 5,521 | 7,719 | 3,653 | 1,590 | 2,063 | 89 |
| 90 | 11,509 | 4,770 | 6,739 | 9,959 | 4,102 | 5,857 | 2,933 | 1,260 | 1,673 | 90 |
| 91 | 8,576 | 3,510 | 5,066 | 7,349 | 2,988 | 4,361 | 2,310 | 979 | 1,331 | 91 |
| 92 | 6,266 | 2,531 | 3,735 | 5,315 | 2,132 | 3,183 | 1,781 | 744 | 1,037 | 92 |
| 93 | 4,485 | 1,787 | 2,698 | 3,764 | 1,489 | 2,275 | 1,343 | 553 | 790 | 93 |
| 94 | 3,142 | 1,234 | 1,908 | 2,609 | 1,017 | 1,592 | 989 | 401 | 588 | 94 |
| 95 | 2,153 | 833 | 1,320 | 1,766 | 678 | 1,088 | 713 | 285 | 428 | 95 |
| 96 | 1,440 | 548 | 892 | 1,167 | 441 | 726 | 500 | 196 | 304 | 96 |
| 97 | 940 | 352 | 588 | 752 | 279 | 473 | 342 | 132 | 210 | 97 |
| 98 | 598 | 220 | 378 | 472 | 172 | 300 | 228 | 86 | 142 | 98 |
| 99 | 370 | 134 | 236 | 288 | 103 | 185 | 147 | 55 | 92 | 99 |
| 100 | 223 | 79 | 144 | 171 | 60 | 111 | 92 | 33 | 59 | 100 |
| 101 | 131 | 46 | 85 | 99 | 34 | 65 | 57 | 21 | 36 | 101 |
| 102 | 74 | 25 | 49 | 56 | 19 | 37 | 33 | 11 | 22 | 102 |
| 103 | 41 | 14 | 27 | 30 | 10 | 20 | 19 | 7 | 12 | 103 |
| 104 | 22 | 7 | 15 | 16 | 5 | 11 | 10 | 3 | 7 | 104 |
| 105 | 12 | 4 | 8 | 8 | 3 | 5 | 6 | 2 | 4 | 105 |
| 106 | 6 | 2 | 4 | 4 | 1 | 3 | 3 | 1 | 2 | 106 |
| 107 | 3 | 1 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 107 |
| 108 | 1 | ... | 1 | 1 | ... | 1 | 1 | ... | 1 | 108 |

## YEARLY TABLE:—MALES.

| Age | **Dying** in each year of age 0 – 1, 1 – 2, &c. | **Born,** and **living** at each age. | **Sum** of the **numbers born,** and **living** at each age ($x$) and from $x$ to the last age in the Table. | **Population,** or the **living** in each year of age 0 – 1, 1 – 2, &c. | (1) **Sum** of the **living** of every age $x$ and upwards to the last age in the Table; also (2) the **years** which the Males ($l_x$) **will live.** | (1) The **years** which the Males at the age ($x$) and upwards **will live;** also (2) the years which they **have lived** over $x$. | Age |
|---|---|---|---|---|---|---|---|
| | | $\Sigma d_x$ | $\Sigma l_x$ | $l_{x+\frac{1}{2}}$ | $\Sigma P_x$ | $\Sigma\frac{1}{2}(Q_x+Q_{x+1})=Y_{x+1}+(Q_{x+1}+\frac{1}{2}P_x)$ | |
| $x$ | $d_x$ | $l_x$ | $L_x$ | $P_x$* | $Q_x$ | $Y_x$ | $x$ |
| 0 | 83,719 | 511,745 | 20,699,829 | 456,820 | 20,426,138 | 648,962,343 | 0 |
| 1 | 27,521 | 428,026 | 20,188,084 | 411,999 | 19,969,318 | 628,764,615 | 1 |
| 2 | 14,215 | 400,505 | 19,760,058 | 392,294 | 19,557,319 | 609,001,296 | 2 |
| 3 | 9,213 | 386,290 | 19,359,553 | 381,312 | 19,165,025 | 589,640,124 | 3 |
| 4 | 6,719 | 377,077 | 18,973,263 | 373,461 | 18,783,713 | 570,665,755 | 4 |
| 5 | 5,033 | 370,358 | 18,596,186 | 367,672 | 18,410,252 | 552,068,773 | 5 |
| 6 | 3,953 | 365,325 | 18,225,828 | 363,244 | 18,042,580 | 533,842,357 | 6 |
| 7 | 3,310 | 361,372 | 17,860,503 | 359,635 | 17,679,336 | 515,981,399 | 7 |
| 8 | 2,734 | 358,062 | 17,499,131 | 356,632 | 17,319,701 | 498,481,880 | 8 |
| 9 | 2,297 | 355,328 | 17,141,069 | 354,133 | 16,963,069 | 481,340,495 | 9 |
| 10 | 1,983 | 353,031 | 16,785,741 | 352,007 | 16,608,936 | 464,554,493 | 10 |
| 11 | 1,776 | 351,048 | 16,432,710 | 350,141 | 16,256,929 | 448,121,560 | 11 |
| 12 | 1,666 | 349,272 | 16,081,662 | 348,431 | 15,906,788 | 432,039,702 | 12 |
| 13 | 1,637 | 347,606 | 15,732,390 | 346,789 | 15,558,357 | 416,307,129 | 13 |
| 14 | 1,679 | 345,969 | 15,384,784 | 345,139 | 15,211,568 | 400,922,167 | 14 |
| 15 | 1,781 | 344,290 | 15,038,815 | 343,415 | 14,866,429 | 385,883,168 | 15 |
| 16 | 1,928 | 342,509 | 14,694,525 | 341,566 | 14,523,014 | 371,188,447 | 16 |
| 17 | 2,112 | 340,581 | 14,352,016 | 339,550 | 14,181,448 | 356,836,216 | 17 |
| 18 | 2,320 | 338,469 | 14,011,435 | 337,336 | 13,841,898 | 342,824,543 | 18 |
| 19 | 2,541 | 336,149 | 13,672,966 | 334,906 | 13,504,562 | 329,151,313 | 19 |
| 20 | 2,764 | 333,608 | 13,336,817 | 332,231 | 13,169,656 | 315,814,204 | 20 |
| 21 | 2,801 | 330,844 | 13,003,209 | 329,448 | 12,837,425 | 302,810,663 | 21 |
| 22 | 2,836 | 328,043 | 12,672,365 | 326,629 | 12,507,977 | 290,137,962 | 22 |
| 23 | 2,868 | 325,207 | 12,344,322 | 323,777 | 12,181,348 | 277,793,300 | 23 |
| 24 | 2,897 | 322,339 | 12,019,115 | 320,894 | 11,857,571 | 265,773,840 | 24 |
| 25 | 2,926 | 319,442 | 11,696,776 | 317,982 | 11,536,677 | 254,076,716 | 25 |
| 26 | 2,954 | 316,516 | 11,377,334 | 315,042 | 11,218,695 | 242,699,030 | 26 |
| 27 | 2,981 | 313,562 | 11,060,818 | 312,075 | 10,903,653 | 231,637,856 | 27 |
| 28 | 3,009 | 310,581 | 10,747,256 | 309,080 | 10,591,578 | 220,890,241 | 28 |
| 29 | 3,038 | 307,572 | 10,436,675 | 306,057 | 10,282,498 | 210,453,203 | 29 |
| 30 | 3,068 | 304,534 | 10,129,103 | 303,004 | 9,976,441 | 200,323,733 | 30 |
| 31 | 3,100 | 301,466 | 9,824,569 | 299,920 | 9,673,437 | 190,498,794 | 31 |
| 32 | 3,134 | 298,366 | 9,523,103 | 296,804 | 9,373,517 | 180,975,317 | 32 |
| 33 | 3,171 | 295,232 | 9,224,737 | 293,651 | 9,076,713 | 171,750,202 | 33 |
| 34 | 3,211 | 292,061 | 8,929,505 | 290,461 | 8,783,062 | 162,820,315 | 34 |
| 35 | 3,254 | 288,850 | 8,637,444 | 287,229 | 8,492,601 | 154,182,483 | 35 |
| 36 | 3,300 | 285,596 | 8,348,594 | 283,952 | 8,205,372 | 145,833,497 | 36 |
| 37 | 3,352 | 282,296 | 8,062,998 | 280,626 | 7,921,420 | 137,770,101 | 37 |
| 38 | 3,406 | 278,944 | 7,780,702 | 277,248 | 7,640,794 | 129,988,994 | 38 |
| 39 | 3,465 | 275,538 | 7,501,758 | 273,813 | 7,363,546 | 122,486,824 | 39 |
| 40 | 3,529 | 272,073 | 7,226,220 | 270,317 | 7,089,733 | 115,260,184 | 40 |
| 41 | 3,596 | 268,544 | 6,954,147 | 266,755 | 6,819,416 | 108,305,610 | 41 |
| 42 | 3,668 | 264,948 | 6,685,603 | 263,123 | 6,552,661 | 101,619,571 | 42 |
| 43 | 3,746 | 261,280 | 6,420,655 | 259,417 | 6,289,538 | 95,198,472 | 43 |
| 44 | 3,826 | 257,534 | 6,159,375 | 255,632 | 6,030,121 | 89,038,642 | 44 |
| 45 | 3,912 | 253,708 | 5,901,841 | 251,763 | 5,774,489 | 83,136,337 | 45 |
| 46 | 4,001 | 249,796 | 5,648,133 | 247,807 | 5,522,726 | 77,487,730 | 46 |
| 47 | 4,095 | 245,795 | 5,398,337 | 243,759 | 5,274,919 | 72,088,907 | 47 |
| 48 | 4,192 | 241,700 | 5,152,542 | 239,617 | 5,031,160 | 66,935,868 | 48 |
| 49 | 4,292 | 237,508 | 4,910,842 | 235,375 | 4,791,543 | 62,024,516 | 49 |
| 50 | 4,395 | 233,216 | 4,673,334 | 231,032 | 4,556,168 | 57,350,661 | 50 |
| 51 | 4,626 | 228,821 | 4,440,118 | 226,525 | 4,325,136 | 52,910,009 | 51 |
| 52 | 4,758 | 224,195 | 4,211,297 | 221,832 | 4,098,611 | 48,698,135 | 52 |
| 53 | 4,885 | 219,437 | 3,987,102 | 217,010 | 3,876,779 | 44,710,440 | 53 |
| 54 | 5,013 | 214,552 | 3,767,665 | 212,061 | 3,659,769 | 40,942,166 | 54 |

* In the English Life Tables No. 1 and No. 2, $P_x$ was put in the form proposed by Mr. Griffith Davies, $=\frac{1}{2}(l_x+l_{x+1})=l_{x+1}+\frac{1}{2}d_x$; but in this series of Tables it has been calculated directly, and, except in the single case of $P_0$, represents the numbers living in the middle of each year of age ($=l_{x+\frac{1}{2}}$). $P_0$ is the arithmetical mean of the series $l_0, l_{\frac{1}{12}}, l_{\frac{2}{12}} \ldots\ldots l_1$. $\lambda P_x = \lambda l_{4x+2}$ in Quarterly Table, page 130.

## YEARLY TABLE:—Males.

| **Age** | **Dying** in each year of age 0—1, 1—2, &c. | **Born,** and **living** at each age. | **Sum** of the **numbers born,** and **living** at each age ($x$) and from $x$ to the last age in the Table. | **Population,** or the **living** in each year of age 0—1, 1—2, &c. | (1) **Sum** of the **living** of every age $x$ and upwards to the last age in the Table; also (2) the **years** which the Males ($l_x$) **will live.** | (1) The **years** which the Males at the age ($x$) and upwards **will live;** also (2) the years which they **have lived** over ($x$). | **Age** |
|---|---|---|---|---|---|---|---|
| | | $\Sigma d_x$ | $\Sigma l_x$ | $l_{x+\frac{1}{2}}$ | $\Sigma \mathrm{P}_x$ | $\Sigma \frac{1}{2}(\mathrm{Q}_x + \mathrm{Q}_{x+1}) = \mathrm{Y}_{x+1} + (\mathrm{Q}_{x+1} + \frac{1}{2}\mathrm{P}_x)$ | |
| $x$ | $d_x$ | $l_x$ | $\mathrm{L}_x$ | $\mathrm{P}_x$ | $\mathrm{Q}_x$ | $\mathrm{Y}_x$ | $x$ |
| 55 | 5,144 | 209,539 | 3,553,113 | 206,984 | 3,447,708 | 37,388,428 | 55 |
| 56 | 5,281 | 204,395 | 3,343,574 | 201,772 | 3,240,724 | 34,044,212 | 56 |
| 57 | 5,428 | 199,114 | 3,139,179 | 196,419 | 3,038,952 | 30,904,374 | 57 |
| 58 | 5,584 | 193,686 | 2,940,065 | 190,914 | 2,842,533 | 27,963,631 | 58 |
| 59 | 5,752 | 188,102 | 2,746,379 | 185,248 | 2,651,619 | 25,216,555 | 59 |
| 60 | 5,929 | 182,350 | 2,558,277 | 179,409 | 2,466,371 | 22,657,560 | 60 |
| 61 | 6,118 | 176,421 | 2,375,927 | 173,386 | 2,286,962 | 20,280,894 | 61 |
| 62 | 6,314 | 170,303 | 2,199,506 | 167,171 | 2,113,576 | 18,080,625 | 62 |
| 63 | 6,515 | 163,989 | 2,029,203 | 160,757 | 1,946,405 | 16,050,634 | 63 |
| 64 | 6,720 | 157,474 | 1,865,214 | 154,139 | 1,785,648 | 14,184,608 | 64 |
| 65 | 6,921 | 150,754 | 1,707,740 | 147,319 | 1,631,509 | 12,476,029 | 65 |
| 66 | 7,115 | 143,833 | 1,556,986 | 140,299 | 1,484,190 | 10,918,180 | 66 |
| 67 | 7,297 | 136,718 | 1,413,153 | 133,091 | 1,343,891 | 9,504,139 | 67 |
| 68 | 7,458 | 129,421 | 1,276,435 | 125,711 | 1,210,800 | 8,226,794 | 68 |
| 69 | 7,593 | 121,963 | 1,147,014 | 118,181 | 1,085,089 | 7,078,849 | 69 |
| 70 | 7,695 | 114,370 | 1,025,051 | 110,533 | 966,908 | 6,052,851 | 70 |
| 71 | 7,756 | 106,675 | 910,681 | 102,802 | 856,375 | 5,141,209 | 71 |
| 72 | 7,770 | 98,919 | 804,006 | 95,033 | 753,573 | 4,336,235 | 72 |
| 73 | 7,733 | 91,149 | 705,087 | 87,274 | 658,540 | 3,630,179 | 73 |
| 74 | 7,639 | 83,416 | 613,938 | 79,581 | 571,266 | 3,015,276 | 74 |
| 75 | 7,483 | 75,777 | 530,522 | 72,012 | 491,685 | 2,483,800 | 75 |
| 76 | 7,268 | 68,294 | 454,745 | 64,629 | 419,673 | 2,028,121 | 76 |
| 77 | 6,990 | 61,026 | 386,451 | 57,493 | 355,044 | 1,640,763 | 77 |
| 78 | 6,655 | 54,036 | 325,425 | 50,663 | 297,551 | 1,314,465 | 78 |
| 79 | 6,266 | 47,381 | 271,389 | 44,196 | 246,888 | 1,042,246 | 79 |
| 80 | 5,832 | 41,115 | 224,008 | 38,142 | 202,692 | 817,456 | 80 |
| 81 | 5,361 | 35,283 | 182,893 | 32,542 | 164,550 | 633,835 | 81 |
| 82 | 4,862 | 29,922 | 147,610 | 27,428 | 132,008 | 485,556 | 82 |
| 83 | 4,349 | 25,060 | 117,688 | 22,821 | 104,580 | 367,262 | 83 |
| 84 | 3,834 | 20,711 | 92,628 | 18,729 | 81,759 | 274,092 | 84 |
| 85 | 3,328 | 16,877 | 71,917 | 15,151 | 63,030 | 201,698 | 85 |
| 86 | 2,840 | 13,549 | 55,040 | 12,070 | 47,879 | 146,243 | 86 |
| 87 | 2,384 | 10,709 | 41,491 | 9,462 | 35,809 | 104,399 | 87 |
| 88 | 1,965 | 8,325 | 30,782 | 7,292 | 26,347 | 73,321 | 88 |
| 89 | 1,590 | 6,360 | 22,457 | 5,521 | 19,055 | 50,620 | 89 |
| 90 | 1,260 | 4,770 | 16,097 | 4,102 | 13,534 | 34,325 | 90 |
| 91 | 979 | 3,510 | 11,327 | 2,988 | 9,432 | 22,843 | 91 |
| 92 | 744 | 2,531 | 7,817 | 2,132 | 6,444 | 14,905 | 92 |
| 93 | 553 | 1,787 | 5,286 | 1,489 | 4,312 | 9,527 | 93 |
| 94 | 401 | 1,234 | 3,499 | 1,017 | 2,823 | 5,959 | 94 |
| 95 | 285 | 833 | 2,265 | 678 | 1,806 | 3,645 | 95 |
| 96 | 196 | 548 | 1,432 | 441 | 1,128 | 2,178 | 96 |
| 97 | 132 | 352 | 884 | 279 | 687 | 1,270 | 97 |
| 98 | 86 | 220 | 532 | 172 | 408 | 723 | 98 |
| 99 | 55 | 134 | 312 | 103 | 236 | 401 | 99 |
| 100 | 33 | 79 | 178 | 60 | 133 | 216 | 100 |
| 101 | 21 | 46 | 99 | 34 | 73 | 113 | 101 |
| 102 | 11 | 25 | 53 | 19 | 39 | 57 | 102 |
| 103 | 7 | 14 | 28 | 10 | 20 | 28 | 103 |
| 104 | 3 | 7 | 14 | 5 | 10 | 13 | 104 |
| 105 | 2 | 4 | 7 | 3 | 5 | 5 | 105 |
| 106 | 1 | 2 | 3 | 1 | 2 | 2 | 106 |
| 107 | 1 | 1 | 1 | 1 | 1 | ... | 107 |
| 108 | ... | ... | ... | ... | ... | ... | 108 |
| 109 | ... | ... | ... | ... | ... | ... | 109 |

## YEARLY TABLE:—MALES.

### $l_x$, $Q_x$, $Y_x$, and their Logarithms.

| Age ($x$) | $l_x$ | $Q_x$ | $Y_x$ | λ $l_x$ | λ $Q_x$ | λ $Y_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 0 | 511,745 | 20,426,138 | 648,962,343 | 5·7090538 | 7·3101863 | 8·8122194 | 0 |
| 1 | 428,026 | 19,969,318 | 628,764,615 | 5·6314702 | 7·3003632 | 8·7984881 | 1 |
| 2 | 400,505 | 19,557,319 | 609,001,296 | 5·6026079 | 7·2913093 | 8·7846182 | 2 |
| 3 | 386,290 | 19,165,025 | 589,640,124 | 5·5869132 | 7·2825095 | 8·7705870 | 3 |
| 4 | 377,077 | 18,783,713 | 570,665,755 | 5·5764301 | 7·2737814 | 8·7563818 | 4 |
| 5 | 370,358 | 18,410,252 | 552,068,773 | 5·5686214 | 7·2650597 | 8·7419931 | 5 |
| 6 | 365,325 | 18,042,580 | 533,842,357 | 5·5626788 | 7·2562986 | 8·7274130 | 6 |
| 7 | 361,372 | 17,679,336 | 515,981,399 | 5·5579539 | 7·2474661 | 8·7126340 | 7 |
| 8 | 358,062 | 17,319,701 | 498,481,880 | 5·5539583 | 7·2385404 | 8·6976494 | 8 |
| 9 | 355,328 | 16,963,069 | 481,340,495 | 5·5506295 | 7·2295045 | 8·6824525 | 9 |
| 10 | 353,031 | 16,608,936 | 464,554,493 | 5·5478129 | 7·2203420 | 8·6670367 | 10 |
| 11 | 351,048 | 16,256,929 | 448,121,560 | 5·5453670 | 7·2110385 | 8·6513959 | 11 |
| 12 | 349,272 | 15,906,788 | 432,039,702 | 5·5431636 | 7·2015826 | 8·6355237 | 12 |
| 13 | 347,606 | 15,558,357 | 416,307,129 | 5·5410877 | 7·1919639 | 8·6194138 | 13 |
| 14 | 345,969 | 15,211,568 | 400,922,167 | 5·5390375 | 7·1821741 | 8·6030601 | 14 |
| 15 | 344,290 | 14,866,429 | 385,883,168 | 5·5369242 | 7·1722067 | 8·5864559 | 15 |
| 16 | 342,509 | 14,523,014 | 371,188,447 | 5·5346726 | 7·1620566 | 8·5695945 | 16 |
| 17 | 340,581 | 14,181,448 | 356,836,216 | 5·5322204 | 7·1517206 | 8·5524689 | 17 |
| 18 | 338,469 | 13,841,898 | 342,824,543 | 5·5295186 | 7·1411957 | 8·5350718 | 18 |
| 19 | 336,149 | 13,504,562 | 329,151,313 | 5·5265313 | 7·1304804 | 8·5173956 | 19 |
| 20 | 333,608 | 13,169,656 | 315,814,204 | 5·5232361 | 7·1195746 | 8·4994317 | 20 |
| 21 | 330,844 | 12,837,425 | 302,810,663 | 5·5196235 | 7·1084781 | 8·4811712 | 21 |
| 22 | 328,043 | 12,507,977 | 290,137,962 | 5·5159306 | 7·0971873 | 8·4626046 | 22 |
| 23 | 325,207 | 12,181,348 | 277,793,300 | 5·5121599 | 7·0856954 | 8·4437218 | 23 |
| 24 | 322,339 | 11,857,571 | 265,773,840 | 5·5083133 | 7·0739958 | 8·4245122 | 24 |
| 25 | 319,442 | 11,536,677 | 254,076,716 | 5·5043918 | 7·0620808 | 8·4049649 | 25 |
| 26 | 316,516 | 11,218,695 | 242,699,030 | 5·5003955 | 7·0499425 | 8·3850680 | 26 |
| 27 | 313,562 | 10,903,653 | 231,637,856 | 5·4963237 | 7·0375719 | 8·3648097 | 27 |
| 28 | 310,581 | 10,591,578 | 220,890,241 | 5·4921749 | 7·0249609 | 8·3441765 | 28 |
| 29 | 307,572 | 10,282,498 | 210,453,203 | 5·4879467 | 7·0120988 | 8·3231555 | 29 |
| 30 | 304,534 | 9,976,441 | 200,323,733 | 5·4836359 | 6·9989756 | 8·3017323 | 30 |
| 31 | 301,466 | 9,673,437 | 190,498,794 | 5·4792385 | 6·9855808 | 8·2798922 | 31 |
| 32 | 298,366 | 9,373,517 | 180,975,317 | 5·4747496 | 6·9719026 | 8·2576193 | 32 |
| 33 | 295,232 | 9,076,713 | 171,750,202 | 5·4701635 | 6·9579286 | 8·2348972 | 33 |
| 34 | 292,061 | 8,783,062 | 162,820,315 | 5·4654737 | 6·9436459 | 8·2117086 | 34 |
| 35 | 288,850 | 8,492,601 | 154,182,483 | 5·4606728 | 6·9290408 | 8·1880350 | 35 |
| 36 | 285,596 | 8,205,372 | 145,833,497 | 5·4557526 | 6·9140983 | 8·1638573 | 36 |
| 37 | 282,296 | 7,921,420 | 137,770,101 | 5·4507040 | 6·8988030 | 8·1391550 | 37 |
| 38 | 278,944 | 7,640,794 | 129,988,994 | 5·4455172 | 6·8831384 | 8·1139066 | 38 |
| 39 | 275,538 | 7,363,546 | 122,486,824 | 5·4401815 | 6·8670871 | 8·0880893 | 39 |
| 40 | 272,073 | 7,089,733 | 115,260,184 | 5·4346853 | 6·8506299 | 8·0616794 | 40 |
| 41 | 268,544 | 6,819,416 | 108,305,610 | 5·4290162 | 6·8337472 | 8·0346510 | 41 |
| 42 | 264,948 | 6,552,661 | 101,619,571 | 5·4231610 | 6·8164178 | 8·0069775 | 42 |
| 43 | 261,280 | 6,289,538 | 95,198,472 | 5·4171056 | 6·7986188 | 7·9786299 | 43 |
| 44 | 257,534 | 6,030,121 | 89,038,642 | 5·4108353 | 6·7803260 | 7·9495785 | 44 |
| 45 | 253,708 | 5,774,489 | 83,136,337 | 5·4043342 | 6·7615136 | 7.9197909 | 45 |
| 46 | 249,796 | 5,522,726 | 77,487,730 | 5·3975858 | 6·7421536 | 7·8892330 | 46 |
| 47 | 245,795 | 5,274,919 | 72,088,907 | 5·3905728 | 6·7222158 | 7·8578685 | 47 |
| 48 | 241,700 | 5,031,160 | 66,935,868 | 5·3832768 | 6·7016681 | 7·8256590 | 48 |
| 49 | 237,508 | 4,791,543 | 62,024,516 | 5·3756788 | 6·6804754 | 7·7925634 | 49 |
| 50 | 233,216 | 4,556,168 | 57,350,661 | 5·3677590 | 6·6585998 | 7·7585385 | 50 |
| 51 | 228,821 | 4,325,136 | 52,910,009 | 5·3594966 | 6·6359998 | 7·7235379 | 51 |
| 52 | 224,195 | 4,098,611 | 48,698,135 | 5·3506256 | 6·6126367 | 7·6875124 | 52 |
| 53 | 219,437 | 3,876,779 | 44,710,440 | 5·3413096 | 6·5884710 | 7·6504090 | 53 |
| 54 | 214,552 | 3,659,769 | 40,942,166 | 5·3315317 | 6·5634537 | 7·6121709 | 54 |

## YEARLY TABLE:—MALES.

### $l_x$, $Q_x$, $Y_x$, and their Logarithms.

| Age ($x$) | $l_x$ | $Q_x$ | $Y_x$ | $\lambda\ l_x$ | $\lambda\ Q_x$ | $\lambda\ Y_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 55 | 209,539 | 3,447,708 | 37,388,428 | 5·3212644 | 6·5375305 | 7·5727372 | 55 |
| 56 | 204,395 | 3,240,724 | 34,044,212 | 5·3104701 | 6·5106420 | 7·5320432 | 56 |
| 57 | 199,114 | 3,038,952 | 30,904,374 | 5·2991007 | 6·4827239 | 7·4900199 | 57 |
| 58 | 193,686 | 2,842,533 | 27,963,631 | 5·2870978 | 6·4537056 | 7·4465936 | 58 |
| 59 | 188,102 | 2,651,619 | 25,216,555 | 5·2743928 | 6·4235111 | 7·4016858 | 59 |
| 60 | 182,350 | 2,466,371 | 22,657,560 | 5·2609067 | 6·3920584 | 7·3552132 | 60 |
| 61 | 176,421 | 2,286,962 | 20,280,894 | 5·2465500 | 6·3592590 | 7·3070870 | 61 |
| 62 | 170,303 | 2,113,576 | 18,080,625 | 5·2312231 | 6·3250179 | 7·2572135 | 62 |
| 63 | 163,989 | 1,946,405 | 16,050,634 | 5·2148160 | 6·2892332 | 7·2054921 | 63 |
| 64 | 157,474 | 1,785,648 | 14,184,608 | 5·1972084 | 6·2517958 | 7·1518174 | 64 |
| 65 | 150,754 | 1,631,509 | 12,476,029 | 5·1782696 | 6·2125895 | 7·0960765 | 65 |
| 66 | 143,833 | 1,484,190 | 10,918,180 | 5·1578586 | 6·1714895 | 7·0381503 | 66 |
| 67 | 136,718 | 1,343,891 | 9,504,139 | 5·1358242 | 6·1283641 | 6·9779128 | 67 |
| 68 | 129,421 | 1,210,800 | 8,226,794 | 5·1120046 | 6·0830724 | 6·9152306 | 68 |
| 69 | 121,963 | 1,085,089 | 7,078,849 | 5·0862280 | 6·0354654 | 6·8499627 | 69 |
| 70 | 114,370 | 966,908 | 6,052,851 | 5·0583120 | 5·9853852 | 6·7819600 | 70 |
| 71 | 106,675 | 856,375 | 5,141,209 | 5·0280640 | 5·9326640 | 6·7110653 | 71 |
| 72 | 98,919 | 753,573 | 4,336,235 | 4·9952810 | 5·8771253 | 6·6371128 | 72 |
| 73 | 91,149 | 658,540 | 3,630,179 | 4·9597499 | 5·8185822 | 6·5599281 | 73 |
| 74 | 83,416 | 571,266 | 3,015,276 | 4·9212469 | 5·7568384 | 6·4793271 | 74 |
| 75 | 75,777 | 491,685 | 2,483,800 | 4·8795582 | 5·6916870 | 6·3951166 | 75 |
| 76 | 68,294 | 419,673 | 2,028,121 | 4·8343795 | 5·6229110 | 6·3070939 | 76 |
| 77 | 61,026 | 355,044 | 1,640,763 | 4·7855162 | 5·5502822 | 6·2150458 | 77 |
| 78 | 54,036 | 297,551 | 1,314,465 | 4·7326834 | 5·4735615 | 6·1187491 | 78 |
| 79 | 47,381 | 246,888 | 1,042,246 | 4·6756059 | 5·3925000 | 6·0179703 | 79 |
| 80 | 41,115 | 202,692 | 817,456 | 4·6139981 | 5·3068366 | 5·9124644 | 80 |
| 81 | 35,283 | 164,550 | 633,835 | 4·5475641 | 5·2162979 | 5·8019762 | 81 |
| 82 | 29,922 | 132,008 | 485,556 | 4·4759977 | 5·1206002 | 5·6862393 | 82 |
| 83 | 25,060 | 104,580 | 367,262 | 4·3989823 | 5·0194486 | 5·5649760 | 83 |
| 84 | 20,711 | 81,759 | 274,092 | 4·3161911 | 4·9125356 | 5·4378964 | 84 |
| 85 | 16,877 | 63,030 | 201,698 | 4·2272869 | 4·7995473 | 5·3047016 | 85 |
| 86 | 13,549 | 47,879 | 146,243 | 4·1319221 | 4·6801451 | 5·1650751 | 86 |
| 87 | 10,709 | 35,809 | 104,399 | 4·0297390 | 4·5539922 | 5·0186964 | 87 |
| 88 | 8,325 | 26,347 | 73,321 | 3·9203692 | 4·4207312 | 4·8652284 | 88 |
| 89 | 6,360 | 19,055 | 50,620 | 3·8034343 | 4·2800090 | 4·7043221 | 89 |
| 90 | 4,770 | 13,534 | 34,326 | 3·6785456 | 4·1314262 | 4·5356232 | 90 |
| 91 | 3,510 | 9,432 | 22,843 | 3·5453037 | 3·9746038 | 4·3587531 | 91 |
| 92 | 2,531 | 6,444 | 14,905 | 3·4032992 | 3·8091555 | 4·1733320 | 92 |
| 93 | 1,787 | 4,312 | 9,527 | 3·2521123 | 3·6346788 | 3·9789562 | 93 |
| 94 | 1,234 | 2,823 | 5,959 | 3·0913128 | 3·4507109 | 3·7751734 | 94 |
| 95 | 833 | 1,806 | 3,645 | 2·9204603 | 3·2567177 | 3·5616975 | 95 |
| 96 | 548 | 1,128 | 2,178 | 2·7391040 | 3·0523091 | 3·3380579 | 96 |
| 97 | 352 | 687 | 1,270 | 2·5467827 | 2·8369567 | 3·1038037 | 97 |
| 98 | 220 | 408 | 723 | 2·3430251 | 2·6106602 | 2·8591383 | 98 |
| 99 | 134 | 236 | 401 | 2·1273492 | 2·3729120 | 2·6031444 | 99 |
| 100 | 79 | 133 | 216 | 1·8992630 | 2·1238516 | 2·3344538 | 100 |
| 101 | 46 | 73 | 113 | 1·6582641 | 1·8633229 | 2·0530784 | 101 |
| 102 | 25 | 39 | 57 | 1·4038397 | 1·5910646 | 1·7558749 | 102 |
| 103 | 14 | 20 | 28 | 1·1354667 | 1·3010300 | 1·4471580 | 103 |
| 104 | 7 | 10 | 13 | 0·8526118 | 1·0000000 | 1·1139434 | 104 |
| 105 | 4 | 5 | 5 | 0·5547310 | 0·6989700 | 0·6989700 | 105 |
| 106 | 2 | 2 | 2 | 0·2412705 | 0·3010300 | 0·3010300 | 106 |
| 107 | 1 | 1 | ... | $\bar{1}$·9116657 | 0·0000000 | ... | 107 |
| 108 | ... | ... | ... | $\bar{1}$·5653419 | ... | ... | 108 |
| 109 | ... | ... | ... | $\bar{1}$·2017142 | ... | ... | 109 |

## YEARLY TABLE:—FEMALES.

| Age | **Dying** in each year of age 0—1, 1—2, &c. | **Born,** and **living** at each age. | **Sum** of the **numbers born,** and **living** at each age ($x$) and from age $x$ to the last age in the Table. | **Population,** or the **living** in each year of age 0—1, 1—2, &c. | (1) **Sum** of the **living** of every age $x$ and upwards to the last age in the Table; also (2) the **years** which the Females ($l_x$) **will live.** | (1) The **years** which the Females at the age ($x$) and upwards **will live**; also (2) the years which they **have lived** over ($x$). | Age |
|---|---|---|---|---|---|---|---|
| | | $\Sigma d_x$ | $\Sigma l_x$ | $l_{x+\frac{1}{2}}$ | $\Sigma P_x$ | $\Sigma\frac{1}{2}(Q_x+Q_{x+1})=Y_{x+1}+(Q_{x+1}+\frac{1}{2}P_x)$ | |
| $x$ | $d_x$ | $l_x$ | $L_x$ | $P_x$* | $Q_x$ | $Y_x$ | $x$ |
| 0 | 65,774 | 488,255 | 20,690,111 | 445,961 | 20,432,046 | 660,571,425 | 0 |
| 1 | 26,159 | 422,481 | 20,201,856 | 406,422 | 19,986,085 | 640,362,359 | 1 |
| 2 | 14,023 | 396,322 | 19,779,375 | 389,177 | 19,579,663 | 620,579,485 | 2 |
| 3 | 9,243 | 382,299 | 19,383,053 | 377,279 | 19,190,486 | 601,194,411 | 3 |
| 4 | 6,596 | 373,056 | 19,000,754 | 369,491 | 18,813,207 | 582,192,564 | 4 |
| 5 | 4,866 | 366,460 | 18,627,698 | 363,858 | 18,443,716 | 563,564,103 | 5 |
| 6 | 3,815 | 361,594 | 18,261,238 | 359,590 | 18,079,858 | 545,302,316 | 6 |
| 7 | 3,249 | 357,779 | 17,899,644 | 356,081 | 17,720,268 | 527,402,253 | 7 |
| 8 | 2,724 | 354,530 | 17,541,865 | 353,111 | 17,364,187 | 509,860,025 | 8 |
| 9 | 2,328 | 351,806 | 17,187,335 | 350,600 | 17,011,076 | 492,672,394 | 9 |
| 10 | 2,045 | 349,478 | 16,835,529 | 348,426 | 16,660,476 | 475,836,618 | 10 |
| 11 | 1,861 | 347,433 | 16,486,051 | 346,485 | 16,312,050 | 459,350,355 | 11 |
| 12 | 1,765 | 345,572 | 16,138,618 | 344,682 | 15,965,565 | 443,211,547 | 12 |
| 13 | 1,745 | 343,807 | 15,793,046 | 342,936 | 15,620,883 | 427,418,323 | 13 |
| 14 | 1,789 | 342,062 | 15,449,239 | 341,177 | 15,277,947 | 411,968,908 | 14 |
| 15 | 1,888 | 340,273 | 15,107,177 | 339,344 | 14,936,770 | 396,861,550 | 15 |
| 16 | 2,029 | 338,385 | 14,766,904 | 337,390 | 14,597,426 | 382,094,452 | 16 |
| 17 | 2,205 | 336,356 | 14,428,519 | 335,277 | 14,260,036 | 367,665,721 | 17 |
| 18 | 2,400 | 334,151 | 14,092,163 | 332,977 | 13,924,759 | 353,573,323 | 18 |
| 19 | 2,609 | 331,751 | 13,758,012 | 330,473 | 13,591,782 | 339,815,053 | 19 |
| 20 | 2,819 | 329,142 | 13,426,261 | 327,739 | 13,261,309 | 326,388,507 | 20 |
| 21 | 2,867 | 326,323 | 13,097,119 | 324,895 | 12,933,570 | 313,291,068 | 21 |
| 22 | 2,912 | 323,456 | 12,770,796 | 322,005 | 12,608,675 | 300,519,945 | 22 |
| 23 | 2,952 | 320,544 | 12,447,340 | 319,073 | 12,286,670 | 288,072,273 | 23 |
| 24 | 2,989 | 317,592 | 12,126,796 | 316,102 | 11,967,597 | 275,945,139 | 24 |
| 25 | 3,024 | 314,603 | 11,809,204 | 313,095 | 11,651,495 | 264,135,593 | 25 |
| 26 | 3,055 | 311,579 | 11,494,601 | 310,056 | 11,338,400 | 252,640,646 | 26 |
| 27 | 3,084 | 308,524 | 11,183,022 | 306,985 | 11,028,344 | 241,457,274 | 27 |
| 28 | 3,112 | 305,440 | 10,874,498 | 303,887 | 10,721,359 | 230,582,422 | 28 |
| 29 | 3,138 | 302,328 | 10,569,058 | 300,762 | 10,417,472 | 220,013,007 | 29 |
| 30 | 3,163 | 299,190 | 10,266,730 | 297,611 | 10,116,710 | 209,745,916 | 30 |
| 31 | 3,187 | 296,027 | 9,967,540 | 294,437 | 9,819,099 | 199,778,011 | 31 |
| 32 | 3,209 | 292,840 | 9,671,513 | 291,238 | 9,524,662 | 190,106,131 | 32 |
| 33 | 3,233 | 289,631 | 9,378,673 | 288,017 | 9,233,424 | 180,727,088 | 33 |
| 34 | 3,255 | 286,398 | 9,089,042 | 284,773 | 8,945,407 | 171,637,672 | 34 |
| 35 | 3,279 | 283,143 | 8,802,644 | 281,506 | 8,660,634 | 162,834,652 | 35 |
| 36 | 3,301 | 279,864 | 8,519,501 | 278,216 | 8,379,128 | 154,314,771 | 36 |
| 37 | 3,326 | 276,563 | 8,239,637 | 274,903 | 8,100,912 | 146,074,751 | 37 |
| 38 | 3,350 | 273,237 | 7,963,074 | 271,565 | 7,826,009 | 138,111,290 | 38 |
| 39 | 3,376 | 269,887 | 7,689,837 | 268,202 | 7,554,444 | 130,421,064 | 39 |
| 40 | 3,402 | 266,511 | 7,419,950 | 264,813 | 7,286,242 | 123,000,721 | 40 |
| 41 | 3,431 | 263,109 | 7,153,439 | 261,397 | 7,021,429 | 115,846,885 | 41 |
| 42 | 3,459 | 259,678 | 6,890,330 | 257,952 | 6,760,032 | 108,956,155 | 42 |
| 43 | 3,490 | 256,219 | 6,630,652 | 254,478 | 6,502,080 | 102,325,099 | 43 |
| 44 | 3,522 | 252,729 | 6,374,433 | 250,972 | 6,247,602 | 95,950,258 | 44 |
| 45 | 3,555 | 249,207 | 6,121,704 | 247,434 | 5,996,630 | 89,828,142 | 45 |
| 46 | 3,591 | 245,652 | 5,872,497 | 243,861 | 5,749,196 | 83,955,229 | 46 |
| 47 | 3,627 | 242,061 | 5,626,845 | 240,252 | 5,505,335 | 78,327,963 | 47 |
| 48 | 3,665 | 238,434 | 5,384,784 | 236,606 | 5,265,083 | 72,942,754 | 48 |
| 49 | 3,705 | 234,769 | 5,146,350 | 232,922 | 5,028,477 | 67,795,974 | 49 |
| 50 | 3,746 | 231,064 | 4,911,581 | 229,196 | 4,795,555 | 62,883,958 | 50 |
| 51 | 3,788 | 227,318 | 4,680,517 | 225,430 | 4,566,359 | 58,203,001 | 51 |
| 52 | 3,832 | 223,530 | 4,453,199 | 221,620 | 4,340,929 | 53,749,357 | 52 |
| 53 | 3,876 | 219,698 | 4,229,669 | 217,766 | 4,119,309 | 49,519,238 | 53 |
| 54 | 4,246 | 215,822 | 4,009,971 | 213,723 | 3,901,543 | 45,508,812 | 54 |

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* In the English Life Tables No. 1 and No. 2, $P_x$ was put in the form proposed by Mr. Griffith Davies, $=\frac{1}{2}(l_x+l_{x+1})=l_{x+1}+\frac{1}{2}d_x$; but in this series of Tables it has been calculated directly, and, except in the single case of $P_0$, represents the numbers living in the middle of each year of age $(=l_{x+\frac{1}{2}})$. $P_0$ is the arithmetical mean of the series $l_0$ $l_{\frac{1}{12}}$, $l_{\frac{2}{12}}$ ..... $l_1$. $\lambda P_x = \lambda l_{4x+2}$ in Quarterly Table, page 132.

## YEARLY TABLE:—FEMALES.

| **Age** | **Dying** in each year of age 0—1, 1—2, &c. | **Born,** and **living** at each age. | **Sum** of the **numbers born,** and **living** at each age ($x$) and from age $x$ to the last age in the Table. | **Population,** or the **living** in each year of age 0—1, 1—2, &c. | (1) **Sum** of the **living** of every age $x$ and upwards to the last age in the Table; also (2) the **years** which the Females ($l_x$) **will live.** | (1) The **years** which the Females at the age ($x$) and upwards **will live**; also (2) the years which they **have lived** over ($x$). | **Age** |
|---|---|---|---|---|---|---|---|
| | | $\Sigma d_x$ | $\Sigma l_x$ | $l_{x+\frac{1}{2}}$ | $\Sigma P_x$ | $\Sigma\frac{1}{2}(Q_x+Q_{x+1}) = Y_{x+1}+(Q_{x+1}+\frac{1}{2}P_x)$ | |
| $x$ | $d_x$ | $l_x$ | $L_x$ | $P_x$ | $Q_x$ | $Y_x$ | $x$ |
| 55 | 4,439 | 211,576 | 3,794,149 | 209,380 | 3,687,820 | 41,714,131 | 55 |
| 56 | 4,628 | 207,137 | 3,582,573 | 204,847 | 3,478,440 | 38,131,001 | 56 |
| 57 | 4,817 | 202,509 | 3,375,436 | 200,124 | 3,273,593 | 34,754,984 | 57 |
| 58 | 5,009 | 197,692 | 3,172,927 | 195,211 | 3,073,469 | 31,581,453 | 58 |
| 59 | 5,206 | 192,683 | 2,975,235 | 190,105 | 2,878,258 | 28,605,590 | 59 |
| 60 | 5,409 | 187,477 | 2,782,552 | 184,798 | 2,688,153 | 25,822,384 | 60 |
| 61 | 5,619 | 182,068 | 2,595,075 | 179,285 | 2,503,355 | 23,226,630 | 61 |
| 62 | 5,835 | 176,449 | 2,413,007 | 173,559 | 2,324,070 | 20,812,918 | 62 |
| 63 | 6,057 | 170,614 | 2,236,558 | 167,614 | 2,150,511 | 18,575,627 | 63 |
| 64 | 6,282 | 164,557 | 2,065,944 | 161,444 | 1,982,897 | 16,508,923 | 64 |
| 65 | 6,509 | 158,275 | 1,901,387 | 155,049 | 1,821,453 | 14,606,748 | 65 |
| 66 | 6,731 | 151,766 | 1,743,112 | 148,428 | 1,666,404 | 12,862,820 | 66 |
| 67 | 6,947 | 145,035 | 1,591,346 | 141,588 | 1,517,976 | 11,270,630 | 67 |
| 68 | 7,149 | 138,088 | 1,446,311 | 134,538 | 1,376,388 | 9,823,448 | 68 |
| 69 | 7,332 | 130,939 | 1,308,223 | 127,295 | 1,241,850 | 8,514,329 | 69 |
| 70 | 7,489 | 123,607 | 1,177,284 | 119,881 | 1,114,555 | 7,336,126 | 70 |
| 71 | 7,613 | 116,118 | 1,053,677 | 112,325 | 994,674 | 6,281,512 | 71 |
| 72 | 7,698 | 108,505 | 937,559 | 104,664 | 882,349 | 5,343,000 | 72 |
| 73 | 7,736 | 100,807 | 829,054 | 96,941 | 777,685 | 4,512,983 | 73 |
| 74 | 7,724 | 93,071 | 728,247 | 89,204 | 680,744 | 3,783,769 | 74 |
| 75 | 7,653 | 85,347 | 635,176 | 81,508 | 591,540 | 3,147,627 | 75 |
| 76 | 7,521 | 77,694 | 549,829 | 73,913 | 510,032 | 2,596,841 | 76 |
| 77 | 7,329 | 70,173 | 472,135 | 66,480 | 436,119 | 2,123,765 | 77 |
| 78 | 7,071 | 62,844 | 401,962 | 59,273 | 369,639 | 1,720,886 | 78 |
| 79 | 6,755 | 55,773 | 339,118 | 52,352 | 310,366 | 1,380,884 | 79 |
| 80 | 6,382 | 49,018 | 283,345 | 45,777 | 258,014 | 1,096,694 | 80 |
| 81 | 5,959 | 42,636 | 234,327 | 39,601 | 212,237 | 861,568 | 81 |
| 82 | 5,496 | 36,677 | 191,691 | 33,869 | 172,636 | 669,132 | 82 |
| 83 | 5,003 | 31,181 | 155,014 | 28,616 | 138,767 | 513,430 | 83 |
| 84 | 4,490 | 26,178 | 123,833 | 23,868 | 110,151 | 388,971 | 84 |
| 85 | 3,972 | 21,688 | 97,655 | 19,637 | 86,283 | 290,754 | 85 |
| 86 | 3,458 | 17,716 | 75,967 | 15,924 | 66,646 | 214,290 | 86 |
| 87 | 2,962 | 14,258 | 58,251 | 12,717 | 50,722 | 155,606 | 87 |
| 88 | 2,494 | 11,296 | 43,993 | 9,992 | 38,005 | 111,242 | 88 |
| 89 | 2,063 | 8,802 | 32,697 | 7,719 | 28,013 | 78,233 | 89 |
| 90 | 1,673 | 6,739 | 23,895 | 5,857 | 20,294 | 54,080 | 90 |
| 91 | 1,331 | 5,066 | 17,156 | 4,361 | 14,437 | 36,714 | 91 |
| 92 | 1,037 | 3,735 | 12,090 | 3,183 | 10,076 | 24,458 | 92 |
| 93 | 790 | 2,698 | 8,355 | 2,275 | 6,893 | 15,973 | 93 |
| 94 | 588 | 1,908 | 5,657 | 1,592 | 4,618 | 10,218 | 94 |
| 95 | 428 | 1,320 | 3,749 | 1,088 | 3,026 | 6,396 | 95 |
| 96 | 304 | 892 | 2,429 | 726 | 1,938 | 3,914 | 96 |
| 97 | 210 | 588 | 1,537 | 473 | 1,212 | 2,339 | 97 |
| 98 | 142 | 378 | 949 | 300 | 739 | 1,363 | 98 |
| 99 | 92 | 236 | 571 | 185 | 439 | 774 | 99 |
| 100 | 59 | 144 | 335 | 111 | 254 | 428 | 100 |
| 101 | 36 | 85 | 191 | 65 | 143 | 229 | 101 |
| 102 | 22 | 49 | 106 | 37 | 78 | 119 | 102 |
| 103 | 12 | 27 | 57 | 20 | 41 | 59 | 103 |
| 104 | 7 | 15 | 30 | 11 | 21 | 28 | 104 |
| 105 | 4 | 8 | 15 | 5 | 10 | 13 | 105 |
| 106 | 2 | 4 | 7 | 3 | 5 | 5 | 106 |
| 107 | 1 | 2 | 3 | 1 | 2 | 2 | 107 |
| 108 | 1 | 1 | 1 | 1 | 1 | ... | 108 |
| 109 | ... | ... | ... | ... | ... | ... | 109 |

## YEARLY TABLE :—FEMALES.

### $l_x$, $Q_x$, $Y_x$, and their Logarithms.

| Age $(x)$ | $l_x$ | $Q_x$ | $Y_x$ | $\lambda\, l_x$ | $\lambda\, Q_x$ | $\lambda\, Y_x$ | Age $(x)$ |
|---|---|---|---|---|---|---|---|
| 0 | 488,255 | 20,432,046 | 660,571,425 | 5·6886465 | 7·3103120 | 8·8199198 | 0 |
| 1 | 422,481 | 19,986,085 | 640,362,359 | 5·6258069 | 7·3007279 | 8·8064259 | 1 |
| 2 | 396,322 | 19,579,663 | 620,579,485 | 5·5980479 | 7·2918051 | 8·7927975 | 2 |
| 3 | 382,299 | 19,190,486 | 601,194,411 | 5·5824033 | 7·2830860 | 8·7790149 | 3 |
| 4 | 373,056 | 18,813,207 | 582,192,564 | 5·5717743 | 7·2744629 | 9·7650667 | 4 |
| 5 | 366,460 | 18,443,716 | 563,564,103 | 5·5640266 | 7·2658486 | 8·7509434 | 5 |
| 6 | 361,594 | 18,079,858 | 545,302,316 | 5·5582216 | 7·2571950 | 8·7366373 | 6 |
| 7 | 357,779 | 17,720,268 | 527,402,253 | 5·5536144 | 7·2484703 | 8·7221421 | 7 |
| 8 | 354,530 | 17,364,187 | 509,860,025 | 5·5496536 | 7·2396546 | 8·7074509 | 8 |
| 9 | 351,806 | 17,011,076 | 492,672,394 | 5·5463032 | 7·2307319 | 8·6925583 | 9 |
| 10 | 349,478 | 16,660,476 | 475,836,618 | 5·5434193 | 7·2216875 | 8·6774579 | 10 |
| 11 | 347,433 | 16,312,050 | 459,350,355 | 5·5408707 | 7·2125205 | 8·6621441 | 11 |
| 12 | 345,572 | 15,965,565 | 443,211,547 | 5·5385381 | 7·2031844 | 8·6466111 | 12 |
| 13 | 343,807 | 15,620,883 | 427,418,323 | 5·5363145 | 7·1937054 | 8·6308531 | 13 |
| 14 | 342,062 | 15,277,947 | 411,968,908 | 5·5341051 | 7·1840651 | 8·6148645 | 14 |
| 15 | 340,273 | 14,936,770 | 396,861,550 | 5·5318275 | 7·1742567 | 8·5986391 | 15 |
| 16 | 338,385 | 14,597,426 | 382,094,452 | 5·5294114 | 7·1642764 | 8·5821708 | 16 |
| 17 | 336,356 | 14,260,036 | 367,665,721 | 5·5267986 | 7·1541207 | 8·5654531 | 17 |
| 18 | 334,151 | 13,924,759 | 353,573,323 | 5·5239434 | 7·1437877 | 8·5484795 | 18 |
| 19 | 331,751 | 13,591,782 | 339,815,053 | 5·5208121 | 7·1332764 | 8·5312427 | 19 |
| 20 | 329,142 | 13,261,309 | 326,388,507 | 5·5173833 | 7·1225864 | 8·5137348 | 20 |
| 21 | 326,323 | 12,933,570 | 313,291,068 | 5·5136479 | 7·1117185 | 8·4959480 | 21 |
| 22 | 323,456 | 12,608,675 | 300,519,945 | 5·5098150 | 7·1006696 | 8·4778733 | 22 |
| 23 | 320,544 | 12,286,670 | 288,072,273 | 5·5058879 | 7·0894343 | 8·4595015 | 23 |
| 24 | 317,592 | 11,967,597 | 275,945,139 | 5·5018696 | 7·0780071 | 8·4408228 | 24 |
| 25 | 314,603 | 11,651,495 | 264,135,593 | 5·4977625 | 7·0663819 | 8·4218270 | 25 |
| 26 | 311,579 | 11,338,400 | 252,640,646 | 5·4935685 | 7·0545518 | 8·4025031 | 26 |
| 27 | 308,524 | 11,028,344 | 241,457,274 | 5·4892891 | 7·0425102 | 8·3828403 | 27 |
| 28 | 305,440 | 10,721,359 | 230,582,422 | 5·4849253 | 7·0302499 | 8·3628262 | 28 |
| 29 | 302,328 | 10,417,472 | 220,013,007 | 5·4804778 | 7·0177623 | 8·3424483 | 29 |
| 30 | 299,190 | 10,116,710 | 209,745,916 | 5·4759466 | 7·0050392 | 8·3216936 | 30 |
| 31 | 296,027 | 9,819,099 | 199,778,011 | 5·4713313 | 6·9920717 | 8·3005477 | 31 |
| 32 | 292,840 | 9,524,662 | 190,106,131 | 5·4666311 | 6·9788496 | 8·2789960 | 32 |
| 33 | 289,631 | 9,233,424 | 180,727,088 | 5·4618446 | 6·9653628 | 8·2570232 | 33 |
| 34 | 286,398 | 8,945,407 | 171,637,672 | 5·4569701 | 6·9516001 | 8·2346127 | 34 |
| 35 | 283,143 | 8,660,634 | 162,834,652 | 5·4520053 | 6·9375497 | 8·2117470 | 35 |
| 36 | 279,864 | 8,379,128 | 154,314,771 | 5·4469475 | 6·9231988 | 8·1884076 | 36 |
| 37 | 276,563 | 8,100,912 | 146,074,751 | 5·4417935 | 6·9085339 | 8·1645753 | 37 |
| 38 | 273,237 | 7,826,009 | 138,111,290 | 5·4365396 | 6·8935403 | 8·1402293 | 38 |
| 39 | 269,887 | 7,554,444 | 130,421,064 | 5·4311817 | 6·8782025 | 8·1153478 | 39 |
| 40 | 266,511 | 7,286,242 | 123,000,721 | 5·4257153 | 6·8625036 | 8·0899076 | 40 |
| 41 | 263,109 | 7,021,429 | 115,846,885 | 5·4201352 | 6·8464255 | 8·0638844 | 41 |
| 42 | 259,678 | 6,760,032 | 108,956,155 | 5·4144359 | 6·8299487 | 8·0372519 | 42 |
| 43 | 256,219 | 6,502,080 | 102,325,099 | 5·4086114 | 6·8130523 | 8·0099822 | 43 |
| 44 | 252,729 | 6,247,602 | 95,950,258 | 5·4026553 | 6·7957133 | 7·9820462 | 44 |
| 45 | 249,207 | 5,996,630 | 89,828,142 | 5·3965606 | 6·7779073 | 7·9534124 | 45 |
| 46 | 245,652 | 5,749,196 | 83,955,229 | 5·3903199 | 6·7596072 | 7·9240478 | 46 |
| 47 | 242,061 | 5,505,335 | 78,327,963 | 5·3839253 | 6·7407838 | 7·8939168 | 47 |
| 48 | 238,434 | 5,265,083 | 72,942,754 | 5·3773685 | 6·7214053 | 7·8629821 | 48 |
| 49 | 234,769 | 5,028,477 | 67,795,974 | 5·3706407 | 6·7014365 | 7·8312040 | 49 |
| 50 | 231,064 | 4,795,555 | 62,883,958 | 5·3637325 | 6·6808390 | 7·7985399 | 50 |
| 51 | 227,318 | 4,566,359 | 58,203,001 | 5·3566343 | 6·6595701 | 7·7649454 | 51 |
| 52 | 223,530 | 4,340,929 | 53,749,357 | 5·3493358 | 6·6375827 | 7·7303733 | 52 |
| 53 | 219,698 | 4,119,309 | 49,519,238 | 5·3418264 | 6·6148244 | 7·6947740 | 53 |
| 54 | 215,822 | 3,901,543 | 45,508,812 | 5·3340949 | 6·5912363 | 7·6580955 | 54 |

## YEARLY TABLE:—FEMALES.

### $l_x$, $Q_x$, $Y_x$, and their Logarithms.

| Age ($x$) | $l_x$ | $Q_x$ | $Y_x$ | λ $l_x$ | λ $Q_x$ | λ $Y_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 55 | 211,576 | 3,687,820 | 41,714,131 | 5·3254664 | 6·5667697 | 7·6202831 | 55 |
| 56 | 207,137 | 3,478,440 | 38,131,001 | 5·3162583 | 6·5413845 | 7·5812782 | 56 |
| 57 | 202,509 | 3,273,593 | 34,754,984 | 5·3064447 | 6·5150247 | 7·5410171 | 57 |
| 58 | 197,692 | 3,073,469 | 31,581,453 | 5·2959887 | 6·4876289 | 7·4994321 | 58 |
| 59 | 192,683 | 2,878,258 | 28,605,590 | 5·2848423 | 6·4591298 | 7·4564510 | 59 |
| 60 | 187,477 | 2,688,153 | 25,822,384 | 5·2729470 | 6·4294540 | 7·4119962 | 60 |
| 61 | 182,068 | 2,503,355 | 23,226,630 | 5·2602329 | 6·3985225 | 7·3659862 | 61 |
| 62 | 176,449 | 2,324,070 | 20,812,918 | 5·2466194 | 6·3662492 | 7·3183330 | 62 |
| 63 | 170,614 | 2,150,511 | 18,575,627 | 5·2320149 | 6·3325416 | 7·2689435 | 63 |
| 64 | 164,557 | 1,982,897 | 16,508,923 | 5·2163168 | 6·2973001 | 7·2177187 | 64 |
| 65 | 158,275 | 1,821,453 | 14,606,748 | 5·1994118 | 6·2604180 | 7·1645536 | 65 |
| 66 | 151,766 | 1,666,404 | 12,862,820 | 5·1811753 | 6·2217803 | 7·1093362 | 66 |
| 67 | 145,035 | 1,517,976 | 11,270,630 | 5·1614720 | 6·1812649 | 7·0519482 | 67 |
| 68 | 138,088 | 1,376,388 | 9,823,448 | 5·1401557 | 6·1387409 | 6·9922640 | 68 |
| 69 | 130,939 | 1,241,850 | 8,514,329 | 5·1170691 | 6·0940692 | 6·9301504 | 69 |
| 70 | 123,607 | 1,114,555 | 7,336,126 | 5·0920440 | 6·0471016 | 6·8654668 | 70 |
| 71 | 116,118 | 994,674 | 6,281,512 | 5·0649013 | 5·9976808 | 6·7980642 | 71 |
| 72 | 108,505 | 882,349 | 5,343,000 | 5·0354509 | 5·9456404 | 6·7277852 | 72 |
| 73 | 100,807 | 777,685 | 4,512,983 | 5·0034919 | 5·8908037 | 6·6544637 | 73 |
| 74 | 93,071 | 680,744 | 3,783,769 | 4·9688124 | 5·8329839 | 6·5779246 | 74 |
| 75 | 85,347 | 591,540 | 3,147,627 | 4·9311894 | 5·7719841 | 6·4979833 | 75 |
| 76 | 77,694 | 510,032 | 2,596,841 | 4·8903892 | 5·7075974 | 6·4144454 | 76 |
| 77 | 70,173 | 436,119 | 2,123,765 | 4·8461669 | 5·6396050 | 6·3271064 | 77 |
| 78 | 62,844 | 369,639 | 1,720,886 | 4·7982670 | 5·5677778 | 6·2357521 | 78 |
| 79 | 55,773 | 310,366 | 1,380,884 | 4·7464227 | 5·4918741 | 6·1401572 | 79 |
| 80 | 49,018 | 258,014 | 1,096,694 | 4·6903565 | 5·4116433 | 6·0400855 | 80 |
| 81 | 42,636 | 212,237 | 861,568 | 4·6297799 | 5·3268211 | 5·9352896 | 81 |
| 82 | 36,677 | 172,636 | 669,132 | 4·5643934 | 5·2371314 | 5·8255118 | 82 |
| 83 | 31,181 | 138,767 | 513,430 | 4·4938867 | 5·1422862 | 5·7104812 | 83 |
| 84 | 26,178 | 110,151 | 388,971 | 4·4179384 | 5·0419885 | 5·5899172 | 84 |
| 85 | 21,688 | 86,283 | 290,754 | 4·3362162 | 4·9359252 | 5·4635257 | 85 |
| 86 | 17,716 | 66,646 | 214,290 | 4·2483769 | 4·8237741 | 5·3310019 | 86 |
| 87 | 14,258 | 50,722 | 155,606 | 4·1540665 | 4·7051964 | 5·1920263 | 87 |
| 88 | 11,296 | 38,005 | 111,242 | 4·0529197 | 4·5798407 | 5·0462688 | 88 |
| 89 | 8,802 | 28,013 | 78,233 | 3·9445605 | 4·4473596 | 4·8933900 | 89 |
| 90 | 6,739 | 20,294 | 54,080 | 3·8286020 | 4·3073677 | 4·7330367 | 90 |
| 91 | 5,066 | 14,437 | 36,714 | 3·7046463 | 4·1594770 | 4·5648317 | 91 |
| 92 | 3,735 | 10,076 | 24,458 | 3·5722846 | 4·0032882 | 4·3884209 | 92 |
| 93 | 2,698 | 6,893 | 15,973 | 3·4310969 | 3·8384083 | 4·2033865 | 93 |
| 94 | 1,908 | 4,618 | 10,218 | 3·2806526 | 3·6644539 | 4·0093659 | 94 |
| 95 | 1,320 | 3,026 | 6,396 | 3·1205101 | 3·4808689 | 3·8059085 | 95 |
| 96 | 892 | 1,938 | 3,914 | 2·9502167 | 3·2873538 | 3·5926208 | 96 |
| 97 | 588 | 1,212 | 2,339 | 2·7693088 | 3·0835026 | 3·3690302 | 97 |
| 98 | 378 | 739 | 1,363 | 2·5773121 | 2·8686444 | 3·1344959 | 98 |
| 99 | 236 | 439 | 774 | 2·3737409 | 2·6424645 | 2·8887410 | 99 |
| 100 | 144 | 254 | 428 | 2·1580991 | 2·4048337 | 2·6314438 | 100 |
| 101 | 85 | 143 | 229 | 1·9298792 | 2·1553360 | 2·3598355 | 101 |
| 102 | 49 | 78 | 119 | 1·6885630 | 1·8920946 | 2·0755470 | 102 |
| 103 | 27 | 41 | 59 | 1·4336213 | 1·6127839 | 1·7708520 | 103 |
| 104 | 15 | 21 | 28 | 1·1645140 | 1·3222193 | 1·4471580 | 104 |
| 105 | 8 | 10 | 13 | 0·8806901 | 1·0000000 | 1·1139434 | 105 |
| 106 | 4 | 5 | 5 | 0·5815875 | 0·6989700 | 0·6989700 | 106 |
| 107 | 2 | 2 | 2 | 0·2666332 | 0·3010300 | 0·3010300 | 107 |
| 108 | 1 | 1 | ... | $\bar{1}$·9352434 | 0·0000000 | ... | 108 |
| 109 | ... | ... | ... | $\bar{1}$·5868233 | ... | ... | 109 |

## YEARLY TABLE:—Males and Females.

### Mortality of Males and Females in England.

| Age (x) | Annual Mortality per Cent. at the Age (x). | | Males and Females living at the Age (x) to One Death annually. | | The living of the Age (x) and upwards to One Death annually. | | Age (x) |
|---|---|---|---|---|---|---|---|
| | Males. | Females. | Males. | Females. | Males. | Females. | |
| 0 | 18·326 | 14·749 | 5 | 7 | 39·91 | 41·85 | 0 |
| 1 | 6·680 | 6·436 | 15 | 16 | 46·65 | 47·31 | 1 |
| 2 | 3·624 | 3·603 | 28 | 28 | 48·83 | 49·40 | 2 |
| 3 | 2·416 | 2·450 | 41 | 41 | 49·61 | 50·20 | 3 |
| 4 | 1·799 | 1·785 | 56 | 56 | 49·81 | 50·43 | 4 |
| 5 | 1·369 | 1·337 | 73 | 75 | 49·71 | 50·33 | 5 |
| 6 | 1·088 | 1·061 | 92 | 94 | 49·39 | 50·00 | 6 |
| 7 | ·920 | ·912 | 109 | 110 | 48·92 | 49·53 | 7 |
| 8 | ·767 | ·771 | 130 | 130 | 48·37 | 48·98 | 8 |
| 9 | ·649 | ·664 | 154 | 151 | 47·74 | 48·35 | 9 |
| 10 | ·563 | ·587 | 178 | 170 | 47·05 | 47·67 | 10 |
| 11 | ·507 | ·537 | 197 | 186 | 46·31 | 46·95 | 11 |
| 12 | ·478 | ·512 | 209 | 195 | 45·54 | 46·20 | 12 |
| 13 | ·472 | ·509 | 212 | 196 | 44·76 | 45·44 | 13 |
| 14 | ·486 | ·524 | 206 | 191 | 43·97 | 44·66 | 14 |
| 15 | ·519 | ·556 | 193 | 180 | 43·18 | 43·90 | 15 |
| 16 | ·564 | ·601 | 177 | 166 | 42·40 | 43·14 | 16 |
| 17 | ·622 | ·658 | 161 | 152 | 41·64 | 42·40 | 17 |
| 18 | ·688 | ·721 | 145 | 139 | 40·90 | 41·67 | 18 |
| 19 | ·759 | ·789 | 132 | 127 | 40·17 | 40·97 | 19 |
| 20 | ·832 | ·860 | 120 | 116 | 39·48 | 40·29 | 20 |
| 21 | ·850 | ·882 | 118 | 113 | 38·80 | 39·63 | 21 |
| 22 | ·868 | ·904 | 115 | 111 | 38·13 | 38·98 | 22 |
| 23 | ·886 | ·925 | 113 | 108 | 37·46 | 38·33 | 23 |
| 24 | ·903 | ·946 | 111 | 106 | 36·79 | 37·68 | 24 |
| 25 | ·920 | ·966 | 109 | 104 | 36·12 | 37·04 | 25 |
| 26 | ·938 | ·985 | 107 | 102 | 35·44 | 36·39 | 26 |
| 27 | ·955 | 1·005 | 105 | 100 | 34·77 | 35·75 | 27 |
| 28 | ·974 | 1·024 | 103 | 98 | 34·10 | 35·10 | 28 |
| 29 | ·993 | 1·043 | 101 | 96 | 33·43 | 34·46 | 29 |
| 30 | 1·013 | 1·063 | 99 | 94 | 32·76 | 33·81 | 30 |
| 31 | 1·034 | 1·082 | 97 | 92 | 32·09 | 33·17 | 31 |
| 32 | 1·056 | 1·102 | 95 | 91 | 31·42 | 32·53 | 32 |
| 33 | 1·080 | 1·123 | 93 | 89 | 30·74 | 31·88 | 33 |
| 34 | 1·105 | 1·143 | 90 | 87 | 30·07 | 31·23 | 34 |
| 35 | 1·133 | 1·165 | 88 | 86 | 29·40 | 30·59 | 35 |
| 36 | 1·162 | 1·186 | 86 | 84 | 28·73 | 29·94 | 36 |
| 37 | 1·194 | 1·210 | 84 | 83 | 28·06 | 29·29 | 37 |
| 38 | 1·229 | 1·234 | 81 | 81 | 27·39 | 28·64 | 38 |
| 39 | 1·265 | 1·259 | 79 | 79 | 26·72 | 27·99 | 39 |
| 40 | 1·306 | 1·285 | 77 | 78 | 26·06 | 27·34 | 40 |
| 41 | 1·348 | 1·313 | 74 | 76 | 25·39 | 26·69 | 41 |
| 42 | 1·394 | 1·341 | 72 | 75 | 24·73 | 26·03 | 42 |
| 43 | 1·444 | 1·371 | 69 | 73 | 24·07 | 25·38 | 43 |
| 44 | 1·497 | 1·403 | 67 | 71 | 23·41 | 24·72 | 44 |
| 45 | 1·554 | 1·437 | 64 | 70 | 22·76 | 24·06 | 45 |
| 46 | 1·615 | 1·473 | 62 | 68 | 22·11 | 23·40 | 46 |
| 47 | 1·680 | 1·510 | 60 | 66 | 21·46 | 22·74 | 47 |
| 48 | 1·749 | 1·549 | 57 | 65 | 20·82 | 22·08 | 48 |
| 49 | 1·823 | 1·591 | 55 | 63 | 20·17 | 21·42 | 49 |

The Table may be read thus:—To 100,000 men living of the age of 20 and under 21 there are 832 deaths annually; to 100,000 females living 860 deaths annually; or 1 in 120 men and 1 in 116 women of that age die annually. And of men of the age of 20 and upwards 1 in 39·48 dies annually; of women of the age of 20 and

## YEARLY TABLE:—MALES and FEMALES.

### MORTALITY of MALES and FEMALES in ENGLAND.

| Age (x) | Annual Mortality per Cent. at the Age (x). | | Males and Females living at the Age (x) to One Death annually. | | The living of the Age (x) and upwards to One Death annually. | | Age (x) |
|---|---|---|---|---|---|---|---|
| | Males. | Females. | Males. | Females. | Males. | Females. | |
| 50 | 1·902 | 1·634 | 53 | 61 | 19·54 | 20·75 | 50 |
| 51 | 2·042 | 1·680 | 49 | 60 | 18·90 | 20·09 | 51 |
| 52 | 2·145 | 1·729 | 47 | 58 | 18·28 | 19·42 | 52 |
| 53 | 2·251 | 1·780 | 44 | 56 | 17·67 | 18·75 | 53 |
| 54 | 2·364 | 1·987 | 42 | 50 | 17·06 | 18·08 | 54 |
| 55 | 2·485 | 2·120 | 40 | 47 | 16·45 | 17·43 | 55 |
| 56 | 2·617 | 2·259 | 38 | 44 | 15·86 | 16·79 | 56 |
| 57 | 2·763 | 2·407 | 36 | 42 | 15·26 | 16·17 | 57 |
| 58 | 2·925 | 2·566 | 34 | 39 | 14·68 | 15·55 | 58 |
| 59 | 3·105 | 2·738 | 32 | 37 | 14·10 | 14·94 | 59 |
| 60 | 3·305 | 2·927 | 30 | 34 | 13·53 | 14·34 | 60 |
| 61 | 3·529 | 3·134 | 28 | 32 | 12·96 | 13·75 | 61 |
| 62 | 3·777 | 3·362 | 26 | 30 | 12·41 | 13·17 | 62 |
| 63 | 4·053 | 3·614 | 25 | 28 | 11·87 | 12·60 | 63 |
| 64 | 4·360 | 3·891 | 23 | 26 | 11·34 | 12·05 | 64 |
| 65 | 4·698 | 4·198 | 21 | 24 | 10·82 | 11·51 | 65 |
| 66 | 5·071 | 4·535 | 20 | 22 | 10·32 | 10·98 | 66 |
| 67 | 5·483 | 4·906 | 18 | 20 | 9·83 | 10·47 | 67 |
| 68 | 5·933 | 5·314 | 17 | 19 | 9·36 | 9·97 | 68 |
| 69 | 6·425 | 5·760 | 16 | 17 | 8·90 | 9·48 | 69 |
| 70 | 6·962 | 6·247 | 14 | 16 | 8·45 | 9·02 | 70 |
| 71 | 7·545 | 6·778 | 13 | 15 | 8·03 | 8·57 | 71 |
| 72 | 8·176 | 7·355 | 12 | 14 | 7·62 | 8·13 | 72 |
| 73 | 8·861 | 7·980 | 11 | 13 | 7·22 | 7·71 | 73 |
| 74 | 9·599 | 8·659 | 10 | 12 | 6·85 | 7·31 | 74 |
| 75 | 10·391 | 9·389 | 10 | 11 | 6·49 | 6·93 | 75 |
| 76 | 11·246 | 10·175 | 9 | 10 | 6·15 | 6·56 | 76 |
| 77 | 12·158 | 11·024 | 8 | 9 | 5·82 | 6·21 | 77 |
| 78 | 13·136 | 11·930 | 8 | 8 | 5·51 | 5·88 | 78 |
| 79 | 14·178 | 12·903 | 7 | 8 | 5·21 | 5·56 | 79 |
| 80 | 15·290 | 13·942 | 7 | 7 | 4·93 | 5·26 | 80 |
| 81 | 16·474 | 15·048 | 6 | 7 | 4·66 | 4·98 | 81 |
| 82 | 17·726 | 16·227 | 6 | 6 | 4·41 | 4·71 | 82 |
| 83 | 19·057 | 17·483 | 5 | 6 | 4·17 | 4·45 | 83 |
| 84 | 20·471 | 18·812 | 5 | 5 | 3·95 | 4·21 | 84 |
| 85 | 21·966 | 20·227 | 5 | 5 | 3·73 | 3·98 | 85 |
| 86 | 23·529 | 21·716 | 4 | 5 | 3·53 | 3·76 | 86 |
| 87 | 25·196 | 23·292 | 4 | 4 | 3·34 | 3·56 | 87 |
| 88 | 26·947 | 24·960 | 4 | 4 | 3·16 | 3·36 | 88 |
| 89 | 28·799 | 26·726 | 3 | 4 | 3·00 | 3·18 | 89 |
| 90 | 30·717 | 28·564 | 3 | 4 | 2·84 | 3·01 | 90 |
| 91 | 32·764 | 30·521 | 3 | 3 | 2·69 | 2·85 | 91 |
| 92 | 34·897 | 32·579 | 3 | 3 | 2·55 | 2·70 | 92 |
| 93 | 37·139 | 34·725 | 3 | 3 | 2·41 | 2·55 | 93 |
| 94 | 39·430 | 36·935 | 3 | 3 | 2·29 | 2·42 | 94 |
| 95 | 42·035 | 39·338 | 2 | 3 | 2·17 | 2·29 | 95 |
| 96 | 44·444 | 41·873 | 2 | 2 | 2·06 | 2·17 | 96 |
| 97 | 47·312 | 44·397 | 2 | 2 | 1·95 | 2·06 | 97 |
| 98 | 50·000 | 47·333 | 2 | 2 | 1·85 | 1·96 | 98 |
| 99 | 53·398 | 49·730 | 2 | 2 | 1·76 | 1·86 | 99 |
| 100 | 55·000 | 53·153 | 2 | 2 | 1·68 | 1·76 | 100 |

upwards 1 in 40·29 dies annually. The mean afterlifetimes at these ages are 39·48 and 40·29. The mean afterlifetimes at other ages are shown by the corresponding figures.

## YEARLY TABLE :—Males.

The **Mean Afterlifetime** (or the Expectation of Life) of **Males** of the Age *x*, and of **Males** of the Age *x* and upwards; also the **Mean Ages of the Living** and the **Mean Age at Death**.

| Age (or past Life-time). | **Mean Afterlifetime** of **Males** of the Age *x*. | **Mean Afterlifetime** of **Males** of the Age *x* and upwards. | **Mean Age** of **Males living** of the Age *x* and upwards. | **Mean Age at Death** | | Age (or past Life-time). |
|---|---|---|---|---|---|---|
| | | | | Of **Males actually living** at the Age *x*. | Of **Males actually living** at the Age *x* and upwards. | |
| $x$ | $E_x = \frac{Q_x}{l_x}$ | $E'_x = \frac{Y_x}{Q_x}$ | $x + E'_x$ | $x + E_x$ | $x + 2E'_x$ | $x$ |
| | Years. | Years. | Years. | Years. | Years. | |
| 0 | 39·91 | 31·77 | 31·77 | 39·91 | 63·54 | 0 |
| 1 | 46·65 | 31·49 | 32·49 | 47·65 | 63·98 | 1 |
| 2 | 48·83 | 31·14 | 33·14 | 50·83 | 64·28 | 2 |
| 3 | 49·61 | 30·77 | 33·77 | 52·61 | 64·54 | 3 |
| 4 | 49·81 | 30·38 | 34·38 | 53·81 | 64·76 | 4 |
| 5 | 49·71 | 29·99 | 34·99 | 54·71 | 64·98 | 5 |
| 6 | 49·39 | 29·59 | 35·59 | 55·39 | 65·18 | 6 |
| 7 | 48·92 | 29·19 | 36·19 | 55·92 | 65·38 | 7 |
| 8 | 48·37 | 28·78 | 36·78 | 56·37 | 65·56 | 8 |
| 9 | 47·74 | 28·38 | 37·38 | 56·74 | 65·76 | 9 |
| 10 | 47·05 | 27·97 | 37·97 | 57·05 | 65·94 | 10 |
| 11 | 46·31 | 27·56 | 38·56 | 57·31 | 66·12 | 11 |
| 12 | 45·54 | 27·16 | 39·16 | 57·54 | 66·32 | 12 |
| 13 | 44·76 | 26·76 | 39·76 | 57·76 | 66·52 | 13 |
| 14 | 43·97 | 26·36 | 40·36 | 57·97 | 66·72 | 14 |
| 15 | 43·18 | 25·96 | 40·96 | 58·18 | 66·92 | 15 |
| 16 | 42·40 | 25·56 | 41·56 | 58·40 | 67·12 | 16 |
| 17 | 41·64 | 25·16 | 42·16 | 58·64 | 67·32 | 17 |
| 18 | 40·90 | 24·77 | 42·77 | 58·90 | 67·54 | 18 |
| 19 | 40·17 | 24·37 | 43·37 | 59·17 | 67·74 | 19 |
| 20 | 39·48 | 23·98 | 43·98 | 59·48 | 67·96 | 20 |
| 21 | 38·80 | 23·59 | 44·59 | 59·80 | 68·18 | 21 |
| 22 | 38·13 | 23·20 | 45·20 | 60·13 | 68·40 | 22 |
| 23 | 37·46 | 22·80 | 45·80 | 60·46 | 68·60 | 23 |
| 24 | 36·79 | 22·41 | 46·41 | 60·79 | 68·82 | 24 |
| 25 | 36·12 | 22·02 | 47·02 | 61·12 | 69·04 | 25 |
| 26 | 35·44 | 21·63 | 47·63 | 61·44 | 69·26 | 26 |
| 27 | 34·77 | 21·24 | 48·24 | 61·77 | 69·48 | 27 |
| 28 | 34·10 | 20·86 | 48·86 | 62·10 | 69·72 | 28 |
| 29 | 33·43 | 20·47 | 49·47 | 62·43 | 69·94 | 29 |
| 30 | 32·76 | 20·08 | 50·08 | 62·76 | 70·16 | 30 |
| 31 | 32·09 | 19·69 | 50·69 | 63·09 | 70·38 | 31 |
| 32 | 31·42 | 19·31 | 51·31 | 63·42 | 70·62 | 32 |
| 33 | 30·74 | 18·92 | 51·92 | 63·74 | 70·84 | 33 |
| 34 | 30·07 | 18·54 | 52·54 | 64·07 | 71·08 | 34 |
| 35 | 29·40 | 18·15 | 53·15 | 64·40 | 71·30 | 35 |
| 36 | 28·73 | 17·77 | 53·77 | 64·73 | 71·54 | 36 |
| 37 | 28·06 | 17·39 | 54·39 | 65·06 | 71·78 | 37 |
| 38 | 27·39 | 17·01 | 55·01 | 65·39 | 72·02 | 38 |
| 39 | 26·72 | 16·63 | 55·63 | 65·72 | 72·26 | 39 |
| 40 | 26·06 | 16·26 | 56·26 | 66·06 | 72·52 | 40 |
| 41 | 25·39 | 15·88 | 56·88 | 66·39 | 72·76 | 41 |
| 42 | 24·73 | 15·51 | 57·51 | 66·73 | 73·02 | 42 |
| 43 | 24·07 | 15·14 | 58·14 | 67·07 | 73·28 | 43 |
| 44 | 23·41 | 14·77 | 58·77 | 67·41 | 73·54 | 44 |
| 45 | 22·76 | 14·40 | 59·40 | 67·76 | 73·80 | 45 |
| 46 | 22·11 | 14·03 | 60·03 | 68·11 | 74·06 | 46 |
| 47 | 21·46 | 13·67 | 60·67 | 68·46 | 74·34 | 47 |
| 48 | 20·82 | 13·30 | 61·30 | 68·82 | 74·60 | 48 |
| 49 | 20·17 | 12·94 | 61·94 | 69·17 | 74·88 | 49 |

## YEARLY TABLE :—MALES.

The **Mean Afterlifetime** (or the Expectation of Life) of **Males** of the Age $x$, and of **Males** of the Age $x$ and upwards; also the **Mean Ages of the Living** and the **Mean Age at Death.**

| **Age** (or past Life-time). | **Mean Afterlifetime** of **Males** of the Age $x$. | **Mean Afterlifetime** of **Males** of the Age $x$ and upwards. | **Mean Age** of **Males living** of the Age $x$ and upwards. | **Mean Age at Death** — Of **Males actually living** at the Age $x$. | **Mean Age at Death** — Of **Males actually living** at the Age $x$ and upwards. | **Age** (or past Life-time). |
|---|---|---|---|---|---|---|
| $x$ | $E_x = \frac{Q_x}{l_x}$ | $E'_x = \frac{Y_x}{Q_x}$ | $x + E'_x$ | $x + E_x$ | $x + 2\,E'_x$ | $x$ |
| | Years. | Years. | Years. | Years. | Years. | |
| 50 | 19·54 | 12·59 | 62·59 | 69·54 | 75·18 | 50 |
| 51 | 18·90 | 12·23 | 63·23 | 69·90 | 75·46 | 51 |
| 52 | 18·28 | 11·88 | 63·88 | 70·28 | 75·76 | 52 |
| 53 | 17·67 | 11·53 | 64·53 | 70·67 | 76·06 | 53 |
| 54 | 17·06 | 11·19 | 65·19 | 71·06 | 76·38 | 54 |
| 55 | 16·45 | 10·84 | 65·84 | 71·45 | 76·68 | 55 |
| 56 | 15·86 | 10·51 | 66·51 | 71·86 | 77·02 | 56 |
| 57 | 15·26 | 10·17 | 67·17 | 72·26 | 77·34 | 57 |
| 58 | 14·68 | 9·84 | 67·84 | 72·68 | 77·68 | 58 |
| 59 | 14·10 | 9·51 | 68·51 | 73·10 | 78·02 | 59 |
| 60 | 13·53 | 9·19 | 69·19 | 73·53 | 78·38 | 60 |
| 61 | 12·96 | 8·87 | 69·87 | 73·96 | 78·74 | 61 |
| 62 | 12·41 | 8·55 | 70·55 | 74·41 | 79·10 | 62 |
| 63 | 11·87 | 8·25 | 71·25 | 74·87 | 79·50 | 63 |
| 64 | 11·34 | 7·94 | 71·94 | 75·34 | 79·88 | 64 |
| 65 | 10·82 | 7·65 | 72·65 | 75·82 | 80·30 | 65 |
| 66 | 10·32 | 7·36 | 73·36 | 76·32 | 80·72 | 66 |
| 67 | 9·83 | 7·07 | 74·07 | 76·83 | 81·14 | 67 |
| 68 | 9·36 | 6·79 | 74·79 | 77·36 | 81·58 | 68 |
| 69 | 8·90 | 6·52 | 75·52 | 77·90 | 82·04 | 69 |
| 70 | 8·45 | 6·26 | 76·26 | 78·45 | 82·52 | 70 |
| 71 | 8·03 | 6·00 | 77·00 | 79·03 | 83·00 | 71 |
| 72 | 7·62 | 5·75 | 77·75 | 79·62 | 83·50 | 72 |
| 73 | 7·22 | 5·51 | 78·51 | 80·22 | 84·02 | 73 |
| 74 | 6·85 | 5·28 | 79·28 | 80·85 | 84·56 | 74 |
| 75 | 6·49 | 5·05 | 80·05 | 81·49 | 85·10 | 75 |
| 76 | 6·15 | 4·83 | 80·83 | 82·15 | 85·66 | 76 |
| 77 | 5·82 | 4·62 | 81·62 | 82·82 | 86·24 | 77 |
| 78 | 5·51 | 4·42 | 82·42 | 83·51 | 86·84 | 78 |
| 79 | 5·21 | 4·22 | 83·22 | 84·21 | 87·44 | 79 |
| 80 | 4·93 | 4·03 | 84·03 | 84·93 | 88·06 | 80 |
| 81 | 4·66 | 3·85 | 84·85 | 85·66 | 88·70 | 81 |
| 82 | 4·41 | 3·68 | 85·68 | 86·41 | 89·36 | 82 |
| 83 | 4·17 | 3·51 | 86·51 | 87·17 | 90·02 | 83 |
| 84 | 3·95 | 3·35 | 87·35 | 87·95 | 90·70 | 84 |
| 85 | 3·73 | 3·20 | 88·20 | 88·73 | 91·40 | 85 |
| 86 | 3·53 | 3·05 | 89·05 | 89·53 | 92·10 | 86 |
| 87 | 3·34 | 2·92 | 89·92 | 90·34 | 92·84 | 87 |
| 88 | 3·16 | 2·78 | 90·78 | 91·16 | 93·56 | 88 |
| 89 | 3·00 | 2·66 | 91·66 | 92·00 | 94·32 | 89 |
| 90 | 2·84 | 2·54 | 92·54 | 92·84 | 95·08 | 90 |
| 91 | 2·69 | 2·42 | 93·42 | 93·69 | 95·84 | 91 |
| 92 | 2·55 | 2·31 | 94·31 | 94·55 | 96·62 | 92 |
| 93 | 2·41 | 2·21 | 95·21 | 95·41 | 97·42 | 93 |
| 94 | 2·29 | 2·11 | 96·11 | 96·29 | 98·22 | 94 |
| 95 | 2·17 | 2·02 | 97·02 | 97·17 | 99·04 | 95 |
| 96 | 2·06 | 1·93 | 97·93 | 98·06 | 99·86 | 96 |
| 97 | 1·95 | 1·85 | 98·85 | 98·95 | 100·70 | 97 |
| 98 | 1·85 | 1·77 | 99·77 | 99·85 | 101·54 | 98 |
| 99 | 1·76 | 1·70 | 100·70 | 100·76 | 102·40 | 99 |
| 100 | 1·68 | 1·62 | 101·62 | 101·68 | 103·24 | 100 |

## YEARLY TABLE:—FEMALES.

The **Mean Afterlifetime** (or the Expectation of Life) of **Females** of the Age $x$, and of **Females** of the Age $x$ and upwards; also the **Mean Ages of the Living** and the **Mean Age at Death**.

| Age (or past Life-time). | Mean Afterlifetime of Females of the Age $x$. | Mean Afterlifetime of Females of the Age $x$ and upwards. | Mean Age of Females living of the Age $x$ and upwards. | Mean Age at Death: Of Females actually living at the Age $x$. | Mean Age at Death: Of Females actually living at the Age $x$ and upwards. | Age (or past Life-time). |
|---|---|---|---|---|---|---|
| $x$ | $E_x = \frac{Q_x}{l_x}$ | $E'_x = \frac{Y_x}{Q_x}$ | $x + E'_x$ | $x + E_x$ | $x + 2E'_x$ | $x$ |
|  | Years. | Years. | Years. | Years. | Years. |  |
| 0 | 41·85 | 32·33 | 32·33 | 41·85 | 64·66 | 0 |
| 1 | 47·31 | 32·04 | 33·04 | 48·31 | 65·08 | 1 |
| 2 | 49·40 | 31·70 | 33·70 | 51·40 | 65·40 | 2 |
| 3 | 50·20 | 31·33 | 34·33 | 53·20 | 65·66 | 3 |
| 4 | 50·43 | 30·95 | 34·95 | 54·43 | 65·90 | 4 |
| 5 | 50·33 | 30·56 | 35·56 | 55·33 | 66·12 | 5 |
| 6 | 50·00 | 30·16 | 36·16 | 56·00 | 66·32 | 6 |
| 7 | 49·53 | 29·76 | 36·76 | 56·53 | 66·52 | 7 |
| 8 | 48·98 | 29·36 | 37·36 | 56·98 | 66·72 | 8 |
| 9 | 48·35 | 28·96 | 37·96 | 57·35 | 66·92 | 9 |
| 10 | 47·67 | 28·56 | 38·56 | 57·67 | 67·12 | 10 |
| 11 | 46·95 | 28·16 | 39·16 | 57·95 | 67·32 | 11 |
| 12 | 46·20 | 27·76 | 39·76 | 58·20 | 67·52 | 12 |
| 13 | 45·44 | 27·36 | 40·36 | 58·44 | 67·72 | 13 |
| 14 | 44·66 | 26·96 | 40·96 | 58·66 | 67·92 | 14 |
| 15 | 43·90 | 26·57 | 41·57 | 58·90 | 68·14 | 15 |
| 16 | 43·14 | 26·18 | 42·18 | 59·14 | 68·36 | 16 |
| 17 | 42·40 | 25·78 | 42·78 | 59·40 | 68·56 | 17 |
| 18 | 41·67 | 25·39 | 43·39 | 59·67 | 68·78 | 18 |
| 19 | 40·97 | 25·00 | 44·00 | 59·97 | 69·00 | 19 |
| 20 | 40·29 | 24·61 | 44·61 | 60·29 | 69·22 | 20 |
| 21 | 39·63 | 24·22 | 45·22 | 60·63 | 69·44 | 21 |
| 22 | 38·98 | 23·83 | 45·83 | 60·98 | 69·66 | 22 |
| 23 | 38·33 | 23·45 | 46·45 | 61·33 | 69·90 | 23 |
| 24 | 37·68 | 23·06 | 47·06 | 61·68 | 70·12 | 24 |
| 25 | 37·04 | 22·67 | 47·67 | 62·04 | 70·34 | 25 |
| 26 | 36·39 | 22·28 | 48·28 | 62·39 | 70·56 | 26 |
| 27 | 35·75 | 21·89 | 48·89 | 62·75 | 70·78 | 27 |
| 28 | 35·10 | 21·51 | 49·51 | 63·10 | 71·02 | 28 |
| 29 | 34·46 | 21·12 | 50·12 | 63·46 | 71·24 | 29 |
| 30 | 33·81 | 20·73 | 50·73 | 63·81 | 71·46 | 30 |
| 31 | 33·17 | 20·35 | 51·35 | 64·17 | 71·70 | 31 |
| 32 | 32·53 | 19·96 | 51·96 | 64·53 | 71·92 | 32 |
| 33 | 31·88 | 19·57 | 52·57 | 64·88 | 72·14 | 33 |
| 34 | 31·23 | 19·19 | 53·19 | 65·23 | 72·38 | 34 |
| 35 | 30·59 | 18·80 | 53·80 | 65·59 | 72·60 | 35 |
| 36 | 29·94 | 18·42 | 54·42 | 65·94 | 72·84 | 36 |
| 37 | 29·29 | 18·03 | 55·03 | 66·29 | 73·06 | 37 |
| 38 | 28·64 | 17·65 | 55·65 | 66·64 | 73·30 | 38 |
| 39 | 27·99 | 17·26 | 56·26 | 66·99 | 73·52 | 39 |
| 40 | 27·34 | 16·88 | 56·88 | 67·34 | 73·76 | 40 |
| 41 | 26·69 | 16·50 | 57·50 | 67·69 | 74·00 | 41 |
| 42 | 26·03 | 16·12 | 58·12 | 68·03 | 74·24 | 42 |
| 43 | 25·38 | 15·74 | 58·74 | 68·38 | 74·48 | 43 |
| 44 | 24·72 | 15·36 | 59·36 | 68·72 | 74·72 | 44 |
| 45 | 24·06 | 14·98 | 59·98 | 69·06 | 74·96 | 45 |
| 46 | 23·40 | 14·60 | 60·60 | 69·40 | 75·20 | 46 |
| 47 | 22·74 | 14·23 | 61·23 | 69·74 | 75·46 | 47 |
| 48 | 22·08 | 13·85 | 61·85 | 70·08 | 75·70 | 48 |
| 49 | 21·42 | 13·48 | 62·48 | 70·42 | 75·96 | 49 |

## YEARLY TABLE:—FEMALES.

The **Mean Afterlifetime** (or the Expectation of Life) of **Females** of the Age $x$, and of **Females** of the Age $x$ and upwards; also the **Mean Ages of the Living** and the **Mean Age at Death.**

| Age (or past Life-time). | Mean Afterlifetime of Females of the Age $x$. | Mean Afterlifetime of Females of the Age $x$ and upwards. | Mean Age of Females living of the Age $x$ and upwards. | Mean Age at Death. | | Age (or past Life-time). |
|---|---|---|---|---|---|---|
| | | | | Of Females actually living at the Age $x$. | Of Females actually living at the Age $x$ and upwards. | |
| $x$ | $E_x = \frac{Q_x}{l_x}$ | $E'_x = \frac{Y_x}{Q_x}$ | $x + E'_x$ | $x + E_x$ | $x + 2\,E'_x$ | $x$ |
| | Years. | Years. | Years. | Years. | Years. | |
| 50 | 20·75 | 13·11 | 63·11 | 70·75 | 76·22 | 50 |
| 51 | 20·09 | 12·75 | 63·75 | 71·09 | 76·50 | 51 |
| 52 | 19·42 | 12·38 | 64·38 | 71·42 | 76·76 | 52 |
| 53 | 18·75 | 12·02 | 65·02 | 71·75 | 77·04 | 53 |
| 54 | 18·08 | 11·66 | 65·66 | 72·08 | 77·32 | 54 |
| 55 | 17·43 | 11·31 | 66·31 | 72·43 | 77·62 | 55 |
| 56 | 16·79 | 10·96 | 66·96 | 72·79 | 77·92 | 56 |
| 57 | 16·17 | 10·62 | 67·62 | 73·17 | 78·24 | 57 |
| 58 | 15·55 | 10·28 | 68·28 | 73·55 | 78·56 | 58 |
| 59 | 14·94 | 9·94 | 68·94 | 73·94 | 78·88 | 59 |
| 60 | 14·34 | 9·61 | 69·61 | 74·34 | 79·22 | 60 |
| 61 | 13·75 | 9·28 | 70·28 | 74·75 | 79·56 | 61 |
| 62 | 13·17 | 8·96 | 70·96 | 75·17 | 79·92 | 62 |
| 63 | 12·60 | 8·64 | 71·64 | 75·60 | 80·28 | 63 |
| 64 | 12·05 | 8·33 | 72·33 | 76·05 | 80·66 | 64 |
| 65 | 11·51 | 8·02 | 73·02 | 76·51 | 81·04 | 65 |
| 66 | 10·98 | 7·72 | 73·72 | 76·98 | 81·44 | 66 |
| 67 | 10·47 | 7·42 | 74·42 | 77·47 | 81·84 | 67 |
| 68 | 9·97 | 7·14 | 75·14 | 77·97 | 82·28 | 68 |
| 69 | 9·48 | 6·86 | 75·86 | 78·48 | 82·72 | 69 |
| 70 | 9·02 | 6·58 | 76·58 | 79·02 | 83·16 | 70 |
| 71 | 8·57 | 6·32 | 77·32 | 79·57 | 83·64 | 71 |
| 72 | 8·13 | 6·06 | 78·06 | 80·13 | 84·12 | 72 |
| 73 | 7·71 | 5·80 | 78·80 | 80·71 | 84·60 | 73 |
| 74 | 7·31 | 5·56 | 79·56 | 81·31 | 85·12 | 74 |
| 75 | 6·93 | 5·32 | 80·32 | 81·93 | 85·64 | 75 |
| 76 | 6·56 | 5·09 | 81·09 | 82·56 | 86·18 | 76 |
| 77 | 6·21 | 4·87 | 81·87 | 83·21 | 86·74 | 77 |
| 78 | 5·88 | 4·66 | 82·66 | 83·88 | 87·32 | 78 |
| 79 | 5·56 | 4·45 | 83·45 | 84·56 | 87·90 | 79 |
| 80 | 5·26 | 4·25 | 84·25 | 85·26 | 88·50 | 80 |
| 81 | 4·98 | 4·06 | 85·06 | 85·98 | 89·12 | 81 |
| 82 | 4·71 | 3·88 | 85·88 | 86·71 | 89·76 | 82 |
| 83 | 4·45 | 3·70 | 86·70 | 87·45 | 90·40 | 83 |
| 84 | 4·21 | 3·53 | 87·53 | 88·21 | 91·06 | 84 |
| 85 | 3·98 | 3·37 | 88·37 | 88·98 | 91·74 | 85 |
| 86 | 3·76 | 3·22 | 89·22 | 89·76 | 92·44 | 86 |
| 87 | 3·56 | 3·07 | 90·07 | 90·56 | 93·14 | 87 |
| 88 | 3·36 | 2·93 | 90·93 | 91·36 | 93·86 | 88 |
| 89 | 3·18 | 2·79 | 91·79 | 92·18 | 94·58 | 89 |
| 90 | 3·01 | 2·66 | 92·66 | 93·01 | 95·32 | 90 |
| 91 | 2·85 | 2·54 | 93·54 | 93·85 | 96·08 | 91 |
| 92 | 2·70 | 2·43 | 94·43 | 94·70 | 96·86 | 92 |
| 93 | 2·55 | 2·32 | 95·32 | 95·55 | 97·64 | 93 |
| 94 | 2·42 | 2·21 | 96·21 | 96·42 | 98·42 | 94 |
| 95 | 2·29 | 2·11 | 97·11 | 97·29 | 99·22 | 95 |
| 96 | 2·17 | 2·02 | 98·02 | 98·17 | 100·04 | 96 |
| 97 | 2·06 | 1·93 | 98·93 | 99·06 | 100·86 | 97 |
| 98 | 1·96 | 1·84 | 99·84 | 99·96 | 101·68 | 98 |
| 99 | 1·86 | 1·76 | 100·76 | 100·86 | 102·52 | 99 |
| 100 | 1·76 | 1·69 | 101·69 | 101·76 | 103·38 | 100 |

## YEARLY TABLE:—MALES and FEMALES.

Logarithms of the Series $p_x = \lambda$ probability of living *one year* after Age $x$.

| MALES. | | | | FEMALES. | | | |
|---|---|---|---|---|---|---|---|
| Age ($x$) | $\lambda\ p_x$ | Age ($x$) | $\lambda\ p_x$ | Age ($x$) | $\lambda\ p_x$ | Age ($x$) | $\lambda\ p_x$ |
| 0 | $\bar{1}\cdot9224164$ | 55 | $\bar{1}\cdot9892057$ | 0 | $\bar{1}\cdot9371604$ | 55 | $\bar{1}\cdot9907919$ |
| 1 | $\bar{1}\cdot9711377$ | 56 | $\bar{1}\cdot9886306$ | 1 | $\bar{1}\cdot9722410$ | 56 | $\bar{1}\cdot9901864$ |
| 2 | $\bar{1}\cdot9843053$ | 57 | $\bar{1}\cdot9879971$ | 2 | $\bar{1}\cdot9843554$ | 57 | $\bar{1}\cdot9895440$ |
| 3 | $\bar{1}\cdot9895169$ | 58 | $\bar{1}\cdot9872950$ | 3 | $\bar{1}\cdot9893710$ | 58 | $\bar{1}\cdot9888536$ |
| 4 | $\bar{1}\cdot9921913$ | 59 | $\bar{1}\cdot9865139$ | 4 | $\bar{1}\cdot9922523$ | 59 | $\bar{1}\cdot9881047$ |
| 5 | $\bar{1}\cdot9940574$ | 60 | $\bar{1}\cdot9856433$ | 5 | $\bar{1}\cdot9941950$ | 60 | $\bar{1}\cdot9872859$ |
| 6 | $\bar{1}\cdot9952751$ | 61 | $\bar{1}\cdot9846731$ | 6 | $\bar{1}\cdot9953928$ | 61 | $\bar{1}\cdot9863865$ |
| 7 | $\bar{1}\cdot9960044$ | 62 | $\bar{1}\cdot9835929$ | 7 | $\bar{1}\cdot9960392$ | 62 | $\bar{1}\cdot9853955$ |
| 8 | $\bar{1}\cdot9966712$ | 63 | $\bar{1}\cdot9823924$ | 8 | $\bar{1}\cdot9966496$ | 63 | $\bar{1}\cdot9843019$ |
| 9 | $\bar{1}\cdot9971834$ | 64 | $\bar{1}\cdot9810612$ | 9 | $\bar{1}\cdot9971161$ | 64 | $\bar{1}\cdot9830950$ |
| 10 | $\bar{1}\cdot9975541$ | 65 | $\bar{1}\cdot9795890$ | 10 | $\bar{1}\cdot9974514$ | 65 | $\bar{1}\cdot9817635$ |
| 11 | $\bar{1}\cdot9977966$ | 66 | $\bar{1}\cdot9779656$ | 11 | $\bar{1}\cdot9976674$ | 66 | $\bar{1}\cdot9802967$ |
| 12 | $\bar{1}\cdot9979241$ | 67 | $\bar{1}\cdot9761804$ | 12 | $\bar{1}\cdot9977764$ | 67 | $\bar{1}\cdot9786837$ |
| 13 | $\bar{1}\cdot9979498$ | 68 | $\bar{1}\cdot9742234$ | 13 | $\bar{1}\cdot9977906$ | 68 | $\bar{1}\cdot9769134$ |
| 14 | $\bar{1}\cdot9978867$ | 69 | $\bar{1}\cdot9720840$ | 14 | $\bar{1}\cdot9977224$ | 69 | $\bar{1}\cdot9749749$ |
| 15 | $\bar{1}\cdot9977484$ | 70 | $\bar{1}\cdot9697520$ | 15 | $\bar{1}\cdot9975839$ | 70 | $\bar{1}\cdot9728573$ |
| 16 | $\bar{1}\cdot9975478$ | 71 | $\bar{1}\cdot9672170$ | 16 | $\bar{1}\cdot9973872$ | 71 | $\bar{1}\cdot9705496$ |
| 17 | $\bar{1}\cdot9972982$ | 72 | $\bar{1}\cdot9644689$ | 17 | $\bar{1}\cdot9971448$ | 72 | $\bar{1}\cdot9680410$ |
| 18 | $\bar{1}\cdot9970127$ | 73 | $\bar{1}\cdot9614970$ | 18 | $\bar{1}\cdot9968687$ | 73 | $\bar{1}\cdot9653205$ |
| 19 | $\bar{1}\cdot9967048$ | 74 | $\bar{1}\cdot9582913$ | 19 | $\bar{1}\cdot9965712$ | 74 | $\bar{1}\cdot9623770$ |
| 20 | $\bar{1}\cdot9963874$ | 75 | $\bar{1}\cdot9548413$ | 20 | $\bar{1}\cdot9962646$ | 75 | $\bar{1}\cdot9591998$ |
| 21 | $\bar{1}\cdot9963071$ | 76 | $\bar{1}\cdot9511367$ | 21 | $\bar{1}\cdot9961671$ | 76 | $\bar{1}\cdot9557777$ |
| 22 | $\bar{1}\cdot9962293$ | 77 | $\bar{1}\cdot9471672$ | 22 | $\bar{1}\cdot9960729$ | 77 | $\bar{1}\cdot9521001$ |
| 23 | $\bar{1}\cdot9961534$ | 78 | $\bar{1}\cdot9429225$ | 23 | $\bar{1}\cdot9959817$ | 78 | $\bar{1}\cdot9481557$ |
| 24 | $\bar{1}\cdot9960785$ | 79 | $\bar{1}\cdot9383922$ | 24 | $\bar{1}\cdot9958929$ | 79 | $\bar{1}\cdot9439338$ |
| 25 | $\bar{1}\cdot9960037$ | 80 | $\bar{1}\cdot9335660$ | 25 | $\bar{1}\cdot9958060$ | 80 | $\bar{1}\cdot9394234$ |
| 26 | $\bar{1}\cdot9959282$ | 81 | $\bar{1}\cdot9284336$ | 26 | $\bar{1}\cdot9957206$ | 81 | $\bar{1}\cdot9346135$ |
| 27 | $\bar{1}\cdot9958512$ | 82 | $\bar{1}\cdot9229846$ | 27 | $\bar{1}\cdot9956362$ | 82 | $\bar{1}\cdot9294933$ |
| 28 | $\bar{1}\cdot9957718$ | 83 | $\bar{1}\cdot9172088$ | 28 | $\bar{1}\cdot9955525$ | 83 | $\bar{1}\cdot9240517$ |
| 29 | $\bar{1}\cdot9956892$ | 84 | $\bar{1}\cdot9110958$ | 29 | $\bar{1}\cdot9954688$ | 84 | $\bar{1}\cdot9182778$ |
| 30 | $\bar{1}\cdot9956026$ | 85 | $\bar{1}\cdot9046352$ | 30 | $\bar{1}\cdot9953847$ | 85 | $\bar{1}\cdot9121607$ |
| 31 | $\bar{1}\cdot9955111$ | 86 | $\bar{1}\cdot8978169$ | 31 | $\bar{1}\cdot9952998$ | 86 | $\bar{1}\cdot9056896$ |
| 32 | $\bar{1}\cdot9954139$ | 87 | $\bar{1}\cdot8906302$ | 32 | $\bar{1}\cdot9952135$ | 87 | $\bar{1}\cdot8988532$ |
| 33 | $\bar{1}\cdot9953102$ | 88 | $\bar{1}\cdot8830651$ | 33 | $\bar{1}\cdot9951255$ | 88 | $\bar{1}\cdot8916408$ |
| 34 | $\bar{1}\cdot9951991$ | 89 | $\bar{1}\cdot8751113$ | 34 | $\bar{1}\cdot9950352$ | 89 | $\bar{1}\cdot8840415$ |
| 35 | $\bar{1}\cdot9950798$ | 90 | $\bar{1}\cdot8667581$ | 35 | $\bar{1}\cdot9949422$ | 90 | $\bar{1}\cdot8760443$ |
| 36 | $\bar{1}\cdot9949514$ | 91 | $\bar{1}\cdot8579955$ | 36 | $\bar{1}\cdot9948460$ | 91 | $\bar{1}\cdot8676383$ |
| 37 | $\bar{1}\cdot9948132$ | 92 | $\bar{1}\cdot8488131$ | 37 | $\bar{1}\cdot9947461$ | 92 | $\bar{1}\cdot8588123$ |
| 38 | $\bar{1}\cdot9946643$ | 93 | $\bar{1}\cdot8392005$ | 38 | $\bar{1}\cdot9946421$ | 93 | $\bar{1}\cdot8495557$ |
| 39 | $\bar{1}\cdot9945038$ | 94 | $\bar{1}\cdot8291475$ | 39 | $\bar{1}\cdot9945336$ | 94 | $\bar{1}\cdot8398575$ |
| 40 | $\bar{1}\cdot9943309$ | 95 | $\bar{1}\cdot8186437$ | 40 | $\bar{1}\cdot9944199$ | 95 | $\bar{1}\cdot8297066$ |
| 41 | $\bar{1}\cdot9941448$ | 96 | $\bar{1}\cdot8076787$ | 41 | $\bar{1}\cdot9943007$ | 96 | $\bar{1}\cdot8190921$ |
| 42 | $\bar{1}\cdot9939446$ | 97 | $\bar{1}\cdot7962424$ | 42 | $\bar{1}\cdot9941755$ | 97 | $\bar{1}\cdot8080033$ |
| 43 | $\bar{1}\cdot9937297$ | 98 | $\bar{1}\cdot7843241$ | 43 | $\bar{1}\cdot9940439$ | 98 | $\bar{1}\cdot7964288$ |
| 44 | $\bar{1}\cdot9934989$ | 99 | $\bar{1}\cdot7719138$ | 44 | $\bar{1}\cdot9939053$ | 99 | $\bar{1}\cdot7843582$ |
| 45 | $\bar{1}\cdot9932516$ | 100 | $\bar{1}\cdot7590011$ | 45 | $\bar{1}\cdot9937593$ | 100 | $\bar{1}\cdot7717801$ |
| 46 | $\bar{1}\cdot9929870$ | 101 | $\bar{1}\cdot7455756$ | 46 | $\bar{1}\cdot9936054$ | 101 | $\bar{1}\cdot7586838$ |
| 47 | $\bar{1}\cdot9927040$ | 102 | $\bar{1}\cdot7316270$ | 47 | $\bar{1}\cdot9934432$ | 102 | $\bar{1}\cdot7450583$ |
| 48 | $\bar{1}\cdot9924020$ | 103 | $\bar{1}\cdot7171451$ | 48 | $\bar{1}\cdot9932722$ | 103 | $\bar{1}\cdot7308927$ |
| 49 | $\bar{1}\cdot9920802$ | 104 | $\bar{1}\cdot7021192$ | 49 | $\bar{1}\cdot9930918$ | 104 | $\bar{1}\cdot7161761$ |
| 50 | $\bar{1}\cdot9917376$ | 105 | $\bar{1}\cdot6865395$ | 50 | $\bar{1}\cdot9929018$ | 105 | $\bar{1}\cdot7008974$ |
| 51 | $\bar{1}\cdot9911290$ | 106 | $\bar{1}\cdot6703952$ | 51 | $\bar{1}\cdot9927015$ | 106 | $\bar{1}\cdot6850457$ |
| 52 | $\bar{1}\cdot9906840$ | 107 | $\bar{1}\cdot6536762$ | 52 | $\bar{1}\cdot9924906$ | 107 | $\bar{1}\cdot6686102$ |
| 53 | $\bar{1}\cdot9902221$ | 108 | $\bar{1}\cdot6363723$ | 53 | $\bar{1}\cdot9922685$ | 108 | $\bar{1}\cdot6515799$ |
| 54 | $\bar{1}\cdot9897327$ | | | 54 | $\bar{1}\cdot9913715$ | | |

NOTE.—$\lambda\, p_x = \lambda\, l_{x+1} - \lambda\, l_x$.

# SINGLE LIVES.

## YEARLY TABLE.

### MALES.

**With Interest.**

## YEARLY TABLE :—Males.

### Logarithms of the Series $D_x$; Rates of Interest 3, $3\frac{1}{4}$, $3\frac{1}{3}$, and $3\frac{1}{2}$ per Cent.

$\lambda\ D_x$

| Age ($x$) | 3 per cent. | Age ($x$) | $3\frac{1}{4}$ per cent. | Age ($x$) | $3\frac{1}{3}$ per cent. | Age ($x$) | $3\frac{1}{2}$ per cent. |
|---|---|---|---|---|---|---|---|
| 0 | 5·7090538 | 0 | 5·7090538 | 0 | 5·7090538 | 0 | 5·7090538 |
| 1 | 5·6186330 | 1 | 5·6175801 | 1 | 5·6172298 | 1 | 5·6165299 |
| 2 | 5·5769335 | 2 | 5·5748278 | 2 | 5·5741270 | 2 | 5·5727272 |
| 3 | 5·5484015 | 3 | 5·5452430 | 3 | 5·5441919 | 3 | 5·5420922 |
| 4 | 5·5250812 | 4 | 5·5208699 | 4 | 5·5194683 | 4 | 5·5166687 |
| 5 | 5·5044353 | 5 | 5·4991711 | 5 | 5·4974192 | 5 | 5·4939197 |
| 6 | 5·4856554 | 6 | 5·4793384 | 6 | 5·4772361 | 6 | 5·4730367 |
| 7 | 5·4680933 | 7 | 5·4607234 | 7 | 5·4582708 | 7 | 5·4533714 |
| 8 | 5·4512605 | 8 | 5·4428378 | 8 | 5·4400347 | 8 | 5·4344355 |
| 9 | 5·4350945 | 9 | 5·4256189 | 9 | 5·4224655 | 9 | 5·4161663 |
| 10 | 5·4194406 | 10 | 5·4089123 | 10 | 5·4054085 | 10 | 5·3984094 |
| 11 | 5·4041575 | 11 | 5·3925763 | 11 | 5·3887222 | 11 | 5·3810232 |
| 12 | 5·3891169 | 12 | 5·3764829 | 12 | 5·3722784 | 12 | 5·3638794 |
| 13 | 5·3742038 | 13 | 5·3605170 | 13 | 5·3559620 | 13 | 5·3468632 |
| 14 | 5·3593163 | 14 | 5·3445766 | 14 | 5·3396713 | 14 | 5·3298726 |
| 15 | 5·3443659 | 15 | 5·3285733 | 15 | 5·3233177 | 15 | 5·3128190 |
| 16 | 5·3292770 | 16 | 5·3124317 | 16 | 5·3068256 | 16 | 5·2956270 |
| 17 | 5·3139876 | 17 | 5·2960894 | 17 | 5·2901329 | 17 | 5·2782345 |
| 18 | 5·2984485 | 18 | 5·2794975 | 18 | 5·2731907 | 18 | 5·2605923 |
| 19 | 5·2826241 | 19 | 5·2626202 | 19 | 5·2559630 | 19 | 5·2426647 |
| 20 | 5·2664916 | 20 | 5·2454349 | 20 | 5·2384273 | 20 | 5·2244291 |
| 21 | 5·2500418 | 21 | 5·2279323 | 21 | 5·2205743 | 21 | 5·2058762 |
| 22 | 5·2335116 | 22 | 5·2103492 | 22 | 5·2026409 | 22 | 5·1872429 |
| 23 | 5·2169037 | 23 | 5·1926885 | 23 | 5·1846298 | 23 | 5·1685318 |
| 24 | 5·2002199 | 24 | 5·1749519 | 24 | 5·1665428 | 24 | 5·1497449 |
| 25 | 5·1834612 | 25 | 5·1571403 | 25 | 5·1483808 | 25 | 5·1308831 |
| 26 | 5·1666276 | 26 | 5·1392539 | 26 | 5·1301441 | 26 | 5·1119464 |
| 27 | 5·1497186 | 27 | 5·1212921 | 27 | 5·1118318 | 27 | 5·0929343 |
| 28 | 5·1327326 | 28 | 5·1032532 | 28 | 5·0934426 | 28 | 5·0738451 |
| 29 | 5·1156672 | 29 | 5·0851349 | 29 | 5·0749739 | 29 | 5·0546765 |
| 30 | 5·0985192 | 30 | 5·0669341 | 30 | 5·0564227 | 30 | 5·0354254 |
| 31 | 5·0812845 | 31 | 5·0486466 | 31 | 5·0377849 | 31 | 5·0160877 |
| 32 | 5·0639584 | 32 | 5·0302677 | 32 | 5·0190556 | 32 | 4·9966584 |
| 33 | 5·0465351 | 33 | 5·0117915 | 33 | 5·0002290 | 33 | 4·9771320 |
| 34 | 5·0290081 | 34 | 4·9932117 | 34 | 4·9812988 | 34 | 4·9575018 |
| 35 | 5·0113700 | 35 | 4·9745207 | 35 | 4·9622575 | 35 | 4·9377606 |
| 36 | 4·9936125 | 36 | 4·9557104 | 36 | 4·9430968 | 36 | 4·9179000 |
| 37 | 4·9757267 | 37 | 4·9367718 | 37 | 4·9238078 | 37 | 4·8979111 |
| 38 | 4·9577027 | 38 | 4·9176949 | 38 | 4·9043805 | 38 | 4·8777839 |
| 39 | 4·9395297 | 39 | 4·8984691 | 39 | 4·8848044 | 39 | 4·8575078 |
| 40 | 4·9211963 | 40 | 4·8790828 | 40 | 4·8650677 | 40 | 4·8370713 |
| 41 | 4·9026899 | 41 | 4·8595237 | 41 | 4·8451582 | 41 | 4·8164618 |
| 42 | 4·8839975 | 42 | 4·8397784 | 42 | 4·8250625 | 42 | 4·7956663 |
| 43 | 4·8651050 | 43 | 4·8198331 | 43 | 4·8047668 | 43 | 4·7746706 |
| 44 | 4·8459974 | 44 | 4·7996727 | 44 | 4·7842560 | 44 | 4·7534599 |
| 45 | 4·8266591 | 45 | 4·7792815 | 45 | 4·7635145 | 45 | 4·7320185 |
| 46 | 4·8070735 | 46 | 4·7586431 | 46 | 4·7425256 | 46 | 4·7103298 |
| 47 | 4·7872232 | 47 | 4·7377399 | 47 | 4·7212721 | 47 | 4·6883763 |
| 48 | 4·7670900 | 48 | 4·7165539 | 48 | 4·6997357 | 48 | 4·6661400 |
| 49 | 4·7466548 | 49 | 4·6950659 | 49 | 4·6778973 | 49 | 4·6436017 |
| 50 | 4·7258978 | 50 | 4·6732560 | 50 | 4·6557371 | 50 | 4·6207416 |
| 51 | 4·7047982 | 51 | 4·6511036 | 51 | 4·6332342 | 51 | 4·5975388 |
| 52 | 4·6830899 | 52 | 4·6283424 | 52 | 4·6101227 | 52 | 4·5737274 |
| 53 | 4·6609367 | 53 | 4·6051364 | 53 | 4·5865663 | 53 | 4·5494711 |
| 54 | 4·6383216 | 54 | 4·5814684 | 54 | 4·5625480 | 54 | 4·5247528 |

## YEARLY TABLE:—MALES.

### Logarithms of the Series $D_x$; Rates of Interest 3, $3\frac{1}{4}$, $3\frac{1}{3}$, and $3\frac{1}{2}$ per Cent.

| λ $D_x$ | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Age** ($x$) | **3 per cent.** | **Age** ($x$) | **$3\frac{1}{4}$ per cent.** | **Age** ($x$) | **$3\frac{1}{3}$ per cent.** | **Age** ($x$) | **$3\frac{1}{2}$ per cent.** |
| 55 | 4·6152171 | 55 | 4·5573111 | 55 | 4·5380402 | 55 | 4·4995452 |
| 56 | 4·5915855 | 56 | 4·5326268 | 56 | 4·5130055 | 56 | 4·4738105 |
| 57 | 4·5673789 | 57 | 4·5073673 | 57 | 4·4873956 | 57 | 4·4475008 |
| 58 | 4·5425388 | 58 | 4·4814744 | 58 | 4·4611523 | 58 | 4·4205576 |
| 59 | 4·5169966 | 59 | 4·4548793 | 59 | 4·4342069 | 59 | 4·3929122 |
| 60 | 4·4906732 | 60 | 4·4275031 | 60 | 4·4064803 | 60 | 4·3644857 |
| 61 | 4·4634793 | 61 | 4·3992563 | 61 | 4·3778831 | 61 | 4·3351886 |
| 62 | 4·4353151 | 62 | 4·3700394 | 62 | 4·3483158 | 62 | 4·3049214 |
| 63 | 4·4060708 | 63 | 4·3397422 | 63 | 4·3176683 | 63 | 4·2735739 |
| 64 | 4·3756260 | 64 | 4·3082445 | 64 | 4·2858202 | 64 | 4·2410260 |
| 65 | 4·3438500 | 65 | 4·2754157 | 65 | 4·2526410 | 65 | 4·2071468 |
| 66 | 4·3106018 | 66 | 4·2411147 | 66 | 4·2179896 | 66 | 4·1717955 |
| 67 | 4·2757301 | 67 | 4·2051902 | 67 | 4·1817147 | 67 | 4·1348207 |
| 68 | 4·2390733 | 68 | 4·1674805 | 68 | 4·1436547 | 68 | 4·0960608 |
| 69 | 4·2004595 | 69 | 4·1278138 | 69 | 4·1036376 | 69 | 4·0553438 |
| 70 | 4·1597062 | 70 | 4·0860078 | 70 | 4·0614812 | 70 | 4·0124875 |
| 71 | 4·1166210 | 71 | 4·0418697 | 71 | 4·0169927 | 71 | 3·9672991 |
| 72 | 4·0710008 | 72 | 3·9951967 | 72 | 3·9699694 | 72 | 3·9195758 |
| 73 | 4·0226325 | 73 | 3·9457755 | 73 | 3·9201978 | 73 | 3·8691043 |
| 74 | 3·9712923 | 74 | 3·8933825 | 74 | 3·8674544 | 74 | 3·8156610 |
| 75 | 3·9167463 | 75 | 3·8377837 | 75 | 3·8115052 | 75 | 3·7590120 |
| 76 | 3·8587504 | 76 | 3·7787349 | 76 | 3·7521061 | 76 | 3·6989129 |
| 77 | 3·7970499 | 77 | 3·7159816 | 77 | 3·6890023 | 77 | 3·6351092 |
| 78 | 3·7313799 | 78 | 3·6492587 | 78 | 3·6219291 | 78 | 3·5673361 |
| 79 | 3·6614651 | 79 | 3·5782911 | 79 | 3·5506111 | 79 | 3·4953182 |
| 80 | 3·5870201 | 80 | 3·5027933 | 80 | 3·4747629 | 80 | 3·4187701 |
| 81 | 3·5077489 | 81 | 3·4224692 | 81 | 3·3940884 | 81 | 3·3373957 |
| 82 | 3·4233452 | 82 | 3·3370127 | 82 | 3·3082816 | 82 | 3·2508890 |
| 83 | 3·3334926 | 83 | 3·2461073 | 83 | 3·2170258 | 83 | 3·1589333 |
| 84 | 3·2378642 | 84 | 3·1494261 | 84 | 3·1199942 | 84 | 3·0612017 |
| 85 | 3·1361228 | 85 | 3·0466318 | 85 | 3·0168495 | 85 | 2·9573572 |
| 86 | 3·0279208 | 86 | 2·9373770 | 86 | 2·9072443 | 86 | 2·8470521 |
| 87 | 2·9129004 | 87 | 2·8213038 | 87 | 2·7908207 | 87 | 2·7299285 |
| 88 | 2·7906934 | 88 | 2·6980439 | 88 | 2·6672105 | 88 | 2·6056184 |
| 89 | 2·6609214 | 89 | 2·5672190 | 89 | 2·5360352 | 89 | 2·4737432 |
| 90 | 2·5231953 | 90 | 2·4284402 | 90 | 2·3969060 | 90 | 2·3339141 |
| 91 | 2·3771162 | 91 | 2·2813082 | 91 | 2·2494236 | 91 | 2·1857318 |
| 92 | 2·2222745 | 92 | 2·1254136 | 92 | 2·0931787 | 92 | 2·0287870 |
| 93 | 2·0582504 | 93 | 1·9603367 | 93 | 1·9277514 | 93 | 1·8626597 |
| 94 | 1·8846137 | 94 | 1·7856472 | 94 | 1·7527115 | 94 | 1·6869199 |
| 95 | 1·7009240 | 95 | 1·6009046 | 95 | 1·5676186 | 95 | 1·5011271 |
| 96 | 1·5067304 | 96 | 1·4056582 | 96 | 1·3720218 | 96 | 1·3048304 |
| 97 | 1·3015719 | 97 | 1·1994469 | 97 | 1·1654601 | 97 | 1·0975688 |
| 98 | 1·0849770 | 98 | 0·9817992 | 98 | 0·9474620 | 98 | 0·8788708 |
| 99 | 0·8564639 | 99 | 0·7522333 | 99 | 0·7175457 | 99 | 0·6482546 |
| 100 | 0·6155406 | 100 | 0·5102570 | 100 | 0·4752191 | 100 | 0·4052280 |
| 101 | 0·3617044 | 101 | 0·2553681 | 101 | 0·2199797 | 101 | 0·1492888 |
| 102 | 0·0944428 | 102 | 9·9870536 | 102 | 9·9513149 | 102 | 9·8799241 |
| 103 | 9·8132326 | 103 | 9·7047906 | 103 | 9·6687015 | 103 | 9·5966107 |
| 104 | 9·5175404 | 104 | 9·4080455 | 104 | 9·3716060 | 104 | 9·2988154 |
| 105 | 9·2068224 | 105 | 9·0962747 | 105 | 9·0594849 | 105 | 8·9859943 |
| 106 | 8·8805246 | 106 | 8·7689241 | 106 | 8·7317839 | 106 | 8·6575934 |
| 107 | 8·5380826 | 107 | 8·4254292 | 107 | 8·3879386 | 107 | 8·3130482 |
| 108 | 8·1789217 | 108 | 8·0652155 | 108 | 8·0273745 | 108 | 7·9517842 |
| 109 | 7·8024567 | 109 | 7·6876977 | 109 | 7·6495063 | 109 | 7·5732161 |

YEARLY TABLE:—MALES.

Logarithms of the Series $D_x$; Rates of Interest $3\frac{3}{4}$, 4, 5, and 6 per Cent.

| $\lambda D_x$ | | | | | | | |
|---|---|---|---|---|---|---|---|
| Age ($x$) | $3\frac{3}{4}$ per cent. | Age ($x$) | 4 per cent. | Age ($x$) | 5 per cent. | Age ($x$) | 6 per cent. |
| 0 | 5·7090538 | 0 | 5·7090538 | 0 | 5·7090538 | 0 | 5·7090538 |
| 1 | 5·6154821 | 1 | 5·6144369 | 1 | 5·6102809 | 1 | 5·6061643 |
| 2 | 5·5706317 | 2 | 5·5685412 | 2 | 5·5602293 | 2 | 5·5519962 |
| 3 | 5·5389489 | 3 | 5·5358132 | 3 | 5·5233453 | 3 | 5·5109956 |
| 4 | 5·5124777 | 4 | 5·5082967 | 4 | 5·4916729 | 4 | 5·4752066 |
| 5 | 5·4886809 | 5 | 5·4834547 | 5 | 5·4626749 | 5 | 5·4420921 |
| 6 | 5·4667501 | 6 | 5·4604787 | 6 | 5·4355430 | 6 | 5·4108436 |
| 7 | 5·4460371 | 7 | 5·4387205 | 7 | 5·4096288 | 7 | 5·3808128 |
| 8 | 5·4260534 | 8 | 5·4176915 | 8 | 5·3844439 | 8 | 5·3515113 |
| 9 | 5·4067365 | 9 | 5·3973294 | 9 | 5·3599258 | 9 | 5·3228767 |
| 10 | 5·3879318 | 10 | 5·3774795 | 10 | 5·3359199 | 10 | 5·2947542 |
| 11 | 5·3694978 | 11 | 5·3580003 | 11 | 5·3122847 | 11 | 5·2670025 |
| 12 | 5·3513064 | 12 | 5·3387636 | 12 | 5·2888921 | 12 | 5·2394933 |
| 13 | 5·3332424 | 13 | 5·3196543 | 13 | 5·2656269 | 13 | 5·2121115 |
| 14 | 5·3152040 | 14 | 5·3005707 | 14 | 5·2423873 | 14 | 5·1847554 |
| 15 | 5·2971027 | 15 | 5·2814242 | 15 | 5·2190848 | 15 | 5·1573363 |
| 16 | 5·2788629 | 16 | 5·2621392 | 16 | 5·1956438 | 16 | 5·1297788 |
| 17 | 5·2604226 | 17 | 5·2426536 | 17 | 5·1720023 | 17 | 5·1020207 |
| 18 | 5·2417327 | 18 | 5·2229185 | 18 | 5·1481112 | 18 | 5·0740130 |
| 19 | 5·2227573 | 19 | 5·2028979 | 19 | 5·1239347 | 19 | 5·0457199 |
| 20 | 5·2034740 | 20 | 5·1825693 | 20 | 5·0994501 | 20 | 5·0171188 |
| 21 | 5·1838733 | 21 | 5·1619234 | 21 | 5·0746482 | 21 | 4·9882004 |
| 22 | 5·1641922 | 22 | 5·1411971 | 22 | 5·0497660 | 22 | 4·9592015 |
| 23 | 5·1444335 | 23 | 5·1203931 | 23 | 5·0248060 | 23 | 4·9301250 |
| 24 | 5·1245988 | 24 | 5·0995132 | 24 | 4·9997701 | 24 | 4·9009725 |
| 25 | 5·1046892 | 25 | 5·0785583 | 25 | 4·9746593 | 25 | 4·8717452 |
| 26 | 5·0847048 | 26 | 5·0575287 | 26 | 4·9494737 | 26 | 4·8424430 |
| 27 | 5·0646448 | 27 | 5·0364235 | 27 | 4·9242126 | 27 | 4·8130653 |
| 28 | 5·0445079 | 28 | 5·0152414 | 28 | 4·8988745 | 28 | 4·7836107 |
| 29 | 5·0242916 | 29 | 4·9939798 | 29 | 4·8734570 | 29 | 4·7540766 |
| 30 | 5·0039927 | 30 | 4·9726357 | 30 | 4·8479569 | 30 | 4·7244599 |
| 31 | 4·9836072 | 31 | 4·9512050 | 31 | 4·8223702 | 31 | 4·6947567 |
| 32 | 4·9631302 | 32 | 4·9296828 | 32 | 4·7966920 | 32 | 4·6649619 |
| 33 | 4·9425561 | 33 | 4·9080633 | 33 | 4·7709167 | 33 | 4·6350700 |
| 34 | 4·9218781 | 34 | 4·8863402 | 34 | 4·7450376 | 34 | 4·6050743 |
| 35 | 4·9010891 | 35 | 4·8645059 | 35 | 4·7190474 | 35 | 4·5749675 |
| 36 | 4·8801808 | 36 | 4·8425524 | 36 | 4·6929378 | 36 | 4·5447415 |
| 37 | 4·8591441 | 37 | 4·8204705 | 37 | 4·6667000 | 37 | 4·5143870 |
| 38 | 4·8379692 | 38 | 4·7982503 | 38 | 4·6403239 | 38 | 4·4838943 |
| 39 | 4·8166454 | 39 | 4·7758813 | 39 | 4·6137988 | 39 | 4·4532527 |
| 40 | 4·7951610 | 40 | 4·7533517 | 40 | 4·5871133 | 40 | 4·4224506 |
| 41 | 4·7735038 | 41 | 4·7306492 | 41 | 4·5602549 | 41 | 4·3914757 |
| 42 | 4·7516605 | 42 | 4·7077607 | 42 | 4·5332104 | 42 | 4·3603146 |
| 43 | 4·7296171 | 43 | 4·6846721 | 43 | 4·5059658 | 43 | 4·3289534 |
| 44 | 4·7073587 | 44 | 4·6613684 | 44 | 4·4785062 | 44 | 4·2973772 |
| 45 | 4·6848695 | 45 | 4·6378340 | 45 | 4·4508158 | 45 | 4·2655703 |
| 46 | 4·6621330 | 46 | 4·6140522 | 46 | 4·4228781 | 46 | 4·2335160 |
| 47 | 4·6391318 | 47 | 4·5900058 | 47 | 4·3946757 | 47 | 4·2011971 |
| 48 | 4·6158477 | 48 | 4·5656765 | 48 | 4·3661904 | 48 | 4·1685953 |
| 49 | 4·5922617 | 49 | 4·5410452 | 49 | 4·3374032 | 49 | 4·1356915 |
| 50 | 4·5683538 | 50 | 4·5160921 | 50 | 4·3082941 | 50 | 4·1024658 |
| 51 | 4·5441033 | 51 | 4·4907963 | 51 | 4·2788424 | 51 | 4·0688975 |
| 52 | 4·5192441 | 52 | 4·4648919 | 52 | 4·2487820 | 52 | 4·0347206 |
| 53 | 4·4939400 | 53 | 4·4385426 | 53 | 4·2182768 | 53 | 4·0000987 |
| 54 | 4·4681740 | 54 | 4·4117314 | 54 | 4·1873095 | 54 | 3·9650150 |

YEARLY TABLE :—MALES.

**Logarithms** of the Series $D_x$; **Rates of Interest $3\frac{3}{4}$, 4, 5, and 6 per Cent.**

| $\lambda\ D_x$ | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Age** ($x$) | $3\frac{3}{4}$ **per cent.** | **Age** ($x$) | **4 per cent.** | **Age** ($x$) | **5 per cent.** | **Age** ($x$) | **6 per cent.** |
| 55 | 4·4419186 | 55 | 4·3844308 | 55 | 4·1558530 | 55 | 3·9294418 |
| 56 | 4·4151362 | 56 | 4·3566031 | 56 | 4·1238694 | 56 | 3·8933417 |
| 57 | 4·3877787 | 57 | 4·3282004 | 57 | 4·0913107 | 57 | 3·8566664 |
| 58 | 4·3597877 | 58 | 4·2991642 | 58 | 4·0581185 | 58 | 3·8193577 |
| 59 | 4·3310946 | 59 | 4·2694258 | 59 | 4·0242242 | 59 | 3·7813468 |
| 60 | 4·3016203 | 60 | 4·2389063 | 60 | 3·9895487 | 60 | 3·7425547 |
| 61 | 4·2712755 | 61 | 4·2075163 | 61 | 3·9540027 | 61 | 3·7028922 |
| 62 | 4·2399605 | 62 | 4·1751560 | 62 | 3·9174865 | 62 | 3·6622594 |
| 63 | 4·2075653 | 63 | 4·1417156 | 63 | 3·8798901 | 63 | 3·6205465 |
| 64 | 4·1739696 | 64 | 4·1070746 | 64 | 3·8410932 | 64 | 3·5776330 |
| 65 | 4·1390427 | 65 | 4·0711025 | 65 | 3·8009651 | 65 | 3·5333883 |
| 66 | 4·1026436 | 66 | 4·0336582 | 66 | 3·7593649 | 66 | 3·4876715 |
| 67 | 4·0646211 | 67 | 3·9945904 | 67 | 3·7161411 | 67 | 3·4403312 |
| 68 | 4·0248134 | 68 | 3·9537375 | 68 | 3·6711323 | 68 | 3·3912058 |
| 69 | 3·9830487 | 69 | 3·9109276 | 69 | 3·6241663 | 69 | 3·3401233 |
| 70 | 3·9391446 | 70 | 3·8659782 | 70 | 3·5750610 | 70 | 3·2869014 |
| 71 | 3·8929084 | 71 | 3·8186969 | 71 | 3·5236237 | 71 | 3·2313475 |
| 72 | 3·8441374 | 72 | 3·7688806 | 72 | 3·4696515 | 72 | 3·1732587 |
| 73 | 3·7926181 | 73 | 3·7163161 | 73 | 3·4129310 | 73 | 3·1124217 |
| 74 | 3·7381271 | 74 | 3·6607798 | 74 | 3·3532388 | 74 | 3·0486129 |
| 75 | 3·6804303 | 75 | 3·6020377 | 75 | 3·2903408 | 75 | 2·9815983 |
| 76 | 3·6192834 | 76 | 3·5398457 | 76 | 3·2239928 | 76 | 2·9111337 |
| 77 | 3·5544320 | 77 | 3·4739491 | 77 | 3·1539402 | 77 | 2·8369646 |
| 78 | 3·4856111 | 78 | 3·4040829 | 78 | 3·0799181 | 78 | 2·7588259 |
| 79 | 3·4125455 | 79 | 3·3299721 | 79 | 3·0016513 | 79 | 2·6764425 |
| 80 | 3·3349496 | 80 | 3·2513309 | 80 | 2·9188541 | 80 | 2·5895288 |
| 81 | 3·2525275 | 81 | 3·1678636 | 81 | 2·8312308 | 81 | 2·4977890 |
| 82 | 3·1649730 | 82 | 3·0792638 | 82 | 2·7384751 | 82 | 2·4009167 |
| 83 | 3·0719695 | 83 | 2·9852151 | 83 | 2·6402705 | 83 | 2·2985955 |
| 84 | 2·9731902 | 84 | 2·8853906 | 84 | 2·5362900 | 84 | 2·1904984 |
| 85 | 2·8682979 | 85 | 2·7794531 | 85 | 2·4261965 | 85 | 2·0762884 |
| 86 | 2·7569450 | 86 | 2·6670550 | 86 | 2·3096424 | 86 | 1·9556177 |
| 87 | 2·6387738 | 87 | 2·5478385 | 87 | 2·1862700 | 87 | 1·8281287 |
| 88 | 2·5134159 | 88 | 2·4214354 | 88 | 2·0557109 | 88 | 1·6934531 |
| 89 | 2·3804929 | 89 | 2·2874672 | 89 | 1·9175867 | 89 | 1·5512123 |
| 90 | 2·2396160 | 90 | 2·1455450 | 90 | 1·7715086 | 90 | 1·4010177 |
| 91 | 2·0903860 | 91 | 1·9952698 | 91 | 1·6170774 | 91 | 1·2424609 |
| 92 | 1·9323934 | 92 | 1·8362319 | 92 | 1·4538836 | 92 | 1·0751596 |
| 93 | 1·7652184 | 93 | 1·6680117 | 93 | 1·2815074 | 93 | 0·8986668 |
| 94 | 1·5884309 | 94 | 1·4901789 | 94 | 1·0995187 | 94 | 0·7125615 |
| 95 | 1·4015903 | 95 | 1·3022931 | 95 | 0·9074769 | 95 | 0·5164031 |
| 96 | 1·2042459 | 96 | 1·1039034 | 96 | 0·7049313 | 96 | 0·3097409 |
| 97 | 0·9959365 | 97 | 0·8945488 | 97 | 0·4914207 | 97 | 0·0921138 |
| 98 | 0·7761907 | 98 | 0·6737578 | 98 | 0·2664738 | 98 | 9·8630503 |
| 99 | 0·5445267 | 99 | 0·4410486 | 99 | 0·0296086 | 99 | 9·6220685 |
| 100 | 0·3004525 | 100 | 0·1959291 | 100 | 9·7803331 | 100 | 9·3686765 |
| 101 | 0·0434654 | 101 | 9·9378969 | 101 | 9·5181449 | 101 | 9·1023717 |
| 102 | 9·7730529 | 102 | 9·6664391 | 102 | 9·2425312 | 102 | 8·8226415 |
| 103 | 9·4886919 | 103 | 9·3810328 | 103 | 8·9529689 | 103 | 8·5289626 |
| 104 | 9·1898488 | 104 | 9·0811445 | 104 | 8·6489247 | 104 | 8·2208018 |
| 105 | 8·8759799 | 105 | 8·7662304 | 105 | 8·3298546 | 105 | 7·8976152 |
| 106 | 8·5465312 | 106 | 8·4357365 | 106 | 7·9952048 | 106 | 7·5588487 |
| 107 | 8·2009384 | 107 | 8·0890984 | 107 | 7·6444107 | 107 | 7·2039381 |
| 108 | 7·8386265 | 108 | 7·7257413 | 108 | 7·2768976 | 108 | 6·8323085 |
| 109 | 7·4590107 | 109 | 7·3450802 | 109 | 6·8920806 | 109 | 6·4433749 |

## YEARLY TABLE:—MALES.

## Logarithms of the Series $D_x$; Rates of Interest 7, 8, 9, and 10 per Cent.

| $\lambda D_x$ | | | | | | | |
|---|---|---|---|---|---|---|---|
| Age ($x$) | 7 per cent. | Age ($x$) | 8 per cent. | Age ($x$) | 9 per cent. | Age ($x$) | 10 per cent. |
| 0 | 5·7090538 | 0 | 5·7090538 | 0 | 5·7090538 | 0 | 5·7090538 |
| 1 | 5·6020864 | 1 | 5·5980464 | 1 | 5·5940437 | 1 | 5·5900775 |
| 2 | 5·5438403 | 2 | 5·5357604 | 2 | 5·5277549 | 2 | 5·5198225 |
| 3 | 5·4987619 | 3 | 5·4866419 | 3 | 5·4746337 | 3 | 5·4627351 |
| 4 | 5·4588950 | 4 | 5·4427351 | 4 | 5·4267241 | 4 | 5·4108594 |
| 5 | 5·4217025 | 5 | 5·4015026 | 5 | 5·3814889 | 5 | 5·3616580 |
| 6 | 5·3863761 | 6 | 5·3621362 | 6 | 5·3381198 | 6 | 5·3143227 |
| 7 | 5·3522674 | 7 | 5·3239876 | 7 | 5·2959684 | 7 | 5·2682051 |
| 8 | 5·3188880 | 8 | 5·2865682 | 8 | 5·2545463 | 8 | 5·2228168 |
| 9 | 5·2861755 | 9 | 5·2498157 | 9 | 5·2137910 | 9 | 5·1780953 |
| 10 | 5·2539751 | 10 | 5·2135753 | 10 | 5·1735479 | 10 | 5·1338860 |
| 11 | 5·2221455 | 11 | 5·1777057 | 11 | 5·1336755 | 11 | 5·0900475 |
| 12 | 5·1905583 | 12 | 5·1420786 | 12 | 5·0940457 | 12 | 5·0464514 |
| 13 | 5·1590986 | 13 | 5·1065789 | 13 | 5·0545433 | 13 | 5·0029828 |
| 14 | 5·1276646 | 14 | 5·0711049 | 14 | 5·0150665 | 14 | 4·9595399 |
| 15 | 5·0961676 | 15 | 5·0355679 | 15 | 4·9755268 | 15 | 4·9160340 |
| 16 | 5·0645322 | 16 | 4·9998925 | 16 | 4·9358487 | 16 | 4·8723897 |
| 17 | 5·0326962 | 17 | 4·9640166 | 17 | 4·8959699 | 17 | 4·8285448 |
| 18 | 5·0006106 | 18 | 4·9278910 | 18 | 4·8558416 | 18 | 4·7844502 |
| 19 | 4·9682396 | 19 | 4·8914800 | 19 | 4·8154279 | 19 | 4·7400703 |
| 20 | 4·9355606 | 20 | 4·8547610 | 20 | 4·7747062 | 20 | 4·6953824 |
| 21 | 4·9025642 | 21 | 4·8177247 | 21 | 4·7336671 | 21 | 4·6503771 |
| 22 | 4·8694875 | 22 | 4·7806079 | 22 | 4·6925476 | 22 | 4·6052915 |
| 23 | 4·8363330 | 23 | 4·7434135 | 23 | 4·6513504 | 23 | 4·5601281 |
| 24 | 4·8031026 | 24 | 4·7061432 | 24 | 4·6100774 | 24 | 4·5148889 |
| 25 | 4·7697974 | 25 | 4·6687979 | 25 | 4·5687293 | 25 | 4·4695747 |
| 26 | 4·7364173 | 26 | 4·6313778 | 26 | 4·5273065 | 26 | 4·4241857 |
| 27 | 4·7029617 | 27 | 4·5938823 | 27 | 4·4858083 | 27 | 4·3787212 |
| 28 | 4·6694291 | 28 | 4·5563097 | 28 | 4·4442329 | 28 | 4·3331797 |
| 29 | 4·6358171 | 29 | 4·5186578 | 29 | 4·4025782 | 29 | 4·2875588 |
| 30 | 4·6021226 | 30 | 4·4809232 | 30 | 4·3608410 | 30 | 4·2418553 |
| 31 | 4·5683414 | 31 | 4·4431021 | 31 | 4·3190171 | 31 | 4·1960653 |
| 32 | 4·5344687 | 32 | 4·4051894 | 32 | 4·2771017 | 32 | 4·1501837 |
| 33 | 4·5004989 | 33 | 4·3671796 | 33 | 4·2350891 | 33 | 4·1042049 |
| 34 | 4·4664253 | 34 | 4·3290660 | 34 | 4·1929728 | 34 | 4·0581224 |
| 35 | 4·4322406 | 35 | 4·2908414 | 35 | 4·1507454 | 35 | 4·0119288 |
| 36 | 4·3979366 | 36 | 4·2524974 | 36 | 4·1083987 | 36 | 3·9656159 |
| 37 | 4·3635043 | 37 | 4·2140251 | 37 | 4·0659236 | 37 | 3·9191747 |
| 38 | 4·3289337 | 38 | 4·1754145 | 38 | 4·0233103 | 38 | 3·8725952 |
| 39 | 4·2942142 | 39 | 4·1366550 | 39 | 3·9805481 | 39 | 3·8258668 |
| 40 | 4·2593341 | 40 | 4·0977350 | 40 | 3·9376253 | 40 | 3·7789779 |
| 41 | 4·2242813 | 41 | 4·0586422 | 41 | 3·8945297 | 41 | 3·7319161 |
| 42 | 4·1890423 | 42 | 4·0193632 | 42 | 3·8512481 | 42 | 3·6846682 |
| 43 | 4·1536032 | 43 | 3·9798842 | 43 | 3·8077662 | 43 | 3·6372202 |
| 44 | 4·1179491 | 44 | 3·9401901 | 44 | 3·7640694 | 44 | 3·5895572 |
| 45 | 4·0820642 | 45 | 3·9002652 | 45 | 3·7201418 | 45 | 3·5416634 |
| 46 | 4·0459321 | 46 | 3·8600931 | 46 | 3·6759669 | 46 | 3·4935223 |
| 47 | 4·0095352 | 47 | 3·8196563 | 47 | 3·6315274 | 47 | 3·4451166 |
| 48 | 3·9728555 | 48 | 3·7789365 | 48 | 3·5868049 | 48 | 3·3964279 |
| 49 | 3·9358737 | 49 | 3·7379148 | 49 | 3·5417805 | 49 | 3·3474373 |
| 50 | 3·8985702 | 50 | 3·6965713 | 50 | 3·4964341 | 50 | 3·2981248 |
| 51 | 3·8609240 | 51 | 3·6548851 | 51 | 3·4507452 | 51 | 3·2484697 |
| 52 | 3·8226691 | 52 | 3·6125903 | 52 | 3·4044477 | 52 | 3·1982059 |
| 53 | 3·7839694 | 53 | 3·5698506 | 53 | 3·3577052 | 53 | 3·1474973 |
| 54 | 3·7448077 | 54 | 3·5266489 | 54 | 3·3105008 | 54 | 3·0963267 |

## YEARLY TABLE:—MALES.

## Logarithms of the Series $D_x$; Rates of Interest 7, 8, 9, and 10 per Cent.

| $\lambda D_x$ | | | | | | | |
|---|---|---|---|---|---|---|---|
| Age ($x$) | 7 per cent. | Age ($x$) | 8 per cent. | Age ($x$) | 9 per cent. | Age ($x$) | 10 per cent. |
| 55 | 3·7051567 | 55 | 3·4829579 | 55 | 3·2628070 | 55 | 3·0446667 |
| 56 | 3·6649786 | 56 | 3·4387398 | 56 | 3·2145862 | 56 | 2·9924797 |
| 57 | 3·6242254 | 57 | 3·3939466 | 57 | 3·1657903 | 57 | 2·9397177 |
| 58 | 3·5828387 | 58 | 3·3485200 | 58 | 3·1163610 | 58 | 2·8863221 |
| 59 | 3·5407500 | 59 | 3·3023913 | 59 | 3·0662295 | 59 | 2·8322244 |
| 60 | 3·4978800 | 60 | 3·2554813 | 60 | 3·0153168 | 60 | 2·7773455 |
| 61 | 3·4541395 | 61 | 3·2077009 | 61 | 2·9635336 | 61 | 2·7215962 |
| 62 | 3·4094288 | 62 | 3·1589502 | 62 | 2·9107802 | 62 | 2·6648766 |
| 63 | 3·3636380 | 63 | 3·1091194 | 63 | 2·8569466 | 63 | 2·6070768 |
| 64 | 3·3166466 | 64 | 3·0580880 | 64 | 2·8019125 | 64 | 2·5480765 |
| 65 | 3·2683240 | 65 | 3·0057255 | 65 | 2·7455472 | 65 | 2·4877450 |
| 66 | 3·2185293 | 66 | 2·9518907 | 66 | 2·6877097 | 66 | 2·4259414 |
| 67 | 3·1671111 | 67 | 2·8964325 | 67 | 2·6282488 | 67 | 2·3625143 |
| 68 | 3·1139077 | 68 | 2·8391892 | 68 | 2·5670027 | 68 | 2·2973020 |
| 69 | 3·0587473 | 69 | 2·7799888 | 69 | 2·5037996 | 69 | 2·2301327 |
| 70 | 3·0014475 | 70 | 2·7186491 | 70 | 2·4384571 | 70 | 2·1608240 |
| 71 | 2·9418157 | 71 | 2·6549773 | 71 | 2·3707826 | 71 | 2·0891833 |
| 72 | 2·8796490 | 72 | 2·5887706 | 72 | 2·3005732 | 72 | 2·0150077 |
| 73 | 2·8147341 | 73 | 2·5198157 | 73 | 2·2276155 | 73 | 1·9380839 |
| 74 | 2·7468474 | 74 | 2·4478890 | 74 | 2·1516861 | 74 | 1·8581882 |
| 75 | 2·6757549 | 75 | 2·3727565 | 75 | 2·0725508 | 75 | 1·7750868 |
| 76 | 2·6012124 | 76 | 2·2941741 | 76 | 1·9899656 | 76 | 1·6885354 |
| 77 | 2·5229653 | 77 | 2·2118870 | 77 | 1·9036758 | 77 | 1·5982794 |
| 78 | 2·4407487 | 78 | 2·1256305 | 78 | 1·8134166 | 78 | 1·5040540 |
| 79 | 2·3542874 | 79 | 2·0351292 | 79 | 1·7189125 | 79 | 1·4055837 |
| 80 | 2·2632958 | 80 | 1·9400976 | 80 | 1·6198782 | 80 | 1·3025833 |
| 81 | 2·1674781 | 81 | 1·8402399 | 81 | 1·5160177 | 81 | 1·1947566 |
| 82 | 2·0665279 | 82 | 1·7352497 | 82 | 1·4070248 | 82 | 1·0817975 |
| 83 | 1·9601288 | 83 | 1·6248106 | 83 | 1·2925830 | 83 | 0·9633894 |
| 84 | 1·8479538 | 84 | 1·5085957 | 84 | 1·1723653 | 84 | 0·8392056 |
| 85 | 1·7296658 | 85 | 1·3862677 | 85 | 1·0460346 | 85 | 0·7089087 |
| 86 | 1·6049173 | 86 | 1·2574792 | 86 | 0·9132433 | 86 | 0·5721512 |
| 87 | 1·4733503 | 87 | 1·1218722 | 87 | 0·7736337 | 87 | 0·4285754 |
| 88 | 1·3345968 | 88 | 0·9790787 | 88 | 0·6268374 | 88 | 0·2778129 |
| 89 | 1·1882781 | 89 | 0·8287201 | 89 | 0·4724760 | 89 | 0·1194854 |
| 90 | 1·0340056 | 90 | 0·6704076 | 90 | 0·3101607 | 90 | 9·9532039 |
| 91 | 0·8713799 | 91 | 0·5037419 | 91 | 0·1394923 | 91 | 9·7785693 |
| 92 | 0·6999916 | 92 | 0·3283137 | 92 | 9·9600613 | 92 | 9·5951721 |
| 93 | 0·5194209 | 93 | 0·1437030 | 93 | 9·7714479 | 93 | 9·4025925 |
| 94 | 0·3292377 | 94 | 9·9494798 | 94 | 9·5732220 | 94 | 9·2004004 |
| 95 | 0·1290014 | 95 | 9·7452035 | 95 | 9·3649430 | 95 | 8·9881552 |
| 96 | 9·9182613 | 96 | 9·5304235 | 96 | 9·1461602 | 96 | 8·7654062 |
| 97 | 9·6965563 | 97 | 9·3046785 | 97 | 8·9164124 | 97 | 8·5316923 |
| 98 | 9·4634148 | 98 | 9·0674970 | 98 | 8·6752283 | 98 | 8·2865419 |
| 99 | 9·2183552 | 99 | 8·8183974 | 99 | 8·4221259 | 99 | 8·0294734 |
| 100 | 8·9608853 | 100 | 8·5568875 | 100 | 8·1566132 | 100 | 7·7599945 |
| 101 | 8·6905026 | 101 | 8·2824648 | 101 | 7·8781878 | 101 | 7·4776029 |
| 102 | 8·4066944 | 102 | 7·9946167 | 102 | 7·5863369 | 102 | 7·1817858 |
| 103 | 8·1089376 | 103 | 7·6928199 | 103 | 7·2805375 | 103 | 6·8720202 |
| 104 | 7·7966989 | 104 | 7·3765412 | 104 | 6·9602560 | 104 | 6·5477725 |
| 105 | 7·4694344 | 105 | 7·0452367 | 105 | 6·6249487 | 105 | 6·2084991 |
| 106 | 7·1265900 | 106 | 6·6983524 | 106 | 6·2740617 | 106 | 5·8536458 |
| 107 | 6·7676015 | 107 | 6·3353238 | 107 | 5·9070304 | 107 | 5·4826484 |
| 108 | 6·3918939 | 108 | 5·9555763 | 108 | 5·5232802 | 108 | 5·0949319 |
| 109 | 5·9988824 | 109 | 5·5585249 | 109 | 5·1222259 | 109 | 4·6899115 |

## YEARLY TABLE:—MALES. Interest 3 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $S_x$ | $C_x$ | $M_x$ | $R_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 0 | 511,745 | 9,800,236 | 206,018,049 | 81,280·58 | 226,301·22 | 3,799,711·50 | 0 |
| 1 | 415,559 | 9,288,491 | 196,217,813 | 25,941·18 | 145,020·64 | 3,573,410·28 | 1 |
| 2 | 377,514 | 8,872,932 | 186,929,322 | 13,008·74 | 119,079·46 | 3,428,389·64 | 2 |
| 3 | 353,510 | 8,495,418 | 178,056,390 | 8,185·63 | 106,070·72 | 3,309,310·18 | 3 |
| 4 | 335,028 | 8,141,908 | 169,560,972 | 5,795·87 | 97,885·09 | 3,203,239·46 | 4 |
| 5 | 319,474 | 7,806,880 | 161,419,064 | 4,215·06 | 92,089·22 | 3,105,354·37 | 5 |
| 6 | 305,953 | 7,487,406 | 153,612,184 | 3,214·15 | 87,874·16 | 3,013,265·15 | 6 |
| 7 | 293,828 | 7,181,453 | 146,124,778 | 2,612·94 | 84,660·01 | 2,925,390·99 | 7 |
| 8 | 282,657 | 6,887,625 | 138,943,325 | 2,095·38 | 82,047·07 | 2,840,730·98 | 8 |
| 9 | 272,329 | 6,604,968 | 132,055,700 | 1,709·18 | 79,951·69 | 2,758,683·91 | 9 |
| 10 | 262,688 | 6,332,639 | 125,450,732 | 1,432·56 | 78,242·51 | 2,678,732·22 | 10 |
| 11 | 253,605 | 6,069,951 | 119,118,093 | 1,245·65 | 76,809·95 | 2,600,489·71 | 11 |
| 12 | 244,972 | 5,816,346 | 113,048,142 | 1,134·46 | 75,564·30 | 2,523,679·76 | 12 |
| 13 | 236,703 | 5,571,374 | 107,231,796 | 1,082·25 | 74,429·84 | 2,448,115·46 | 13 |
| 14 | 228,726 | 5,334,671 | 101,660,422 | 1,077·69 | 73,347·59 | 2,373,685·62 | 14 |
| 15 | 220,987 | 5,105,945 | 96,325,751 | 1,109·86 | 72,269·90 | 2,300,338·03 | 15 |
| 16 | 213,441 | 4,884,958 | 91,219,806 | 1,166·47 | 71,160·04 | 2,228,068·13 | 16 |
| 17 | 206,057 | 4,671,517 | 86,334,848 | 1,240·58 | 69,993·57 | 2,156,908·09 | 17 |
| 18 | 198,815 | 4,465,460 | 81,663,331 | 1,323·06 | 68,752·99 | 2,086,914·52 | 18 |
| 19 | 191,701 | 4,266,645 | 77,197,871 | 1,406·89 | 67,429·93 | 2,018,161·53 | 19 |
| 20 | 184,711 | 4,074,944 | 72,931,226 | 1,485·79 | 66,023·04 | 1,950,731·60 | 20 |
| 21 | 177,845 | 3,890,233 | 68,856,282 | 1,461·82 | 64,537·25 | 1,884,708·56 | 21 |
| 22 | 171,203 | 3,712,388 | 64,966,049 | 1,436·98 | 63,075·43 | 1,820,171·31 | 22 |
| 23 | 164,780 | 3,541,185 | 61,253,661 | 1,410·87 | 61,638·45 | 1,757,095·88 | 23 |
| 24 | 158,570 | 3,376,405 | 57,712,476 | 1,383·62 | 60,227·58 | 1,695,457·43 | 24 |
| 25 | 152,567 | 3,217,835 | 54,336,071 | 1,356·77 | 58,843·96 | 1,635,229·85 | 25 |
| 26 | 146,767 | 3,065,268 | 51,118,236 | 1,329·86 | 57,487·19 | 1,576,385·89 | 26 |
| 27 | 141,162 | 2,918,501 | 48,052,968 | 1,302·93 | 56,157·33 | 1,518,898·70 | 27 |
| 28 | 135,748 | 2,777,339 | 45,134,467 | 1,276·86 | 54,854·40 | 1,462,741·37 | 28 |
| 29 | 130,517 | 2,641,591 | 42,357,128 | 1,251·62 | 53,577·54 | 1,407,886·97 | 29 |
| 30 | 125,464 | 2,511,074 | 39,715,537 | 1,227·16 | 52,325·92 | 1,354,309·43 | 30 |
| 31 | 120,583 | 2,385,610 | 37,204,463 | 1,203·84 | 51,098·76 | 1,301,983·51 | 31 |
| 32 | 115,867 | 2,265,027 | 34,818,853 | 1,181·60 | 49,894·92 | 1,250,884·75 | 32 |
| 33 | 111,310 | 2,149,160 | 32,553,826 | 1,160·73 | 48,713·32 | 1,200,989·83 | 33 |
| 34 | 106,907 | 2,037,850 | 30,404,666 | 1,141·14 | 47,552·59 | 1,152,276·51 | 34 |
| 35 | 102,653 | 1,930,943 | 28,366,816 | 1,122·74 | 46,411·45 | 1,104,723·92 | 35 |
| 36 | 98,540 | 1,828,290 | 26,435,873 | 1,105·44 | 45,288·71 | 1,058,312·47 | 36 |
| 37 | 94,564 | 1,729,750 | 24,607,583 | 1,090·16 | 44,183·27 | 1,013,023·76 | 37 |
| 38 | 90,720 | 1,635,186 | 22,877,833 | 1,075·46 | 43,093·11 | 968,840·49 | 38 |
| 39 | 87,002 | 1,544,466 | 21,242,647 | 1,062·22 | 42,017·65 | 925,747·38 | 39 |
| 40 | 83,406 | 1,457,464 | 19,698,181 | 1,050·33 | 40,955·43 | 883,729·73 | 40 |
| 41 | 79,926 | 1,374,058 | 18,240,717 | 1,039·10 | 39,905·10 | 842,774·30 | 41 |
| 42 | 76,559 | 1,294,132 | 16,866,659 | 1,029·03 | 38,866·00 | 802,869·20 | 42 |
| 43 | 73,300 | 1,217,573 | 15,572,527 | 1,020·30 | 37,836·97 | 764,003·20 | 43 |
| 44 | 70,145 | 1,144,273 | 14,354,954 | 1,011·74 | 36,816·67 | 726,166·23 | 44 |
| 45 | 67,090 | 1,074,128 | 13,210,681 | 1,004·35 | 35,804·93 | 689,349·56 | 45 |
| 46 | 64,132 | 1,007.038 | 12,136,553 | 997·28 | 34,800·58 | 653,544·63 | 46 |
| 47 | 61,267 | 942,906 | 11,129,515 | 990·99 | 33,803·30 | 618,744·05 | 47 |
| 48 | 58,491 | 881,639 | 10,186,609 | 984·91 | 32,812·31 | 584,940·75 | 48 |
| 49 | 55,803 | 823,148 | 9,304,970 | 979·04 | 31,827·40 | 552,128·44 | 49 |
| 50 | 53,198 | 767,345 | 8,481,822 | 973·33 | 30,848·36 | 520,301·04 | 50 |
| 51 | 50,676 | 714,147 | 7,714,477 | 994·65 | 29,875·03 | 489,452·68 | 51 |
| 52 | 48,205 | 663,471 | 7,000,330 | 993·23 | 28,880·38 | 459,577·65 | 52 |
| 53 | 45,808 | 615,266 | 6,336,859 | 990·04 | 27,887·15 | 430,697·27 | 53 |
| 54 | 43,483 | 569,458 | 5,721,593 | 986·39 | 26,897·11 | 402,810·12 | 54 |

## YEARLY TABLE:—MALES. Interest 3 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $S_x$ | $C_x$ | $M_x$ | $R_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 55 | 41,230 | 525,975 | 5,152,135 | 982·69 | 25,910·72 | 375,913·01 | 55 |
| 56 | 39,047 | 484,745 | 4,626,160 | 979·48 | 24,928·03 | 350,002·29 | 56 |
| 57 | 36,930 | 445,698 | 4,141,415 | 977·42 | 23,948·55 | 325,074·26 | 57 |
| 58 | 34,877 | 408,768 | 3,695,717 | 976·22 | 22,971·13 | 301,125·71 | 58 |
| 59 | 32,885 | 373,891 | 3,286,949 | 976·30 | 21,994·91 | 278,154·58 | 59 |
| 60 | 30,951 | 341,006 | 2,913,058 | 977·04 | 21,018·61 | 256,159·67 | 60 |
| 61 | 29,072 | 310,055 | 2,572,052 | 978·82 | 20,041·57 | 235,141·06 | 61 |
| 62 | 27,247 | 280,983 | 2,261,997 | 980·75 | 19,062·75 | 215,099·49 | 62 |
| 63 | 25,472 | 253,736 | 1,981,014 | 982·50 | 18,082·00 | 196,036·74 | 63 |
| 64 | 23,748 | 228,264 | 1,727,278 | 983·90 | 17,099·50 | 177,954·74 | 64 |
| 65 | 22,072 | 204,516 | 1,499,014 | 983·81 | 16,115·60 | 160,855·24 | 65 |
| 66 | 20,446 | 182,444 | 1,294,498 | 981·93 | 15,131·79 | 144,739·64 | 66 |
| 67 | 18,868 | 161,998 | 1,112,054 | 977·72 | 14,149·86 | 129,607·85 | 67 |
| 68 | 17,341 | 143,130 | 950,056 | 970·18 | 13,172·14 | 115,457·99 | 68 |
| 69 | 15,866 | 125,789 | 806,926 | 958·98 | 12,201·96 | 102,285·85 | 69 |
| 70 | 14,445 | 109,923 | 681,137 | 943·55 | 11,242·98 | 90,083·89 | 70 |
| 71 | 13,080 | 95,478 | 571,214 | 923·33 | 10,299·43 | 78,840·91 | 71 |
| 72 | 11,776 | 82,398 | 475,736 | 898·06 | 9,376·10 | 68,541·48 | 72 |
| 73 | 10,535 | 70,622 | 393,338 | 867·75 | 8,478·04 | 59,165·38 | 73 |
| 74 | 9,360·4 | 60,086·9 | 322,716·4 | 832·23 | 7,610·29 | 50,687·34 | 74 |
| 75 | 8,255·5 | 50,726·5 | 262,629·5 | 791·49 | 6,778·06 | 43,077·05 | 75 |
| 76 | 7,223·5 | 42,471·0 | 211,903·0 | 746·36 | 5,986·57 | 36,298·99 | 76 |
| 77 | 6,266·9 | 35,247·5 | 169,432·0 | 696·91 | 5,240·21 | 30,312·42 | 77 |
| 78 | 5,387·4 | 28,980·6 | 134,184·5 | 644·18 | 4,543·30 | 25,072·21 | 78 |
| 79 | 4,586·3 | 23,593·2 | 105,203·9 | 588·86 | 3,899·12 | 20,528·91 | 79 |
| 80 | 3,863·8 | 19,006·9 | 81,610·7 | 532·11 | 3,310·26 | 16,629·79 | 80 |
| 81 | 3,219·2 | 15,143·1 | 62,603·8 | 474·89 | 2,778·15 | 13,319·53 | 81 |
| 82 | 2,650·6 | 11,923·9 | 47,460·7 | 418·14 | 2,303·26 | 10,541·38 | 82 |
| 83 | 2,155·2 | 9,273·3 | 35,536·8 | 363·13 | 1,885·12 | 8,238·12 | 83 |
| 84 | 1,729·3 | 7,118·1 | 26,263·5 | 310·81 | 1,521·99 | 6,353·00 | 84 |
| 85 | 1,368·1 | 5,388·8 | 19,145·4 | 261·93 | 1,211·18 | 4,831·01 | 85 |
| 86 | 1,066·4 | 4,020·7 | 13,756·6 | 217·01 | 949·25 | 3,619·83 | 86 |
| 87 | 818·28 | 2,954·30 | 9,735·92 | 176·86 | 732·24 | 2,670·58 | 87 |
| 88 | 617·58 | 2,136·02 | 6,781·62 | 141·53 | 555·38 | 1,938·34 | 88 |
| 89 | 458·06 | 1,518·44 | 4,645·60 | 111·19 | 413·85 | 1,382·96 | 89 |
| 90 | 333·58 | 1,060·38 | 3,127·16 | 85·54 | 302·66 | 969·11 | 90 |
| 91 | 238·30 | 726·80 | 2,066·78 | 64·53 | 217·12 | 666·45 | 91 |
| 92 | 166·83 | 488·50 | 1,339·98 | 47·61 | 152·59 | 449·33 | 92 |
| 93 | 114·35 | 321·67 | 851·48 | 34·36 | 104·98 | 296·74 | 93 |
| 94 | 76·668 | 207·323 | 529·811 | 24·19 | 70·62 | 191·76 | 94 |
| 95 | 50·225 | 130·655 | 322·488 | 16·69 | 46·43 | 121·14 | 95 |
| 96 | 32·117 | 80·430 | 191·833 | 11·14 | 29·74 | 74·71 | 96 |
| 97 | 20·025 | 48·313 | 111·403 | 7·29 | 18·60 | 44·97 | 97 |
| 98 | 12·161 | 28·288 | 63·090 | 4·61 | 11·31 | 26·37 | 98 |
| 99 | 7·1856 | 16·1271 | 34·8024 | 2·86 | 6·70 | 15·06 | 99 |
| 100 | 4·1261 | 8·9415 | 18·6753 | 1·67 | 3·84 | 8·36 | 100 |
| 101 | 2·2999 | 4·8154 | 9·7338 | 1·03 | 2·17 | 4·52 | 101 |
| 102 | 1·2429 | 2·5155 | 4·9184 | ·52 | 1·14 | 2·35 | 102 |
| 103 | ·6505 | 1·2726 | 2·4029 | ·32 | ·62 | 1·21 | 103 |
| 104 | ·3293 | ·6221 | 1·1303 | ·13 | ·30 | ·59 | 104 |
| 105 | ·1610 | ·2928 | ·5082 | ·09 | ·17 | ·29 | 105 |
| 106 | ·0759 | ·1318 | ·2154 | ·04 | ·08 | ·12 | 106 |
| 107 | ·0345 | ·0559 | ·0836 | ·04 | ·04 | ·04 | 107 |
| 108 | ·0151 | ·0214 | ·0277 | ... | ... | ... | 108 |
| 109 | ·0063 | ·0063 | ·0063 | ... | ... | ... | 109 |

## YEARLY TABLE:—MALES. Interest 3 per Cent.

| **Age** ($x$) | λ $D_x$ | λ $N_x$ | λ $M_x$ | **Age** ($x$) | λ $D_x$ | λ $N_x$ | λ $M_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 5·7090538 | 6·9912366 | 5·3546869 | 55 | 4·6152171 | 5·7209651 | 4·4134795 |
| 1 | 5·6186330 | 6·9679452 | 5·1614298 | 56 | 4·5915855 | 5·6855134 | 4·3966879 |
| 2 | 5·5769335 | 6·9480672 | 5·0758370 | 57 | 4·5673789 | 5·6490407 | 4·3792792 |
| 3 | 5·5484015 | 6·9291847 | 5·0255955 | 58 | 4·5425388 | 5·6114769 | 4·3611824 |
| 4 | 5·5250812 | 6·9107262 | 4·9907165 | 59 | 4·5169966 | 5·5727450 | 4·3423222 |
| 5 | 5·5044353 | 6·8924775 | 4·9642088 | 60 | 4·4906732 | 5·5327620 | 4·3226040 |
| 6 | 5·4856554 | 6·8743314 | 4·9438612 | 61 | 4·4634793 | 5·4914387 | 4·3019318 |
| 7 | 5·4680933 | 6·8562124 | 4·9276784 | 62 | 4·4353151 | 5·4486801 | 4·2801855 |
| 8 | 5·4512605 | 6·8380695 | 4·9140631 | 63 | 4·4060708 | 5·4043821 | 4·2572465 |
| 9 | 5·4350945 | 6·8198707 | 4·9028276 | 64 | 4·3756260 | 5·3584374 | 4·2329834 |
| 10 | 5·4194406 | 6·8015847 | 4·8934428 | 65 | 4·3438500 | 5·3107273 | 4·2072465 |
| 11 | 5·4041575 | 6·7831852 | 4·8854175 | 66 | 4·3106018 | 5·2611296 | 4·1798903 |
| 12 | 5·3891169 | 6·7646503 | 4·8783166 | 67 | 4·2757301 | 5·2095096 | 4·1507521 |
| 13 | 5·3742038 | 6·7459623 | 4·8717470 | 68 | 4·2390733 | 5·1557307 | 4·1196563 |
| 14 | 5·3593163 | 6·7271077 | 4·8653859 | 69 | 4·2004595 | 5·0996427 | 4·0864296 |
| 15 | 5·3443659 | 6·7080761 | 4·8589575 | 70 | 4·1597062 | 5·0410886 | 4·0508815 |
| 16 | 5·3292770 | 6·6888609 | 4·8522361 | 71 | 4·1166210 | 4·9799033 | 4·0128132 |
| 17 | 5·3139876 | 6·6694579 | 4·8450581 | 72 | 4·0710008 | 4·9159167 | 3·9720222 |
| 18 | 5·2984485 | 6·6498662 | 4·8372917 | 73 | 4·0226325 | 4·8489400 | 3·9282954 |
| 19 | 5·2826241 | 6·6300865 | 4·8288528 | 74 | 3·9712923 | 4·7787798 | 3·8814012 |
| 20 | 5·2664916 | 6·6101216 | 4·8196956 | 75 | 3·9167463 | 4·7052349 | 3·8311054 |
| 21 | 5·2500418 | 6·5899756 | 4·8098104 | 76 | 3·8587504 | 4·6280925 | 3·7771780 |
| 22 | 5·2335116 | 6·5696534 | 4·7998602 | 77 | 3·7970499 | 4·5471284 | 3·7193487 |
| 23 | 5·2169037 | 6·5491486 | 4·7898517 | 78 | 3·7313799 | 4·4621074 | 3·6573714 |
| 24 | 5·2002199 | 6·5284546 | 4·7797954 | 79 | 3·6614651 | 4·3727869 | 3·5909666 |
| 25 | 5·1834612 | 6·5075638 | 4·7697019 | 80 | 3·5870201 | 4·2789113 | 3·5198621 |
| 26 | 5·1666276 | 6·4864684 | 4·7595711 | 81 | 3·5077489 | 4·1802148 | 3·4437557 |
| 27 | 5·1497186 | 6·4651599 | 4·7494064 | 82 | 3·4233452 | 4·0764184 | 3·3623430 |
| 28 | 5·1327326 | 6·4436289 | 4·7392115 | 83 | 3·3334926 | 3·9672343 | 3·2753390 |
| 29 | 5·1156672 | 6·4218657 | 4·7289828 | 84 | 3·2378642 | 3·8523641 | 3·1824118 |
| 30 | 5·0985192 | 6·3998595 | 4·7187169 | 85 | 3·1361228 | 3·7314921 | 3·0832087 |
| 31 | 5·0812845 | 6·3775994 | 4·7084104 | 86 | 3·0279208 | 3·6043017 | 2·9773806 |
| 32 | 5·0639584 | 6·3550733 | 4·6980563 | 87 | 2·9129004 | 3·4704546 | 2·8646534 |
| 33 | 5·0465351 | 6·3322687 | 4·6876478 | 88 | 2·7906934 | 3·3296053 | 2·7445902 |
| 34 | 5·0290081 | 6·3091723 | 4·6771742 | 89 | 2·6609214 | 3·1813976 | 2·6168430 |
| 35 | 5·0113700 | 6·2857695 | 4·6666252 | 90 | 2·5231953 | 3·0254615 | 2·4809550 |
| 36 | 4·9936125 | 6·2620451 | 4·6559899 | 91 | 2·3771162 | 2·8614149 | 2·3366998 |
| 37 | 4·9757267 | 6·2379834 | 4·6452579 | 92 | 2·2222745 | 2·6888646 | 2·1835261 |
| 38 | 4·9577027 | 6·2135672 | 4·6344078 | 93 | 2·0582504 | 2·5074106 | 2·0211066 |
| 39 | 4·9395297 | 6·1887784 | 4·6234317 | 94 | 1·8846137 | 2·3166475 | 1·8489277 |
| 40 | 4·9211963 | 6·1635979 | 4·6123114 | 95 | 1·7009240 | 2·1161261 | 1·6667987 |
| 41 | 4·9026899 | 6·1380050 | 4·6010284 | 96 | 1·5067304 | 1·9054181 | 1·4733410 |
| 42 | 4·8839975 | 6·1119786 | 4·5895698 | 97 | 1·3015719 | 1·6840640 | 1·2695129 |
| 43 | 4·8651050 | 6·0854951 | 4·5779164 | 98 | 1·0849770 | 1·4516022 | 1·0534626 |
| 44 | 4·8459974 | 6·0585297 | 4·5660445 | 99 | 0·8564639 | 1·2075563 | 0·8260748 |
| 45 | 4·8266591 | 6·0310560 | 4·5539429 | 100 | 0·6155406 | 0·9514104 | 0·5843312 |
| 46 | 4·8070735 | 6·0030459 | 4·5415865 | 101 | 0·3617044 | 0·6826324 | 0·3364597 |
| 47 | 4·7872232 | 5·9744684 | 4·5289591 | 102 | 0·0944428 | 0·4006243 | 0·0569049 |
| 48 | 4·7670900 | 5·9452908 | 4·5160368 | 103 | $\bar{1}$·8132326 | 0·1046919 | $\bar{1}$·7923917 |
| 49 | 4·7466548 | 5·9154779 | 4·5028011 | 104 | $\bar{1}$·5175404 | $\bar{1}$·7938602 | $\bar{1}$·4771213 |
| 50 | 4·7258978 | 5·8849907 | 4·4892321 | 105 | $\bar{1}$·2068224 | $\bar{1}$·4665711 | $\bar{1}$·2304489 |
| 51 | 4·7047982 | 5·8537876 | 4·4753083 | 106 | $\bar{2}$·8805246 | $\bar{1}$·1199154 | $\bar{2}$·9030900 |
| 52 | 4·6830899 | 5·8218220 | 4·4606029 | 107 | $\bar{2}$·5380826 | $\bar{2}$·7474118 | $\bar{2}$·6020600 |
| 53 | 4·6609367 | 5·7890629 | 4·4454042 | 108 | $\bar{2}$·1789217 | $\bar{2}$·3304138 | ... |
| 54 | 4·6383216 | 5·7554617 | 4·4297056 | 109 | $\bar{3}$·8024567 | $\bar{3}$·7993405 | ... |

## YEARLY TABLE:—MALES. Interest 3 per Cent.

| Age $(x)$ | $\lambda\left(\frac{N_x}{D_x}\right)=\lambda A_x$ | $\lambda\left(\frac{M_x}{D_x}\right)=\lambda \Pi_x$ | $\lambda\left(\frac{M_x}{N_x}\right)=\lambda \pi_x$ | Age $(x)$ | $\lambda\left(\frac{N_x}{D_x}\right)=\lambda A_x$ | $\lambda\left(\frac{M_x}{D_x}\right)=\lambda \Pi_x$ | $\lambda\left(\frac{M_x}{N_x}\right)=\lambda \pi_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 1·2821828 | $\bar{1}$·6456331 | $\bar{2}$·3634503 | 50 | 1·1590929 | $\bar{1}$·7633343 | $\bar{2}$·6042414 |
| 1 | 1·3493122 | $\bar{1}$·5427968 | $\bar{2}$·1934846 | 51 | 1·1489894 | $\bar{1}$·7705101 | $\bar{2}$·6215207 |
| 2 | 1·3711337 | $\bar{1}$·4989035 | $\bar{2}$·1277698 | 52 | 1·1387321 | $\bar{1}$·7775130 | $\bar{2}$·6387809 |
| 3 | 1·3807832 | $\bar{1}$·4771940 | $\bar{2}$·0964108 | 53 | 1·1281262 | $\bar{1}$·7844675 | $\bar{2}$·6563413 |
| 4 | 1·3856450 | $\bar{1}$·4656353 | $\bar{2}$·0799903 | 54 | 1·1171401 | $\bar{1}$·7913840 | $\bar{2}$·6742439 |
| 5 | 1·3880422 | $\bar{1}$·4597735 | $\bar{2}$·0717313 | 55 | 1·1057480 | $\bar{1}$·7982624 | $\bar{2}$·6925144 |
| 6 | 1·3886760 | $\bar{1}$·4582058 | $\bar{2}$·0695298 | 56 | 1·0939279 | $\bar{1}$·8051024 | $\bar{2}$·7111745 |
| 7 | 1·3881191 | $\bar{1}$·4595851 | $\bar{2}$·0714660 | 57 | 1·0816618 | $\bar{1}$·8119003 | $\bar{2}$·7302385 |
| 8 | 1·3868090 | $\bar{1}$·4628026 | $\bar{2}$·0759936 | 58 | 1·0689381 | $\bar{1}$·8186436 | $\bar{2}$·7497055 |
| 9 | 1·3847762 | $\bar{1}$·4677331 | $\bar{2}$·0829569 | 59 | 1·0557484 | $\bar{1}$·8253256 | $\bar{2}$·7695772 |
| 10 | 1·3821441 | $\bar{1}$·4740022 | $\bar{2}$·0918581 | 60 | 1·0420888 | $\bar{1}$·8319308 | $\bar{2}$·7898420 |
| 11 | 1·3790277 | $\bar{1}$·4812600 | $\bar{2}$·1022323 | 61 | 1·0279594 | $\bar{1}$·8384525 | $\bar{2}$·8104931 |
| 12 | 1·3755334 | $\bar{1}$·4891997 | $\bar{2}$·1136663 | 62 | 1·0133650 | $\bar{1}$·8448704 | $\bar{2}$·8315054 |
| 13 | 1·3717585 | $\bar{1}$·4975432 | $\bar{2}$·1257847 | 63 | 0·9983113 | $\bar{1}$·8511757 | $\bar{2}$·8528644 |
| 14 | 1·3677914 | $\bar{1}$·5060696 | $\bar{2}$·1382782 | 64 | 0·9828114 | $\bar{1}$·8573574 | $\bar{2}$·8745460 |
| 15 | 1·3637102 | $\bar{1}$·5145916 | $\bar{2}$·1508814 | 65 | 0·9668773 | $\bar{1}$·8633965 | $\bar{2}$·8965192 |
| 16 | 1·3595839 | $\bar{1}$·5229591 | $\bar{2}$·1633752 | 66 | 0·9505278 | $\bar{1}$·8692885 | $\bar{2}$·9187607 |
| 17 | 1·3554703 | $\bar{1}$·5310705 | $\bar{2}$·1756002 | 67 | 0·9337795 | $\bar{1}$·8750220 | $\bar{2}$·9412425 |
| 18 | 1·3514177 | $\bar{1}$·5388432 | $\bar{2}$·1874255 | 68 | 0·9166574 | $\bar{1}$·8805830 | $\bar{2}$·9639256 |
| 19 | 1·3474624 | $\bar{1}$·5462287 | $\bar{2}$·1987663 | 69 | 0·8991832 | $\bar{1}$·8859701 | $\bar{2}$·9867869 |
| 20 | 1·3436300 | $\bar{1}$·5532040 | $\bar{2}$·2095740 | 70 | 0·8813824 | $\bar{1}$·8911753 | $\bar{1}$·0097929 |
| 21 | 1·3399338 | $\bar{1}$·5597686 | $\bar{2}$·2198348 | 71 | 0·8632823 | $\bar{1}$·8961922 | $\bar{1}$·0329099 |
| 22 | 1·3361418 | $\bar{1}$·5663486 | $\bar{2}$·2302068 | 72 | 0·8449159 | $\bar{1}$·9010214 | $\bar{1}$·0561055 |
| 23 | 1·3322449 | $\bar{1}$·5729480 | $\bar{2}$·2407031 | 73 | 0·8263075 | $\bar{1}$·9056629 | $\bar{1}$·0793554 |
| 24 | 1·3282347 | $\bar{1}$·5795755 | $\bar{2}$·2513408 | 74 | 0·8074875 | $\bar{1}$·9101089 | $\bar{1}$·1026214 |
| 25 | 1·3241026 | $\bar{1}$·5862407 | $\bar{2}$·2621381 | 75 | 0·7884886 | $\bar{1}$·9143591 | $\bar{1}$·1258705 |
| 26 | 1·3198408 | $\bar{1}$·5929435 | $\bar{2}$·2731027 | 76 | 0·7693421 | $\bar{1}$·9184276 | $\bar{1}$·1490855 |
| 27 | 1·3154413 | $\bar{1}$·5996878 | $\bar{2}$·2842465 | 77 | 0·7500785 | $\bar{1}$·9222988 | $\bar{1}$·1722203 |
| 28 | 1·3108963 | $\bar{1}$·6064789 | $\bar{2}$·2955826 | 78 | 0·7307275 | $\bar{1}$·9259915 | $\bar{1}$·1952640 |
| 29 | 1·3061985 | $\bar{1}$·6133156 | $\bar{2}$·3071171 | 79 | 0·7113218 | $\bar{1}$·9295015 | $\bar{1}$·2181797 |
| 30 | 1·3013403 | $\bar{1}$·6201977 | $\bar{2}$·3188574 | 80 | 0·6918912 | $\bar{1}$·9328420 | $\bar{1}$·2409508 |
| 31 | 1·2963149 | $\bar{1}$·6271259 | $\bar{2}$·3308110 | 81 | 0·6724659 | $\bar{1}$·9360068 | $\bar{1}$·2635409 |
| 32 | 1·2911149 | $\bar{1}$·6340979 | $\bar{2}$·3429830 | 82 | 0·6530732 | $\bar{1}$·9389978 | $\bar{1}$·2859246 |
| 33 | 1·2857336 | $\bar{1}$·6411127 | $\bar{2}$·3553791 | 83 | 0·6337417 | $\bar{1}$·9418464 | $\bar{1}$·3081047 |
| 34 | 1·2801642 | $\bar{1}$·6481661 | $\bar{2}$·3680019 | 84 | 0·6144999 | $\bar{1}$·9445476 | $\bar{1}$·3300477 |
| 35 | 1·2743995 | $\bar{1}$·6552552 | $\bar{2}$·3808557 | 85 | 0·5953693 | $\bar{1}$·9470859 | $\bar{1}$·3517166 |
| 36 | 1·2684326 | $\bar{1}$·6623774 | $\bar{2}$·3939448 | 86 | 0·5763809 | $\bar{1}$·9494598 | $\bar{1}$·3730789 |
| 37 | 1·2622567 | $\bar{1}$·6695312 | $\bar{2}$·4072745 | 87 | 0·5575542 | $\bar{1}$·9517530 | $\bar{1}$·3941988 |
| 38 | 1·2558645 | $\bar{1}$·6767051 | $\bar{2}$·4208406 | 88 | 0·5389119 | $\bar{1}$·9538968 | $\bar{1}$·4149849 |
| 39 | 1·2492487 | $\bar{1}$·6839020 | $\bar{2}$·4346533 | 89 | 0·5204762 | $\bar{1}$·9559216 | $\bar{1}$·4354454 |
| 40 | 1·2424016 | $\bar{1}$·6911151 | $\bar{2}$·4487135 | 90 | 0·5022662 | $\bar{1}$·9577597 | $\bar{1}$·4554935 |
| 41 | 1·2353151 | $\bar{1}$·6983385 | $\bar{2}$·4630234 | 91 | 0·4842987 | $\bar{1}$·9595836 | $\bar{1}$·4752849 |
| 42 | 1·2279811 | $\bar{1}$·7055723 | $\bar{2}$·4775912 | 92 | 0·4665901 | $\bar{1}$·9612516 | $\bar{1}$·4946615 |
| 43 | 1·2203901 | $\bar{1}$·7128114 | $\bar{2}$·4924213 | 93 | 0·4491602 | $\bar{1}$·9628562 | $\bar{1}$·5136960 |
| 44 | 1·2125323 | $\bar{1}$·7200471 | $\bar{2}$·5075148 | 94 | 0·4320338 | $\bar{1}$·9643140 | $\bar{1}$·5322802 |
| 45 | 1·2043969 | $\bar{1}$·7272838 | $\bar{2}$·5228869 | 95 | 0·4152021 | $\bar{1}$·9658747 | $\bar{1}$·5506726 |
| 46 | 1·1959724 | $\bar{1}$·7345130 | $\bar{2}$·5385406 | 96 | 0·3986877 | $\bar{1}$·9666106 | $\bar{1}$·5679229 |
| 47 | 1·1872452 | $\bar{1}$·7417359 | $\bar{2}$·5544907 | 97 | 0·3824921 | $\bar{1}$·9679410 | $\bar{1}$·5854489 |
| 48 | 1·1782008 | $\bar{1}$·7489468 | $\bar{2}$·5707460 | 98 | 0·3666252 | $\bar{1}$·9684856 | $\bar{1}$·6018604 |
| 49 | 1·1688231 | $\bar{1}$·7561463 | $\bar{2}$·5873232 | 99 | 0·3510924 | $\bar{1}$·9696109 | $\bar{1}$·6185185 |
|  |  |  |  | 100 | 0·3358698 | $\bar{1}$·9687906 | $\bar{1}$·6329203 |

## YEARLY TABLE:—MALES. Interest 3 per Cent.

VALUES OF ANNUITIES. SINGLE and ANNUAL PREMIUMS, which insure £1 on the LIFE of a MALE.

| **Age** | **Present** value of an **Annuity** of £1 (first payment at the age $x$). | **Annuity** (first payment at age $x$) which £1 will purchase. | Sum which **One Premium** of £1 will insure over **One Year.** | Sum which **One Premium** of £1 will insure over the **Whole Term of Life.** | Sum which an **Annual Premium** of £1 will insure over the **Whole Term of Life.** | **Single Premium** which will insure £1 over **One Year.** | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Annual Premium** which will insure £1 over the **Whole Term of Life.** |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $\frac{D_x}{C_x}$ | $\frac{D_x}{M_x} = \Sigma_x$ | $\frac{N_x}{M_x} = s_x$ | $\frac{C_x}{D_x}$ | $\frac{M_x}{D_x} = \Pi_x$ | $\frac{M_x}{N_x} = \pi_x$ |
| | £ | £ | £ | £ | £ | £ | £ | £ |
| 0 | 19·1506 | ·052218 | 6·30 | 2·26135 | 43·3062 | ·158830 | ·44221 | ·023091 |
| 1 | 22·3518 | ·044739 | 16·02 | 2·86552 | 64·0494 | ·062425 | ·34898 | ·015613 |
| 2 | 23·5036 | ·042547 | 29·02 | 3·17027 | 74·5127 | ·034459 | ·31543 | ·013421 |
| 3 | 24·0316 | ·041612 | 43·19 | 3·33278 | 80·0920 | ·023155 | ·30005 | ·012486 |
| 4 | 24·3022 | ·041149 | 57·80 | 3·42267 | 83·1782 | ·017300 | ·29217 | ·012022 |
| 5 | 24·4367 | ·040922 | 75·79 | 3·46918 | 84·7752 | ·013194 | ·28825 | ·011796 |
| 6 | 24·4724 | ·040862 | 95·19 | 3·48172 | 85·2060 | ·010505 | ·28721 | ·011736 |
| 7 | 24·4410 | ·040915 | 112·45 | 3·47068 | 84·8270 | ·008893 | ·28813 | ·011789 |
| 8 | 24·3674 | ·041038 | 134·90 | 3·44506 | 83·9472 | ·007413 | ·29027 | ·011912 |
| 9 | 24·2536 | ·041231 | 159·33 | 3·40617 | 82·6120 | ·006276 | ·29358 | ·012105 |
| 10 | 24·1071 | ·041482 | 183·37 | 3·35736 | 80·9360 | ·005453 | ·29785 | ·012355 |
| 11 | 23·9347 | ·041780 | 203·59 | 3·30172 | 79·0256 | ·004912 | ·30287 | ·012654 |
| 12 | 23·7429 | ·042118 | 215·94 | 3·24191 | 76·9722 | ·004631 | ·30846 | ·012992 |
| 13 | 23·5374 | ·042486 | 218·71 | 3·18022 | 74·8541 | ·004572 | ·31444 | ·013359 |
| 14 | 23·3234 | ·042875 | 212·24 | 3·11839 | 72·7314 | ·004712 | ·32068 | ·013749 |
| 15 | 23·1052 | ·043280 | 199·11 | 3·05779 | 70·6510 | ·005022 | ·32703 | ·014154 |
| 16 | 22·8867 | ·043693 | 182·98 | 2·99944 | 68·6475 | ·005465 | ·33340 | ·014567 |
| 17 | 22·6710 | ·044109 | 166·10 | 2·94394 | 66·7421 | ·006021 | ·33968 | ·014983 |
| 18 | 22·4604 | ·044523 | 150·27 | 2·89172 | 64·9493 | ·006655 | ·34581 | ·015397 |
| 19 | 22·2568 | ·044930 | 136·26 | 2·84296 | 63·2752 | ·007339 | ·35175 | ·015804 |
| 20 | 22·0612 | ·045328 | 124·32 | 2·79767 | 61·7200 | ·008044 | ·35744 | ·016202 |
| 21 | 21·8743 | ·045716 | 121·66 | 2·75570 | 60·2789 | ·008220 | ·36288 | ·016590 |
| 22 | 21·6841 | ·046117 | 119·14 | 2·71426 | 58·8563 | ·008393 | ·36842 | ·016991 |
| 23 | 21·4904 | ·046532 | 116·79 | 2·67333 | 57·4509 | ·008562 | ·37407 | ·017406 |
| 24 | 21·2929 | ·046964 | 114·60 | 2·63284 | 56·0608 | ·008726 | ·37982 | ·017838 |
| 25 | 21·0913 | ·047413 | 112·45 | 2·59274 | 54·6842 | ·008893 | ·38569 | ·018287 |
| 26 | 20·8853 | ·047881 | 110·36 | 2·55303 | 53·3209 | ·009061 | ·39169 | ·018754 |
| 27 | 20·6748 | ·048368 | 108·34 | 2·51369 | 51·9701 | ·009230 | ·39782 | ·019242 |
| 28 | 20·4596 | ·048877 | 106·31 | 2·47469 | 50·6311 | ·009406 | ·40409 | ·019751 |
| 29 | 20·2394 | ·049408 | 104·28 | 2·43604 | 49·3041 | ·009590 | ·41050 | ·020282 |
| 30 | 20·0143 | ·049964 | 102·24 | 2·39774 | 47·9891 | ·009781 | ·41706 | ·020838 |
| 31 | 19·7840 | ·050546 | 100·16 | 2·35979 | 46·6862 | ·009984 | ·42377 | ·021420 |
| 32 | 19·5486 | ·051155 | 98·06 | 2·32221 | 45·3959 | ·010198 | ·43062 | ·022028 |
| 33 | 19·3078 | ·051792 | 95·90 | 2·28501 | 44·1185 | ·010428 | ·43764 | ·022666 |
| 34 | 19·0618 | ·052461 | 93·69 | 2·24819 | 42·8547 | ·010674 | ·44480 | ·023335 |
| 35 | 18·8105 | ·053162 | 91·43 | 2·21180 | 41·6049 | ·010937 | ·45212 | ·024036 |
| 36 | 18·5538 | ·053897 | 89·14 | 2·17582 | 40·3697 | ·011218 | ·45960 | ·024771 |
| 37 | 18·2918 | ·054669 | 86·74 | 2·14027 | 39·1494 | ·011528 | ·46723 | ·025543 |
| 38 | 18·0245 | ·055480 | 84·35 | 2·10521 | 37·9454 | ·011855 | ·47501 | ·026354 |
| 39 | 17·7521 | ·056331 | 81·91 | 2·07061 | 36·7576 | ·012209 | ·48295 | ·027205 |
| 40 | 17·4744 | ·057227 | 79·41 | 2·03650 | 35·5866 | ·012593 | ·49104 | ·028100 |
| 41 | 17·1916 | ·058168 | 76·92 | 2·00291 | 34·4331 | ·013001 | ·49927 | ·029042 |
| 42 | 16·9037 | ·059159 | 74·40 | 1·96983 | 33·2973 | ·013441 | ·50766 | ·030032 |
| 43 | 16·6108 | ·060202 | 71·84 | 1·93726 | 32·1795 | ·013920 | ·51619 | ·031076 |
| 44 | 16·3129 | ·061301 | 69·33 | 1·90525 | 31·0803 | ·014424 | ·52486 | ·032175 |
| 45 | 16·0102 | ·062460 | 66·80 | 1·87377 | 29·9994 | ·014970 | ·53368 | ·033334 |
| 46 | 15·7026 | ·063684 | 64·31 | 1·84284 | 28·9374 | ·015551 | ·54264 | ·034557 |
| 47 | 15·3902 | ·064976 | 61·82 | 1·81244 | 27·8939 | ·016175 | ·55174 | ·035850 |
| 48 | 15·0730 | ·066344 | 59·39 | 1·78260 | 26·8692 | ·016839 | ·56098 | ·037217 |
| 49 | 14·7511 | ·067792 | 57·00 | 1·75329 | 25·8629 | ·017545 | ·57036 | ·038665 |

## YEARLY TABLE:—MALES. Interest 3 per Cent.

VALUES OF ANNUITIES. SINGLE and ANNUAL PREMIUMS, which insure £1 on the LIFE of a MALE.

| **Age** | **Present** value of an **Annuity** of £1 (first payment at the age $x$). | **Annuity** (first payment at age $x$) which £1 will purchase. | Sum which **One Premium** of £1 will insure over **One Year.** | Sum which **One Premium** of £1 will insure over the **Whole Term of Life.** | Sum which an **Annual Premium** of £1 will insure over the **Whole Term of Life.** | **Single Premium** which will insure £1 over **One Year.** | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Annual Premium** which will insure £1 over the **Whole Term of Life.** |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $\frac{D_x}{C_x}$ | $\frac{D_x}{M_x} = \Sigma_x$ | $\frac{N_x}{M_x} = s_x$ | $\frac{C_x}{D_x}$ | $\frac{M_x}{D_x} = \Pi_x$ | $\frac{M_x}{N_x} = \pi_x$ |
| | £ | £ | £ | £ | £ | £ | £ | £ |
| 50 | 14·4242 | ·069328 | 54·66 | 1·72451 | 24·8747 | ·018296 | ·57987 | ·040201 |
| 51 | 14·0925 | ·070960 | 50·95 | 1·69625 | 23·9045 | ·019628 | ·58954 | ·041833 |
| 52 | 13·7636 | ·072655 | 48·53 | 1·66912 | 22·9731 | ·020604 | ·59912 | ·043529 |
| 53 | 13·4315 | ·074452 | 46·27 | 1·64260 | 22·0627 | ·021613 | ·60879 | ·045325 |
| 54 | 13·0960 | ·076359 | 44·08 | 1·61665 | 21·1717 | ·022684 | ·61856 | ·047233 |
| 55 | 12·7570 | ·078388 | 41·96 | 1·59125 | 20·2995 | ·023834 | ·62844 | ·049262 |
| 56 | 12·4145 | ·080551 | 39·86 | 1·56638 | 19·4458 | ·025085 | ·63841 | ·051425 |
| 57 | 12·0687 | ·082859 | 37·78 | 1·54205 | 18·6106 | ·026467 | ·64849 | ·053733 |
| 58 | 11·7203 | ·085322 | 35·73 | 1·51830 | 17·7949 | ·027990 | ·65863 | ·056196 |
| 59 | 11·3697 | ·087953 | 33·68 | 1·49511 | 16·9990 | ·029689 | ·66885 | ·058827 |
| 60 | 11·0176 | ·090764 | 31·68 | 1·47255 | 16·2240 | ·031567 | ·67910 | ·061637 |
| 61 | 10·6650 | ·093765 | 29·70 | 1·45060 | 15·4706 | ·033668 | ·68937 | ·064639 |
| 62 | 10·3125 | ·096969 | 27·78 | 1·42932 | 14·7399 | ·035995 | ·69963 | ·067843 |
| 63 | 9·9612 | ·100390 | 25·93 | 1·40872 | 14·0325 | ·038571 | ·70986 | ·071263 |
| 64 | 9·6119 | ·104037 | 24·14 | 1·38881 | 13·3492 | ·041431 | ·72004 | ·074911 |
| 65 | 9·2657 | ·107925 | 22·44 | 1·36963 | 12·6906 | ·044572 | ·73012 | ·078799 |
| 66 | 8·9233 | ·112066 | 20·82 | 1·35117 | 12·0570 | ·048026 | ·74010 | ·082939 |
| 67 | 8·5858 | ·116472 | 19·30 | 1·33345 | 11·4487 | ·051818 | ·74993 | ·087346 |
| 68 | 8·2539 | ·121155 | 17·87 | 1·31649 | 10·8661 | ·055947 | ·75960 | ·092029 |
| 69 | 7·9284 | ·126130 | 16·54 | 1·30026 | 10·3089 | ·060443 | ·76908 | ·097003 |
| 70 | 7·6100 | ·131407 | 15·31 | 1·28477 | 9·7770 | ·065322 | ·77835 | ·102281 |
| 71 | 7·2993 | ·136999 | 14·17 | 1·27001 | 9·2702 | ·070589 | ·78739 | ·107872 |
| 72 | 6·9971 | ·142917 | 13·11 | 1·25597 | 8·7881 | ·076261 | ·79620 | ·113790 |
| 73 | 6·7036 | ·149174 | 12·14 | 1·24262 | 8·3300 | ·082368 | ·80475 | ·120048 |
| 74 | 6·4193 | ·155780 | 11·25 | 1·22996 | 7·8955 | ·088910 | ·81303 | ·126655 |
| 75 | 6·1445 | ·162746 | 10·43 | 1·21798 | 7·4839 | ·095874 | ·82103 | ·133620 |
| 76 | 5·8795 | ·170082 | 9·68 | 1·20663 | 7·0944 | ·103323 | ·82876 | ·140957 |
| 77 | 5·6244 | ·177796 | 8·99 | 1·19592 | 6·7264 | ·111205 | ·83618 | ·148669 |
| 78 | 5·3793 | ·185897 | 8·36 | 1·18579 | 6·3788 | ·119571 | ·84332 | ·156770 |
| 79 | 5·1442 | ·194392 | 7·79 | 1·17625 | 6·0509 | ·128395 | ·85016 | ·165265 |
| 80 | 4·9192 | ·203287 | 7·26 | 1·16723 | 5·7418 | ·137715 | ·85673 | ·174161 |
| 81 | 4·7040 | ·212586 | 6·78 | 1·15876 | 5·4508 | ·147518 | ·86299 | ·183460 |
| 82 | 4·4986 | ·222294 | 6·34 | 1·15081 | 5·1770 | ·157754 | ·86896 | ·193163 |
| 83 | 4·3027 | ·232412 | 5·94 | 1·14328 | 4·9192 | ·168488 | ·87467 | ·203285 |
| 84 | 4·1162 | ·242941 | 5·56 | 1·13619 | 4·6768 | ·179731 | ·88013 | ·213820 |
| 85 | 3·9388 | ·253881 | 5·22 | 1·12957 | 4·4492 | ·191452 | ·88529 | ·224759 |
| 86 | 3·7703 | ·265228 | 4·91 | 1·12341 | 4·2357 | ·203497 | ·89014 | ·236091 |
| 87 | 3·6104 | ·276978 | 4·63 | 1·11750 | 4·0346 | ·216137 | ·89486 | ·247856 |
| 88 | 3·4587 | ·289127 | 4·36 | 1·11200 | 3·8461 | ·229169 | ·89928 | ·260007 |
| 89 | 3·3149 | ·301664 | 4·12 | 1·10682 | 3·6691 | ·242731 | ·90349 | ·272550 |
| 90 | 3·1788 | ·314582 | 3·90 | 1·10215 | 3·5035 | ·256441 | ·90732 | ·285426 |
| 91 | 3·0500 | ·327870 | 3·69 | 1·09753 | 3·3475 | ·270796 | ·91114 | ·298734 |
| 92 | 2·9281 | ·341515 | 3·50 | 1·09332 | 3·2014 | ·285389 | ·91464 | ·312364 |
| 93 | 2·8129 | ·355500 | 3·33 | 1·08929 | 3·0641 | ·300452 | ·91803 | ·326359 |
| 94 | 2·7042 | ·369799 | 3·17 | 1·08564 | 2·9358 | ·315496 | ·92112 | ·340628 |
| 95 | 2·6014 | ·384413 | 3·01 | 1·08175 | 2·8140 | ·332313 | ·92443 | ·355363 |
| 96 | 2·5043 | ·399312 | 2·88 | 1·07991 | 2·7044 | ·346988 | ·92600 | ·369763 |
| 97 | 2·4126 | ·414484 | 2·75 | 1·07661 | 2·5975 | ·363877 | ·92884 | ·384989 |
| 98 | 2·3261 | ·429907 | 2·64 | 1·07526 | 2·5011 | ·378997 | ·93001 | ·399816 |
| 99 | 2·2444 | ·445561 | 2·51 | 1·07248 | 2·4070 | ·398269 | ·93242 | ·415450 |
| 100 | 2·1671 | ·461456 | 2·48 | 1·07451 | 2·3285 | ·404030 | ·93066 | ·429458 |

## YEARLY TABLE:—MALES. Interest 3 per Cent.

**A Table** deduced from the **English Life Table, No. 3.**, for determining the **Value of Annuities, Assurances, &c.** on the whole of a stationary Population—or on the Part of the Population of the Age $x$ and upwards.

| **Age** ($x$) | $\frac{1}{100} \cdot v^x . Q_x = Q'_x$ | $\Sigma Q'_x = Z_x$ | $\frac{Z_{x+1}}{Q'_x} = A'_x$ | $\lambda\left(\frac{1}{100} Q_x\right) + \lambda v^x = \lambda Q'_x$ | $\lambda Z_x$ | $\lambda Z_{x+1} - \lambda Q'_x = \lambda A'_x$ | **Age** ($x$) |
|---|---|---|---|---|---|---|---|
| 0 | 204,261 | 3,790,804 | 17·559 | 5·3101863 | 6·5787314 | 1·2444897 | 0 |
| 1 | 193,877 | 3,586,543 | 17·499 | 5·2875260 | 6·5546760 | 1·2430152 | 1 |
| 2 | 184,347 | 3,392,666 | 17·404 | 5·2656349 | 6·5305412 | 1·2406427 | 2 |
| 3 | 175,387 | 3,208,319 | 17·293 | 5·2439978 | 6·5062776 | 1·2378649 | 3 |
| 4 | 166,891 | 3,032,932 | 17·173 | 5·2224325 | 6·4818627 | 1·2348499 | 4 |
| 5 | 158,808 | 2,866,041 | 17·047 | 5·2008736 | 6·4572824 | 1·2316520 | 5 |
| 6 | 151,104 | 2,707,233 | 16·916 | 5·1792753 | 6·4325256 | 1·2283074 | 6 |
| 7 | 143,749 | 2,556,129 | 16·782 | 5·1576055 | 6·4075827 | 1·2248402 | 7 |
| 8 | 136,723 | 2,412,380 | 16·644 | 5·1358426 | 6·3824457 | 1·2212642 | 8 |
| 9 | 130,008 | 2,275,657 | 16·504 | 5·1139695 | 6·3571068 | 1·2175892 | 9 |
| 10 | 123,586 | 2,145,649 | 16·362 | 5·0919698 | 6·3315587 | 1·2138248 | 10 |
| 11 | 117,444 | 2,022,063 | 16·217 | 5·0698290 | 6·3057946 | 1·2099792 | 11 |
| 12 | 111,567 | 1,904,619 | 16·072 | 5·0475359 | 6·2798082 | 1·2060570 | 12 |
| 13 | 105,945 | 1,793,052 | 15·924 | 5·0250800 | 6·2535929 | 1·2020626 | 13 |
| 14 | 100,566 | 1,687,107 | 15·776 | 5·0024530 | 6·2271426 | 1·1979983 | 14 |
| 15 | 95,422 | 1,586,541 | 15·627 | 4·9796483 | 6·2004513 | 1·1938640 | 15 |
| 16 | 90,503 | 1,491,119 | 15·476 | 4·9566610 | 6·1735123 | 1·1896581 | 16 |
| 17 | 85,800 | 1,400,616 | 15·324 | 4·9334878 | 6·1463191 | 1·1853772 | 17 |
| 18 | 81,307 | 1,314,816 | 15·171 | 4·9101257 | 6·1188650 | 1·1810167 | 18 |
| 19 | 77,015 | 1,233,509 | 15·017 | 4·8865731 | 6·0911424 | 1·1765703 | 19 |
| 20 | 72,917 | 1,156,494 | 14·860 | 4·8628301 | 6·0631434 | 1·1720297 | 20 |
| 21 | 69,008 | 1,083,577 | 14·702 | 4·8388964 | 6·0348598 | 1·1673853 | 21 |
| 22 | 65,278 | 1,014,569 | 14·542 | 4·8147684 | 6·0062817 | 1·1626310 | 22 |
| 23 | 61,722 | 949,291 | 14·380 | 4·7904392 | 5·9773994 | 1·1577629 | 23 |
| 24 | 58,331 | 887,569 | 14·216 | 4·7659024 | 5·9482021 | 1·1527768 | 24 |
| 25 | 55,100 | 829,238 | 14·050 | 4·7411502 | 5·9186792 | 1·1476682 | 25 |
| 26 | 52,021 | 774,138 | 13·881 | 4·7161747 | 5·8888184 | 1·1424329 | 26 |
| 27 | 49,087 | 722,117 | 13·711 | 4·6909668 | 5·8586076 | 1·1370676 | 27 |
| 28 | 46,293 | 673,030 | 13·538 | 4·6655186 | 5·8280344 | 1·1315667 | 28 |
| 29 | 43,633 | 626,737 | 13·364 | 4·6398193 | 5·7970853 | 1·1259267 | 29 |
| 30 | 41,102 | 583,104 | 13·187 | 4·6138589 | 5·7657460 | 1·1201420 | 30 |
| 31 | 38,693 | 542,002 | 13·008 | 4·5876268 | 5·7340009 | 1·1142079 | 31 |
| 32 | 36,401 | 503,309 | 12·827 | 4·5611114 | 5·7018347 | 1·1081199 | 32 |
| 33 | 34,222 | 466,908 | 12·644 | 4·5343002 | 5·6692313 | 1·1018727 | 33 |
| 34 | 32,150 | 432,686 | 12·458 | 4·5071803 | 5·6361729 | 1·0954613 | 34 |
| 35 | 30,181 | 400,536 | 12·271 | 4·4797379 | 5·6026416 | 1·0888803 | 35 |
| 36 | 28,311 | 370,355 | 12·082 | 4·4519582 | 5·5686182 | 1·0821238 | 36 |
| 37 | 26,535 | 342,044 | 11·890 | 4·4238257 | 5·5340820 | 1·0751860 | 37 |
| 38 | 24,850 | 315,509 | 11·697 | 4·3953239 | 5·4990117 | 1·0680599 | 38 |
| 39 | 23,251 | 290,659 | 11·501 | 4·3664353 | 5·4633838 | 1·0607391 | 39 |
| 40 | 21,734 | 267,408 | 11·304 | 4·3371409 | 5·4271744 | 1·0532183 | 40 |
| 41 | 20,296 | 245,674 | 11·104 | 4·3074210 | 5·3903592 | 1·0454905 | 41 |
| 42 | 18,935 | 225,378 | 10·903 | 4·2772544 | 5·3529115 | 1·0375458 | 42 |
| 43 | 17,645 | 206,443 | 10·700 | 4·2466181 | 5·3148002 | 1·0293793 | 43 |
| 44 | 16,424 | 188,798 | 10·495 | 4·2154881 | 5·2759974 | 1·0209837 | 44 |
| 45 | 15,270 | 172,374 | 10·288 | 4·1838385 | 5·2364718 | 1·0123487 | 45 |
| 46 | 14,179 | 157,104 | 10·080 | 4·1516413 | 5·1961872 | 1·0034669 | 46 |
| 47 | 13,148 | 142,925 | 9·870 | 4·1188662 | 5·1551082 | 0·9943316 | 47 |
| 48 | 12,175 | 129,777 | 9·659 | 4·0854813 | 5·1131978 | 0·9849334 | 48 |
| 49 | 11,258 | 117,602 | 9·446 | 4·0514514 | 5·0704147 | 0·9752617 | 49 |
| 50 | 10,393 | 106,344 | 9·232 | 4·0167386 | 5·0267131 | 0·9653109 | 50 |
| 51 | 9,579 | 95,951 | 9·017 | 3·9813013 | 4·9820495 | 0·9550717 | 51 |
| 52 | 8,813 | 86.372 | 8·801 | 3·9451010 | 4·9363730 | 0·9445312 | 52 |
| 53 | 8,093 | 77,559 | 8·584 | 3·9080981 | 4·8896322 | 0·9336742 | 53 |
| 54 | 7,417 | 69,466 | 8·365 | 3·8702436 | 4·8417723 | 0·9224912 | 54 |

## YEARLY TABLE:—MALES. Interest 3 per Cent.

**A Table** deduced from the **English Life Table, No. 3.,** for determining the **Value of Annuities, Assurances, &c.** on the whole of a stationary Population—or on the Part of the Population of the Age $x$ and upwards.

| Age ($x$) | $\frac{1}{100} \cdot v^x . Q_x = Q'_x$ | $\Sigma Q'_x = Z_x$ | $\frac{Z + 1}{Q'_x} = \Lambda'_x$ | $\lambda\left(\frac{1}{100} Q_x\right) + \lambda v^x = \lambda Q'_x$ | $\lambda Z_x$ | $\lambda Z_{x+1} - \lambda Q'_x = \lambda \Lambda'_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 55 | 6,784 | 62,049 | 8·146 | 3·8314831 | 4·7927348 | 0·9109671 | 55 |
| 56 | 6,191 | 55,265 | 7·927 | 3·7917574 | 4·7424502 | 0·8990941 | 56 |
| 57 | 5,636 | 49,074 | 7·707 | 3·7510021 | 4·6908515 | 0·8868677 | 57 |
| 58 | 5,119 | 43,438 | 7·486 | 3·7091466 | 4·6378698 | 0·8742676 | 58 |
| 59 | 4,636 | 38,319 | 7·266 | 3·6661148 | 4·5834142 | 0·8612960 | 59 |
| 60 | 4,186 | 33,683 | 7·046 | 3·6218249 | 4·5274108 | 0·8479529 | 60 |
| 61 | 3,769 | 29,497 | 6·827 | 3·5761883 | 4·4697778 | 0·8342177 | 61 |
| 62 | 3,382 | 25,728 | 6·608 | 3·5291100 | 4·4104060 | 0·8200898 | 62 |
| 63 | 3,023 | 22,346 | 6·391 | 3·4804880 | 4·3491998 | 0·8055866 | 63 |
| 64 | 2,693 | 19,323 | 6·176 | 3·4302134 | 4·2860746 | 0·7906788 | 64 |
| 65 | 2,389 | 16,630 | 5·962 | 3·3781699 | 4·2208922 | 0·7753706 | 65 |
| 66 | 2,110 | 14,241 | 5·750 | 3·3242327 | 4·1535405 | 0·7596639 | 66 |
| 67 | 1,855 | 12,131 | 5·541 | 3·2682700 | 4·0838966 | 0·7435541 | 67 |
| 68 | 1,622 | 10,276 | 5·334 | 3·2101411 | 4·0118241 | 0·7270758 | 68 |
| 69 | 1,412 | 8,654 | 5·131 | 3·1496969 | 3·9372169 | 0·7101616 | 69 |
| 70 | 1,221 | 7,242 | 4·930 | 3·0867795 | 3·8598585 | 0·6928891 | 70 |
| 71 | 1,050 | 6,021 | 4·734 | 3·0212210 | 3·7796686 | 0·6752228 | 71 |
| 72 | 897 | 4,971 | 4·541 | 2·9528451 | 3·6964438 | 0·6571759 | 72 |
| 73 | 761 | 4,074 | 4·353 | 2·8814648 | 3·6100210 | 0·6387566 | 73 |
| 74 | 641 | 3,313 | 4·168 | 2·8068838 | 3·5202214 | 0·6199527 | 74 |
| 75 | 536 | 2,672 | 3·988 | 2·7288951 | 3·4268365 | 0·6007061 | 75 |
| 76 | 444 | 2,136 | 3·812 | 2·6472819 | 3·3296012 | 0·5811185 | 76 |
| 77 | 365 | 1,692 | 3·640 | 2·5618159 | 3·2284004 | 0·5610550 | 77 |
| 78 | 297 | 1,327 | 3·472 | 2·4722580 | 3·1228709 | 0·5405792 | 78 |
| 79 | 239 | 1,030 | 3·310 | 2·3783592 | 3·0128372 | 0·5198173 | 79 |
| 80 | 190 | 791 | 3·155 | 2·2798586 | 2·8981765 | 0·4990159 | 80 |
| 81 | 150 | 601 | 3·004 | 2·1764827 | 2·7788745 | 0·4776938 | 81 |
| 82 | 117 | 451 | 2·856 | 2·0679478 | 2·6541765 | 0·4557987 | 82 |
| 83 | 90 | 334 | 2·713 | 1·9539589 | 2·5237465 | 0·4334309 | 83 |
| 84 | 68 | 244 | 2·578 | 1·8342087 | 2·3873898 | 0·4113040 | 84 |
| 85 | 51 | 176 | 2·446 | 1·7083832 | 2·2455127 | 0·3885268 | 85 |
| 86 | 38 | 125 | 2·309 | 1·5761438 | 2·0969100 | 0·3633755 | 86 |
| 87 | 27 | 87 | 2·193 | 1·4371537 | 1·9395193 | 0·3409976 | 87 |
| 88 | 20 | 60 | 2·046 | 1·2910554 | 1·7781513 | 0·3110046 | 88 |
| 89 | 14 | 40 | 1·894 | 1·1374960 | 1·6020600 | 0·2774773 | 89 |
| 90 | 9 | 26 | 1·796 | 0·9760760 | 1·4149733 | 0·2543729 | 90 |
| 91 | 6 | 17 | 1·718 | 0·8064164 | 1·2304489 | 0·2349763 | 91 |
| 92 | 4 | 11 | 1·648 | 0·6281308 | 1·0413927 | 0·2169672 | 92 |
| 93 | 3 | 7 | 1·450 | 0·4408169 | 0·8450980 | 0·1612431 | 93 |
| 94 | 2 | 4 | 1·140 | 0·2440118 | 0·6020600 | 0·0570182 | 94 |
| 95 | 1 | 2 | ·918 | 0·0371814 | 0·3010300 | $\bar{1}$·9628186 | 95 |
| 96 | 1 | 1 | ... | $\bar{1}$·8199355 | 0·0000000 | ... | 96 |
| 97 | ... | ... | ... | $\bar{1}$·5917459 | ... | ... | 97 |
| 98 | ... | ... | ... | $\bar{1}$·3526122 | ... | ... | 98 |
| 99 | ... | ... | ... | $\bar{1}$·1020268 | ... | ... | 99 |
| 100 | ... | ... | ... | $\bar{2}$·8401291 | ... | ... | 100 |

**Note.**—The first and second columns in this Table correspond in the nature of their construction and relations with the columns D and N in the previous Tables for calculating Life Annuities. The numbers in the first column are obtained by multiplying the numbers in the column Q of the Life Table by the successive powers of $v = \frac{1}{1·03}$ (when the interest of money is 3 per cent.), and dividing by 100. The division by 100 is equivalent to cutting off 2 figures, which is done merely for the sake of convenience, as the Table in its present form is sufficiently extensive for all the purposes to which it can be applied. The $v$ varies with the interest of money.

## YEARLY TABLE:—MALES. Interest $3\frac{1}{4}$ per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 511,745 | 9,344,096 | 6·9705373 | 55 | 36,084 | 450,680 | 5·6538683 |
| 1 | 414,553 | 8,832,351 | 6·9460764 | 56 | 34,090 | 414,596 | 5·6176251 |
| 2 | 375,688 | 8,417,798 | 6·9251985 | 57 | 32,164 | 380,506 | 5·5803615 |
| 3 | 350,948 | 8,042,110 | 6·9053700 | 58 | 30,302 | 348,342 | 5·5420058 |
| 4 | 331,795 | 7,691,162 | 6·8859920 | 59 | 28,502 | 318,040 | 5·5024817 |
| 5 | 315,625 | 7,359,367 | 6·8668404 | 60 | 26,761 | 289,538 | 5·4617056 |
| 6 | 301,535 | 7,043,742 | 6·8478034 | 61 | 25,076 | 262,777 | 5·4195874 |
| 7 | 288,884 | 6,742,207 | 6·8288021 | 62 | 23,444 | 237,701 | 5·3760310 |
| 8 | 277,228 | 6,453,323 | 6·8097834 | 63 | 21,865 | 214,257 | 5·3309350 |
| 9 | 266,452 | 6,176,095 | 6·7907140 | 64 | 20,335 | 192,392 | 5·2841870 |
| 10 | 256,397 | 5,909,643 | 6·7715612 | 65 | 18,855 | 172,057 | 5·2356723 |
| 11 | 246,931 | 5,653,246 | 6·7522979 | 66 | 17,423 | 153,202 | 5·1852645 |
| 12 | 237,948 | 5,406,315 | 6·7329013 | 67 | 16,040 | 135,779 | 5·1328326 |
| 13 | 229,360 | 5,168,367 | 6·7133533 | 68 | 14,706 | 119,739 | 5·0782357 |
| 14 | 221,094 | 4,939,007 | 6·6936396 | 69 | 13,422 | 105,033 | 5·0213258 |
| 15 | 213,095 | 4,717,913 | 6·6737499 | 70 | 12,190 | 91,611 | 4·9619476 |
| 16 | 205,320 | 4,504,818 | 6·6536773 | 71 | 11,012 | 79,421 | 4·8999354 |
| 17 | 197,738 | 4,299,498 | 6·6334178 | 72 | 9,890·0 | 68,408·7 | 4·8351113 |
| 18 | 190,326 | 4,101,760 | 6·6129703 | 73 | 8,826·2 | 58,518·7 | 4·7672947 |
| 19 | 183,071 | 3,911,434 | 6·5923359 | 74 | 7,823·2 | 49,692·5 | 4·6962909 |
| 20 | 175,968 | 3,728,363 | 6·5715183 | 75 | 6,883·1 | 41,869·3 | 4·6218957 |
| 21 | 169,018 | 3,552,395 | 6·5505213 | 76 | 6,008·1 | 34,986·2 | 4·5438968 |
| 22 | 162,311 | 3,383,377 | 6·5293504 | 77 | 5,199·7 | 28,978·1 | 4·4620699 |
| 23 | 155,843 | 3,221,066 | 6·5079996 | 78 | 4,459·2 | 23,778·4 | 4·3761826 |
| 24 | 149,607 | 3,065,223 | 6·4864620 | 79 | 3,787·0 | 19,319·2 | 4·2859891 |
| 25 | 143,595 | 2,915,616 | 6·4647303 | 80 | 3,182·7 | 15,532·2 | 4·1912330 |
| 26 | 137,801 | 2,772,021 | 6·4427965 | 81 | 2,645·3 | 12,349·5 | 4·0916495 |
| 27 | 132,218 | 2,634,220 | 6·4206520 | 82 | 2,172·8 | 9,704·2 | 3·9869597 |
| 28 | 126,839 | 2,502,002 | 6·3982877 | 83 | 1,762·4 | 7,531·4 | 3·8768757 |
| 29 | 121,656 | 2,375,163 | 6·3756935 | 84 | 1,410·7 | 5,769·0 | 3·7611005 |
| 30 | 116,663 | 2,253,507 | 6·3528589 | 85 | 1,113·3 | 4,358·3 | 3·6393171 |
| 31 | 111,853 | 2,136,844 | 6·3297728 | 86 | 865·72 | 3,245·01 | 3·5112160 |
| 32 | 107,218 | 2,024,991 | 6·3064231 | 87 | 662·68 | 2,379·29 | 3·3764474 |
| 33 | 102,752 | 1,917,773 | 6·2827972 | 88 | 498·93 | 1,716·61 | 3·2346716 |
| 34 | 98,449 | 1,815,021 | 6·2588816 | 89 | 369·16 | 1,217·68 | 3·0855332 |
| 35 | 94,302 | 1,716,572 | 6·2346620 | 90 | 268·19 | 848·52 | 2·9286621 |
| 36 | 90,305 | 1,622,270 | 6·2101232 | 91 | 191·12 | 580·33 | 2·7636750 |
| 37 | 86,451 | 1,531,965 | 6·1852488 | 92 | 133·48 | 389·21 | 2·5901840 |
| 38 | 82,736 | 1,445,514 | 6·1600223 | 93 | 91·272 | 255·728 | 2·4077783 |
| 39 | 79,153 | 1,362,778 | 6·1344251 | 94 | 61·045 | 164·456 | 2·2160497 |
| 40 | 75,698 | 1,283,625 | 6·1084382 | 95 | 39·894 | 103·411 | 2·0145667 |
| 41 | 72,364 | 1,207,927 | 6·0820407 | 96 | 25·448 | 63·517 | 1·8028900 |
| 42 | 69,148 | 1,135,563 | 6·0552113 | 97 | 15·829 | 38·069 | 1·5805715 |
| 43 | 66,044 | 1,066,415 | 6·0279263 | 98 | 9·5896 | 22·2401 | 1·3471368 |
| 44 | 63,048 | 1,000,371 | 6·0001610 | 99 | 5·6524 | 12·6505 | 1·1021077 |
| 45 | 60,156 | 937,323 | 5·9718893 | 100 | 3·2379 | 6·9981 | 0·8449801 |
| 46 | 57,364 | 877,167 | 5·9430823 | 101 | 1·8004 | 3·7602 | 0·5752109 |
| 47 | 54,669 | 819,803 | 5·9137095 | 102 | ·9706 | 1·9598 | 0·2922118 |
| 48 | 52,066 | 765,134 | 5·8837375 | 103 | ·5067 | ·9892 | $\bar{1}$·9952841 |
| 49 | 49,553 | 713,068 | 5·8531310 | 104 | ·2559 | ·4825 | $\bar{1}$·6834973 |
| 50 | 47,126 | 663,515 | 5·8218508 | 105 | ·1248 | ·2266 | $\bar{1}$·3552599 |
| 51 | 44,782 | 616,389 | 5·7898549 | 106 | ·0587 | ·1018 | $\bar{1}$·0077478 |
| 52 | 42,495 | 571,607 | 5·7570975 | 107 | ·0266 | ·0431 | $\bar{2}$·6344773 |
| 53 | 40,284 | 529,112 | 5·7235476 | 108 | ·0116 | ·0165 | $\bar{2}$·2174839 |
| 54 | 38,148 | 488,828 | 5·6891561 | 109 | ·0049 | ·0049 | $\bar{3}$·6901961 |

YEARLY TABLE:—MALES. Interest 3½ per Cent.

| Age $(x)$ | $D_x$ | $N_x$ | $\lambda N_x$ | Age $(x)$ | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 511,745 | 9,200,561 | 6·9638143 | 55 | 34,518 | 428,119 | 5·6315645 |
| 1 | 414,219 | 8,688,816 | 6·9389606 | 56 | 32,584 | 393,601 | 5·5950562 |
| 2 | 375,083 | 8,274,597 | 6·9177469 | 57 | 30,718 | 361,017 | 5·5575277 |
| 3 | 350,100 | 7,899,514 | 6·8976004 | 58 | 28.917 | 330,299 | 5·5189073 |
| 4 | 330,726 | 7,549,414 | 6·8779132 | 59 | 27,177 | 301,382 | 5·4791173 |
| 5 | 314,354 | 7,218,688 | 6·8584583 | 60 | 25,496 | 274,205 | 5·4380754 |
| 6 | 300,079 | 6,904,334 | 6·8391219 | 61 | 23,872 | 248,709 | 5·3956915 |
| 7 | 287,257 | 6,604,255 | 6·8198238 | 62 | 22,301 | 224,837 | 5·3518678 |
| 8 | 275,445 | 6,316,998 | 6·8005108 | 63 | 20,781 | 202,536 | 5·3065022 |
| 9 | 264,524 | 6,041,553 | 6·7811486 | 64 | 19.312 | 181,755 | 5·2594864 |
| 10 | 254,336 | 5,777,029 | 6·7617046 | 65 | 17,891 | 162,443 | 5·2107010 |
| 11 | 244.750 | 5,522,693 | 6·7421509 | 66 | 16,519 | 144,552 | 5·1600241 |
| 12 | 235,656 | 5,277,943 | 6·7224648 | 67 | 15,195 | 128,033 | 5·1073219 |
| 13 | 226,967 | 5,042,287 | 6·7026276 | 68 | 13,920 | 112,838 | 5·0524554 |
| 14 | 218,611 | 4,815,320 | 6·6826251 | 69 | 12,695 | 98,918 | 4·9952753 |
| 15 | 210,532 | 4,596,709 | 6·6624471 | 70 | 11,521 | 86,223 | 4·9356231 |
| 16 | 202,687 | 4,386,177 | 6·6420861 | 71 | 10,399 | 74,702 | 4·8733322 |
| 17 | 195,044 | 4,183,490 | 6·6215388 | 72 | 9,331·9 | 64,302·8 | 4·8082299 |
| 18 | 187,582 | 3,988,446 | 6·6008038 | 73 | 8,321·4 | 54,970·9 | 4·7401328 |
| 19 | 180,286 | 3,800,864 | 6·5798823 | 74 | 7,369·8 | 46,649·5 | 4·6688470 |
| 20 | 173,152 | 3,620,578 | 6·5587779 | 75 | 6,479·0 | 39,279·7 | 4·5941682 |
| 21 | 166,178 | 3,447,426 | 6·5374950 | 76 | 5,650·7 | 32,800·7 | 4·5158831 |
| 22 | 159,456 | 3,281,248 | 6·5160391 | 77 | 4,886·5 | 27,150·0 | 4·4337698 |
| 23 | 152,978 | 3,121,792 | 6·4944040 | 78 | 4,187·3 | 22,263·5 | 4·3475935 |
| 24 | 146,738 | 2,968,814 | 6·4725830 | 79 | 3,553·1 | 18,076·2 | 4·2571071 |
| 25 | 140,728 | 2,822,076 | 6·4505687 | 80 | 2,983·8 | 14,523·1 | 4·1620593 |
| 26 | 134,941 | 2,681,348 | 6·4283532 | 81 | 2,477·9 | 11,539·3 | 4·0621795 |
| 27 | 129,369 | 2,546,407 | 6·4059278 | 82 | 2,033·7 | 9,061·4 | 3·9571953 |
| 28 | 124,006 | 2,417,038 | 6·3832835 | 83 | 1,648·3 | 7,027·7 | 3·8468132 |
| 29 | 118,843 | 2,293,032 | 6·3604102 | 84 | 1,318·2 | 5,379·4 | 3·7307338 |
| 30 | 113,873 | 2,174,189 | 6·3372973 | 85 | 1,039·6 | 4,061·2 | 3·6086544 |
| 31 | 109,090 | 2,060,316 | 6·3139339 | 86 | 807·69 | 3,021·64 | 3·4802427 |
| 32 | 104,485 | 1,951,226 | 6·2903075 | 87 | 617·76 | 2,213·95 | 3·3451678 |
| 33 | 100,053 | 1,846,741 | 6·2664059 | 88 | 464·74 | 1,596·19 | 3·2030846 |
| 34 | 95,785 | 1,746,688 | 6·2422153 | 89 | 343·59 | 1,131·45 | 3·0536355 |
| 35 | 91,676 | 1,650,903 | 6·2177216 | 90 | 249·41 | 787·86 | 2·8964491 |
| 36 | 87,720 | 1,559,227 | 6·1929094 | 91 | 177·59 | 538·45 | 2·7311454 |
| 37 | 83,909 | 1,471,507 | 6·1677624 | 92 | 123·93 | 360·86 | 2·5573387 |
| 38 | 80,238 | 1,387,598 | 6·1422637 | 93 | 84·674 | 236·928 | 2·3746164 |
| 39 | 76,702 | 1,307,360 | 6·1163952 | 94 | 56·586 | 152·254 | 2·1825687 |
| 40 | 73,294 | 1,230,658 | 6·0901374 | 95 | 36·950 | 95·668 | 1·9807667 |
| 41 | 70.010 | 1,157,364 | 6·0634700 | 96 | 23·552 | 58·718 | 1·7687713 |
| 42 | 66,844 | 1,087.354 | 6·0363710 | 97 | 14·637 | 35·166 | 1·5461230 |
| 43 | 63,792 | 1,020.510 | 6·0088173 | 98 | 8·8606 | 20·5293 | 1·3123741 |
| 44 | 60,849 | 956,718 | 5·9807840 | 99 | 5·2185 | 11·6687 | 1·0670225 |
| 45 | 58.012 | 895,869 | 5·9522445 | 100 | 2·9869 | 6·4502 | 0·8095732 |
| 46 | 55.275 | 837,857 | 5·9231699 | 101 | 1·6595 | 3·4633 | 0·5394901 |
| 47 | 52,635 | 782,582 | 5·8935298 | 102 | ·8940 | 1·8038 | 0·2561884 |
| 48 | 50,088 | 729,947 | 5·8632913 | 103 | ·4663 | ·9098 | $\bar{1}$·9589459 |
| 49 | 47,632 | 679,859 | 5·8324189 | 104 | ·2353 | ·4435 | $\bar{1}$·6468936 |
| 50 | 45,262 | 632,227 | 5·8008730 | 105 | ·1147 | ·2082 | $\bar{1}$·3184807 |
| 51 | 42,977 | 586,965 | 5·7686122 | 106 | ·0539 | ·0935 | $\bar{2}$·9708116 |
| 52 | 40.750 | 543,988 | 5·7355893 | 107 | ·0244 | ·0396 | $\bar{2}$·5976952 |
| 53 | 38,598 | 503,238 | 5·7017735 | 108 | ·0107 | ·0152 | $\bar{2}$·1818436 |
| 54 | 36,521 | 464,640 | 5·6671166 | 109 | ·0045 | ·0045 | $\bar{3}$·6532125 |

## YEARLY TABLE:—MALES. Interest $3\frac{1}{2}$ per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 511,745 | 8,925,340 | 6·9506248 | 55 | 31,590 | 386,422 | 5·5870618 |
| 1 | 413,552 | 8,413,595 | 6·9249817 | 56 | 29,772 | 354,832 | 5·5500228 |
| 2 | 373,876 | 8,000,043 | 6·9030924 | 57 | 28,022 | 325,060 | 5·5119635 |
| 3 | 348,411 | 7,626,167 | 6·8823063 | 58 | 26,336 | 297,038 | 5·4728120 |
| 4 | 328,601 | 7,277,756 | 6·8619975 | 59 | 24,712 | 270,702 | 5·4324915 |
| 5 | 311,831 | 6,949,155 | 6·8419320 | 60 | 23,147 | 245,990 | 5·3909175 |
| 6 | 297,192 | 6,637,324 | 6·8219930 | 61 | 21,637 | 222,843 | 5·3479990 |
| 7 | 284,035 | 6,340,132 | 6·8020983 | 62 | 20,180 | 201,206 | 5·3036410 |
| 8 | 271,916 | 6,056,097 | 6·7821928 | 63 | 18,775 | 181,026 | 5·2577410 |
| 9 | 260,715 | 5,784,181 | 6·7622419 | 64 | 17,419 | 162,251 | 5·2101874 |
| 10 | 250,270 | 5,523,466 | 6·7422117 | 65 | 16,112 | 144,832 | 5·1608645 |
| 11 | 240,449 | 5,273,196 | 6·7220739 | 66 | 14,852 | 128,720 | 5·1096460 |
| 12 | 231,142 | 5,032,747 | 6·7018051 | 67 | 13,640 | 113,868 | 5·0564017 |
| 13 | 222,261 | 4,801,605 | 6·6813865 | 68 | 12,476 | 100,228 | 5·0009890 |
| 14 | 213,733 | 4,579,344 | 6·6608033 | 69 | 11,359 | 87,752 | 4·9432570 |
| 15 | 205,503 | 4,365,611 | 6·6400450 | 70 | 10,292 | 76,393 | 4·8830536 |
| 16 | 197,527 | 4,160,108 | 6·6191046 | 71 | 9,274·7 | 66,100·7 | 4·8202061 |
| 17 | 189,773 | 3,962,581 | 6·5979781 | 72 | 8,309·5 | 56,826·0 | 4·7545471 |
| 18 | 182,218 | 3,772,808 | 6·5766647 | 73 | 7,397·8 | 48,516·5 | 4·6858895 |
| 19 | 174,850 | 3,590,590 | 6·5551658 | 74 | 6,541·3 | 41,118·7 | 4·6140394 |
| 20 | 167,660 | 3,415,740 | 6·5334848 | 75 | 5,741·3 | 34,577·4 | 4·5387923 |
| 21 | 160,648 | 3,248,080 | 6·5116267 | 76 | 4,999·3 | 28,836·1 | 4·4599365 |
| 22 | 153,902 | 3,087,432 | 6·4895974 | 77 | 4,316·3 | 23,836·8 | 4·3772480 |
| 23 | 147,412 | 2,933,530 | 6·4673905 | 78 | 3,692·6 | 19,520·5 | 4·2904910 |
| 24 | 141,171 | 2,786,118 | 6·4449996 | 79 | 3,128·4 | 15,827·9 | 4·1994233 |
| 25 | 135,171 | 2,644,947 | 6·4224171 | 80 | 2,622·8 | 12,699·5 | 4·1037866 |
| 26 | 129,404 | 2,509,776 | 6·3996349 | 81 | 2,174·7 | 10,076·7 | 4·0033184 |
| 27 | 123,861 | 2,380,372 | 6·3766448 | 82 | 1,781.9 | 7,902·0 | 3·8977370 |
| 28 | 118,535 | 2,256,511 | 6·3534374 | 83 | 1,441·9 | 6,120·1 | 3·7867585 |
| 29 | 113,417 | 2,137,976 | 6·3300028 | 84 | 1,151·3 | 4,678·2 | 3·6700788 |
| 30 | 108,499 | 2,024,559 | 6·3063304 | 85 | 906·48 | 3,526·92 | 3·5473956 |
| 31 | 103,774 | 1,916,060 | 6·2824091 | 86 | 703·16 | 2,620·44 | 3·4183742 |
| 32 | 99,233 | 1,812,286 | 6·2582267 | 87 | 536·94 | 1,917·28 | 3·2826856 |
| 33 | 94,871 | 1,713,053 | 6·2337709 | 88 | 403·29 | 1,380·34 | 3·1399861 |
| 34 | 90,678 | 1,618,182 | 6·2090273 | 89 | 297.68 | 977·05 | 2·9899168 |
| 35 | 86,648 | 1,527,504 | 6·1839823 | 90 | 215·73 | 679·37 | 2·8321064 |
| 36 | 82,775 | 1,440,856 | 6·1586206 | 91 | 153·37 | 463·64 | 2·6661809 |
| 37 | 79,052 | 1,358,081 | 6·1329256 | 92 | 106·85 | 310·27 | 2·4917398 |
| 38 | 75,472 | 1,279,029 | 6·1068804 | 93 | 72·889 | 203·416 | 2·3083851 |
| 39 | 72,029 | 1,203,557 | 6·0804667 | 94 | 48·632 | 130·527 | 2·1157003 |
| 40 | 68,718 | 1,131,528 | 6·0536654 | 95 | 31·705 | 81·895 | 1·9132574 |
| 41 | 65,533 | 1,062,810 | 6·0264556 | 96 | 20·176 | 50·190 | 1·7006172 |
| 42 | 62,469 | 997,277 | 5·9988158 | 97 | 12·519 | 30·014 | 1·4773239 |
| 43 | 59,521 | 934,808 | 5·9707224 | 98 | 7·5661 | 17·4954 | 1·2429239 |
| 44 | 56,684 | 875,287 | 5·9421505 | 99 | 4·4489 | 9·9293 | 0·9969186 |
| 45 | 53,953 | 818,603 | 5·9130733 | 100 | 2·5423 | 5·4804 | 0·7388123 |
| 46 | 51,325 | 764,650 | 5·8834627 | 101 | 1·4102 | 2·9381 | 0·4680666 |
| 47 | 48,795 | 713,325 | 5·8532875 | 102 | ·7584 | 1·5279 | 0·1840949 |
| 48 | 46,360 | 664,530 | 5·8225146 | 103 | ·3950 | ·7695 | $\bar{1}$·8862086 |
| 49 | 44,015 | 618,170 | 5·7911079 | 104 | ·1990 | ·3745 | $\bar{1}$·5734518 |
| 50 | 41,758 | 574,155 | 5·7590292 | 105 | ·0968 | ·1755 | $\bar{1}$·2442771 |
| 51 | 39,586 | 532,397 | 5·7262356 | 106 | ·0455 | ·0787 | $\bar{2}$·8959747 |
| 52 | 37,474 | 492,811 | 5·6926804 | 107 | ·0206 | ·0332 | $\bar{2}$·5211381 |
| 53 | 35,438 | 455,337 | 5·6583330 | 108 | ·0089 | ·0126 | $\bar{2}$·1003705 |
| 54 | 33,477 | 419,899 | 5·6231449 | 109 | ·0037 | ·0037 | $\bar{3}$·5682017 |

## YEARLY TABLE:—MALES. Interest $3\frac{3}{4}$ per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 511,745 | 8,540,061 | 6·9314611 | 55 | 27,664 | 331,546 | 5·5205438 |
| 1 | 412,555 | 8,028,316 | 6·9046244 | 56 | 26,010 | 303,882 | 5·4827050 |
| 2 | 372,076 | 7,615,761 | 6·8817133 | 57 | 24,422 | 277,872 | 5·4438448 |
| 3 | 345,899 | 7,243,685 | 6·8599596 | 58 | 22,897 | 253,450 | 5·4038923 |
| 4 | 325,445 | 6,897,786 | 6·8387097 | 59 | 21,434 | 230,553 | 5·3627708 |
| 5 | 308,092 | 6,572,341 | 6·8177201 | 60 | 20,027 | 209,119 | 5·3203935 |
| 6 | 292,921 | 6,264,249 | 6·7968690 | 61 | 18,676 | 189,092 | 5·2766732 |
| 7 | 279,278 | 5,971,328 | 6·7760710 | 62 | 17,376 | 170,416 | 5·2315104 |
| 8 | 266,719 | 5,692,050 | 6·7552687 | 63 | 16,127 | 153,040 | 5·1848050 |
| 9 | 255,115 | 5,425,331 | 6·7344263 | 64 | 14,927 | 136,913 | 5·1364447 |
| 10 | 244,305 | 5,170,216 | 6·7135086 | 65 | 13,773 | 121,986 | 5·0863100 |
| 11 | 234,152 | 4,925,911 | 6·6924866 | 66 | 12,666 | 108,213 | 5·0342794 |
| 12 | 224,547 | 4,691,759 | 6·6713357 | 67 | 11,604 | 95,547 | 4·9802171 |
| 13 | 215,398 | 4,467,212 | 6·6500366 | 68 | 10,588 | 83,943 | 4·9239845 |
| 14 | 206,635 | 4,251,814 | 6·6285742 | 69 | 9,617·2 | 73,355·1 | 4·8654303 |
| 15 | 198,200 | 4,045,179 | 6·6069378 | 70 | 8,692·5 | 63,737·9 | 4·8043977 |
| 16 | 190,048 | 3,846,979 | 6·5851198 | 71 | 7,814·6 | 55,045·4 | 4·7407211 |
| 17 | 182,147 | 3,656,931 | 6·5631168 | 72 | 6,984·5 | 47,230·8 | 4·6742253 |
| 18 | 174,475 | 3,474,784 | 6·5409278 | 73 | 6,203·2 | 40,246·3 | 4·6047259 |
| 19 | 167,016 | 3,300,309 | 6·5185546 | 74 | 5,471·8 | 34,043·1 | 4·5320291 |
| 20 | 159,762 | 3,133,293 | 6·4960010 | 75 | 4,791·0 | 28,571·3 | 4·4559300 |
| 21 | 152,712 | 2,973,531 | 6·4732725 | 76 | 4,161·8 | 23,780·3 | 4·3762174 |
| 22 | 145,946 | 2,820,819 | 6·4503752 | 77 | 3,584·5 | 19,618·5 | 4·2926658 |
| 23 | 139,455 | 2,674,873 | 6·4273032 | 78 | 3,059·2 | 16,034·0 | 4·2050419 |
| 24 | 133,229 | 2,535,418 | 6·4040496 | 79 | 2,585·5 | 12,974·8 | 4·1131007 |
| 25 | 127,259 | 2,402,189 | 6·3806072 | 80 | 2,162·5 | 10,389·3 | 4·0165863 |
| 26 | 121,536 | 2,274,930 | 6·3569680 | 81 | 1,788·7 | 8,226·8 | 3·9152309 |
| 27 | 116,050 | 2,153,394 | 6·3331235 | 82 | 1,462·1 | 6,438·1 | 3·8087577 |
| 28 | 110,792 | 2,037,344 | 6·3090644 | 83 | 1,180·2 | 4,976·0 | 3·6968804 |
| 29 | 105,753 | 1,926,552 | 6·2847808 | 84 | 940·14 | 3,795·81 | 3·5793045 |
| 30 | 100,924 | 1,820,799 | 6·2602619 | 85 | 738·41 | 2,855·67 | 3·4557080 |
| 31 | 96,296 | 1,719,875 | 6·2354969 | 86 | 571·41 | 2,117·26 | 3·3257742 |
| 32 | 91,861 | 1,623,579 | 6·2104734 | 87 | 435·29 | 1,545·85 | 3·1891674 |
| 33 | 87,610 | 1,531,718 | 6·1851788 | 88 | 326·15 | 1,110·56 | 3·0455421 |
| 34 | 83,537 | 1,444,108 | 6·1595997 | 89 | 240·16 | 784·41 | 2·8945431 |
| 35 | 79,632 | 1,360,571 | 6·1337212 | 90 | 173·63 | 544·25 | 2·7357984 |
| 36 | 75,889 | 1,280,939 | 6·1075285 | 91 | 123·14 | 370·62 | 2·5689289 |
| 37 | 72,301 | 1,205,050 | 6·0810051 | 92 | 85·584 | 247·482 | 2·3935436 |
| 38 | 68,860 | 1,132,749 | 6·0541337 | 93 | 58·240 | 161·898 | 2·2092414 |
| 39 | 65,561 | 1,063,889 | 6·0268964 | 94 | 38·764 | 103·658 | 2·0156028 |
| 40 | 62,397 | 998,328 | 5·9992732 | 95 | 25·211 | 64·894 | 1·8122045 |
| 41 | 59,361 | 935,931 | 5·9712439 | 96 | 16·005 | 39·683 | 1·5986045 |
| 42 | 56,450 | 876,570 | 5·9427866 | 97 | 9·9069 | 23·6782 | 1·3743487 |
| 43 | 53,656 | 820,120 | 5·9138774 | 98 | 5·9730 | 13·7713 | 1·1389750 |
| 44 | 50,975 | 766,464 | 5·8844918 | 99 | 3·5037 | 7·7983 | 0·8919999 |
| 45 | 48,403 | 715,489 | 5·8546030 | 100 | 1·9973 | 4·2946 | 0·6329227 |
| 46 | 45,934 | 667,086 | 5·8241818 | 101 | 1·1053 | 2·2973 | 0·3612177 |
| 47 | 43,564 | 621,152 | 5·7931979 | 102 | ·5930 | 1·1920 | 0·0762763 |
| 48 | 41,290 | 577,588 | 5·7616182 | 103 | ·3081 | ·5990 | $\bar{1}$·7774268 |
| 49 | 39,108 | 536,298 | 5·7294062 | 104 | ·1548 | ·2909 | $\bar{1}$·4637437 |
| 50 | 37,013 | 497,190 | 5·6965224 | 105 | ·0752 | ·1361 | $\bar{1}$·1338581 |
| 51 | 35,003 | 460,177 | 5·6629249 | 106 | ·0352 | ·0609 | $\bar{2}$·7846173 |
| 52 | 33,055 | 425,174 | 5·6285667 | 107 | ·0159 | ·0257 | $\bar{2}$·4099331 |
| 53 | 31,185 | 392,119 | 5·5934179 | 108 | ·0069 | ·0098 | $\bar{3}$·9912261 |
| 54 | 29,388 | 360,934 | 5·5574278 | 109 | ·0029 | ·0029 | $\bar{3}$·4623980 |

## YEARLY TABLE:—MALES. Interest 4 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $S_x$ | $C_x$ | $M_x$ | $R_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 0 | 511,745 | 8,184,833 | 150,139,344 | 80,499·04 | 196,943·65 | 2,410,246·79 | 0 |
| 1 | 411,563 | 7,673,088 | 141,954,511 | 25,444·71 | 116,444·61 | 2,213,303·14 | 1 |
| 2 | 370,289 | 7,261,525 | 134,281,423 | 12,637·08 | 90,999·90 | 2,096,858·53 | 2 |
| 3 | 343,410 | 6,891,236 | 127,019,898 | 7,875·31 | 78,362·82 | 2,005,858·63 | 3 |
| 4 | 322,327 | 6,547,826 | 120,128,662 | 5,522·53 | 70,487·51 | 1,927,495·81 | 4 |
| 5 | 304,407 | 6,225,499 | 113,580,836 | 3,977·65 | 64,964·98 | 1,857,008·30 | 5 |
| 6 | 288,721 | 5,921,092 | 107,355,337 | 3,003·95 | 60,987·33 | 1,792,043·32 | 6 |
| 7 | 274,613 | 5,632,371 | 101,434,245 | 2,418·59 | 57,983·38 | 1,731,055·99 | 7 |
| 8 | 261,632 | 5,357,758 | 95,801,874 | 1,920·87 | 55,564·79 | 1,673,072·61 | 8 |
| 9 | 249,649 | 5,096,126 | 90,444,116 | 1,551·77 | 53,643·92 | 1,617,507·82 | 9 |
| 10 | 238,495 | 4,846,477 | 85,347,990 | 1,288·12 | 52,092·15 | 1,563,863·90 | 10 |
| 11 | 228,034 | 4,607,982 | 80,501,513 | 1,109·28 | 50,804·03 | 1,511,771·75 | 11 |
| 12 | 218,154 | 4,379,948 | 75,893,531 | 1,000·56 | 49,694·75 | 1,460,967·72 | 12 |
| 13 | 208,763 | 4,161,794 | 71,513,583 | 945·33 | 48,694·19 | 1,411,272·97 | 13 |
| 14 | 199,789 | 3,953,031 | 67,351,789 | 932·29 | 47,748·86 | 1,362,578·78 | 14 |
| 15 | 191,172 | 3,753,242 | 63,398,758 | 950·89 | 46,816·57 | 1,314,829·92 | 15 |
| 16 | 182,869 | 3,562,070 | 59,645,516 | 989·78 | 45,865·68 | 1,268,013·35 | 16 |
| 17 | 174,845 | 3,379,201 | 56,083,446 | 1,042·54 | 44,875·90 | 1,222,147·67 | 17 |
| 18 | 167,078 | 3,204,356 | 52,704,245 | 1,101·17 | 43,833·36 | 1,177,271·77 | 18 |
| 19 | 159,550 | 3,037,278 | 49,499,889 | 1,159·68 | 42,732·19 | 1,133,438·41 | 19 |
| 20 | 152,254 | 2,877,728 | 46,462,611 | 1,212·94 | 41,572·51 | 1,090,706·22 | 20 |
| 21 | 145,186 | 2,725,474 | 43,584,883 | 1,181·90 | 40,359·57 | 1,049,133·71 | 21 |
| 22 | 138,419 | 2,580,288 | 40,859,409 | 1,150·64 | 39,177·67 | 1,008,774·14 | 22 |
| 23 | 131,945 | 2,441,869 | 38,279,121 | 1,118·87 | 38,027·03 | 969,596·47 | 23 |
| 24 | 125,751 | 2,309,924 | 35,837,252 | 1,086·71 | 36,908·16 | 931,569·44 | 24 |
| 25 | 119,828 | 2,184,173 | 33,527,328 | 1,055·38 | 35,821·45 | 894,661·28 | 25 |
| 26 | 114,164 | 2,064,345 | 31,343,155 | 1,024·50 | 34,766·07 | 858,839·83 | 26 |
| 27 | 108,749 | 1,950,181 | 29,278,810 | 994·10 | 33,741·57 | 824,073·76 | 27 |
| 28 | 103,572 | 1,841,432 | 27,328,629 | 964·84 | 32,747·47 | 790,332·19 | 28 |
| 29 | 98,623 | 1,737,860 | 25,487,197 | 936·67 | 31,782·63 | 757,584·72 | 29 |
| 30 | 93,894 | 1,639,237 | 23,749,337 | 909·54 | 30,845·96 | 725,802·09 | 30 |
| 31 | 89,373 | 1,545,343 | 22,110,100 | 883·68 | 29,936·42 | 694,956·13 | 31 |
| 32 | 85,052 | 1,455,970 | 20,564,757 | 859·01 | 29,052·74 | 665,019·71 | 32 |
| 33 | 80,921 | 1,370,918 | 19,108,787 | 835·72 | 28,193·73 | 635,966·97 | 33 |
| 34 | 76,973 | 1,289,997 | 17,737,869 | 813·72 | 27,358·01 | 607,773·24 | 34 |
| 35 | 73,199 | 1,213,024 | 16,447,872 | 792·90 | 26,544·29 | 580,415·23 | 35 |
| 36 | 69,591 | 1,139,825 | 15,234,848 | 773·18 | 25,751·39 | 553,870·94 | 36 |
| 37 | 66,141 | 1,070,234 | 14,095,023 | 755·16 | 24,978·21 | 528,119·55 | 37 |
| 38 | 62,842 | 1,004,093 | 13,024,789 | 737·81 | 24,223·05 | 503,141·34 | 38 |
| 39 | 59,687 | 941,251 | 12,020,696 | 721·72 | 23,485·24 | 478,918·29 | 39 |
| 40 | 56,670 | 881,564 | 11,079,445 | 706·78 | 22,763·52 | 455,433·05 | 40 |
| 41 | 53,784 | 824,894 | 10,197,881 | 692·50 | 22,056·74 | 432,669·53 | 41 |
| 42 | 51,022 | 771,110 | 9,372,987 | 679·20 | 21,364·24 | 410,612·79 | 42 |
| 43 | 48,381 | 720,088 | 8,601,877 | 666·96 | 20,685·04 | 389,248·55 | 43 |
| 44 | 45,853 | 671,707 | 7,881,789 | 655·01 | 20,018·08 | 368,563·51 | 44 |
| 45 | 43,434 | 625,854 | 7,210,082 | 643·97 | 19,363·07 | 348,545·43 | 45 |
| 46 | 41,120 | 582,420 | 6,584,228 | 633·29 | 18,719·10 | 329,182·36 | 46 |
| 47 | 38,905 | 541,300 | 6,001,808 | 623·24 | 18,085·81 | 310,463·26 | 47 |
| 48 | 36,785 | 502,395 | 5,460,508 | 613·46 | 17,462·57 | 292,377·45 | 48 |
| 49 | 34,757 | 465,610 | 4,958,113 | 603·94 | 16,849·11 | 274,914·88 | 49 |
| 50 | 32,816 | 430,853 | 4,492,503 | 594·65 | 16,245·17 | 258,065·77 | 50 |
| 51 | 30,960 | 398,037 | 4,061,650 | 601·83 | 15,650·52 | 241,820·60 | 51 |
| 52 | 29,167 | 367,077 | 3,663,613 | 595·19 | 15,048·69 | 226,170·08 | 52 |
| 53 | 27,450 | 337,910 | 3,296,536 | 587·58 | 14,453·50 | 211,121·39 | 53 |
| 54 | 25,807 | 310,460 | 2,958,626 | 579·78 | 13,865·92 | 196,667·89 | 54 |

## YEARLY TABLE:—MALES. Interest 4 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $S_x$ | $C_x$ | $M_x$ | $R_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 55 | 24,234 | 284,653 | 2,648,166 | 572·05 | 13,286·14 | 182,801·97 | 55 |
| 56 | 22,730 | 260,419 | 2,363,513 | 564·70 | 12,714·09 | 169,515·83 | 56 |
| 57 | 21,291 | 237,689 | 2,103,094 | 558·09 | 12,149·39 | 156,801·74 | 57 |
| 58 | 19,914 | 216,398 | 1,865,405 | 552·05 | 11,591·30 | 144,652·35 | 58 |
| 59 | 18,596 | 196,484 | 1,649,007 | 546·79 | 11,039·25 | 133,061·05 | 59 |
| 60 | 17,334 | 177,888 | 1,452,523 | 541·94 | 10,492·46 | 122,021·80 | 60 |
| 61 | 16,126 | 160,554 | 1,274,635 | 537·70 | 9,950·52 | 111,529·34 | 61 |
| 62 | 14,968 | 144,428 | 1,114,081 | 533·59 | 9,412·82 | 101,578·82 | 62 |
| 63 | 13,858 | 129,460 | 969,653 | 529·40 | 8,879·23 | 92,166·00 | 63 |
| 64 | 12,796 | 115,602 | 840,193 | 525·05 | 8,349·83 | 83,286·77 | 64 |
| 65 | 11,779 | 102,806 | 724,591 | 519·96 | 7,824·78 | 74,936·94 | 65 |
| 66 | 10,806 | 91,027 | 621,785 | 513·97 | 7,304·82 | 67,112·16 | 66 |
| 67 | 9,876·2 | 80,220·7 | 530,757·5 | 506·85 | 6,790·85 | 59,807·34 | 67 |
| 68 | 8,989·5 | 70,344·5 | 450,536·8 | 498·11 | 6,284·00 | 53,016·49 | 68 |
| 69 | 8,145·7 | 61,355·0 | 380,192·3 | 487·62 | 5,785·89 | 46,732·49 | 69 |
| 70 | 7,344·8 | 53,209·3 | 318,837·3 | 475·16 | 5,298·27 | 40,946·60 | 70 |
| 71 | 6,587·1 | 45,864·5 | 265,628·0 | 460·51 | 4,823·11 | 35,648·33 | 71 |
| 72 | 5,873·3 | 39,277·4 | 219,763·5 | 443·60 | 4,362·60 | 30,825·22 | 72 |
| 73 | 5,203·7 | 33,404·1 | 180,486·1 | 424·50 | 3,919·00 | 26,462·62 | 73 |
| 74 | 4,579·1 | 28,200·4 | 147,082·0 | 403·21 | 3,494·50 | 22,543·62 | 74 |
| 75 | 3,999·8 | 23,621·3 | 118,881·6 | 379·79 | 3,091·29 | 19,049·12 | 75 |
| 76 | 3,466·1 | 19,621·5 | 95,260·3 | 354·69 | 2,711·50 | 15,957·83 | 76 |
| 77 | 2,978·2 | 16,155·4 | 75,638·8 | 328·00 | 2,356·81 | 13,246·33 | 77 |
| 78 | 2,535·6 | 13,177·2 | 59,483·4 | 300·27 | 2,028·81 | 10,889·52 | 78 |
| 79 | 2,137·8 | 10,641·6 | 46,306·2 | 271·85 | 1,728·54 | 8,860·71 | 79 |
| 80 | 1,783·7 | 8,503·8 | 35,664·6 | 243·29 | 1,456·69 | 7,132·17 | 80 |
| 81 | 1,471·9 | 6,720·1 | 27,160·8 | 215·04 | 1,213·40 | 5,675·48 | 81 |
| 82 | 1,200·2 | 5,248·2 | 20,440·7 | 187·52 | 998·36 | 4,462·08 | 82 |
| 83 | 966·53 | 4,047·99 | 15,192·54 | 161·28 | 810·84 | 3,463·72 | 83 |
| 84 | 768·05 | 3,081·46 | 11,144·55 | 136·72 | 649·56 | 2,652·88 | 84 |
| 85 | 601·80 | 2,313·41 | 8,063·09 | 114·11 | 512·84 | 2,003·32 | 85 |
| 86 | 464·57 | 1,711·61 | 5,749·68 | 93·63 | 398·73 | 1,490·48 | 86 |
| 87 | 353·05 | 1,247·04 | 4,038·07 | 75·57 | 305·10 | 1,091·75 | 87 |
| 88 | 263·90 | 893·99 | 2,791·03 | 59·90 | 229·53 | 786·65 | 88 |
| 89 | 193·85 | 630·09 | 1,897·04 | 46·60 | 169·63 | 557·12 | 89 |
| 90 | 139·81 | 436·24 | 1,266·95 | 35·51 | 123·03 | 387·49 | 90 |
| 91 | 98·917 | 296·429 | 830·713 | 26·53 | 87·52 | 264·46 | 91 |
| 92 | 68·585 | 197·512 | 534·284 | 19·39 | 60·99 | 176·94 | 92 |
| 93 | 46·560 | 128·927 | 336·772 | 13·85 | 41·60 | 115·95 | 93 |
| 94 | 30·916 | 82·367 | 207·845 | 9·66 | 27·75 | 74·35 | 94 |
| 95 | 20·058 | 51·451 | 125·478 | 6·60 | 18·09 | 46·60 | 95 |
| 96 | 12·703 | 31·393 | 74·027 | 4·37 | 11·49 | 28·51 | 96 |
| 97 | 7·8442 | 18·6904 | 42·6343 | 2·83 | 7·12 | 17·02 | 97 |
| 98 | 4·7180 | 10·8462 | 23·9439 | 1·77 | 4·29 | 9·90 | 98 |
| 99 | 2·7609 | 6·1282 | 13·0977 | 1·09 | 2·52 | 5·61 | 99 |
| 100 | 1·5701 | 3·3673 | 6·9695 | ·63 | 1·43 | 3·09 | 100 |
| 101 | ·8668 | 1·7972 | 3·6022 | ·38 | ·80 | 1·66 | 101 |
| 102 | ·4639 | ·9304 | 1·8050 | ·19 | ·42 | ·86 | 102 |
| 103 | ·2405 | ·4665 | ·8746 | ·12 | ·23 | ·44 | 103 |
| 104 | ·1205 | 2260 | ·4081 | ·05 | ·11 | ·21 | 104 |
| 105 | ·0584 | ·1055 | ·1821 | ·03 | ·06 | ·10 | 105 |
| 106 | ·0273 | ·0471 | ·0766 | ·02 | ·03 | ·04 | 106 |
| 107 | ·0123 | ·0198 | ·0295 | ·01 | ·01 | ·01 | 107 |
| 108 | ·0053 | ·0075 | ·0097 | ·00 | ·00 | ·00 | 108 |
| 109 | ·0022 | ·0022 | ·0022 | ·00 | ·00 | ·00 | 109 |

## YEARLY TABLE:—MALES. Interest 4 per Cent.

| Age $(x)$ | $\lambda D_x$ | $\lambda N_x$ | $\lambda M_x$ | $\lambda\left(\frac{N_x}{D_x}\right)=\lambda A_x$ | $\frac{N_x}{D_x}=A_x$ | $\frac{D_x}{N_x}=a_x$ | Age $(x)$ |
|---|---|---|---|---|---|---|---|
| 0 | 5·7090538 | 6·9130099 | 5·2943419 | 1·2039561 | 15·9940 | ·062524 | 0 |
| 1 | 5·6144369 | 6·8849703 | 5·0661194 | 1·2705334 | 18·6438 | ·053637 | 1 |
| 2 | 5·5685412 | 6·8610278 | 4·9590409 | 1·2924866 | 19·6104 | ·050993 | 2 |
| 3 | 5·5358132 | 6·8382972 | 4·8941101 | 1·3024840 | 20·0671 | ·049833 | 3 |
| 4 | 5·5082967 | 6·8160971 | 4·8481122 | 1·3078004 | 20·3142 | ·049227 | 4 |
| 5 | 5·4834547 | 6·7941741 | 4·8126792 | 1·3107194 | 20·4512 | ·048897 | 5 |
| 6 | 5·4604787 | 6·7724019 | 4·7852396 | 1·3119232 | 20·5080 | ·048761 | 6 |
| 7 | 5·4387205 | 6·7506913 | 4·7633036 | 1·3119708 | 20·5102 | ·048756 | 7 |
| 8 | 5·4176915 | 6·7289832 | 4·7447997 | 1·3112917 | 20·4782 | ·048832 | 8 |
| 9 | 5·3973294 | 6·7072401 | 4·7295206 | 1·3099107 | 20·4132 | ·048988 | 9 |
| 10 | 5·3774795 | 6·6854261 | 4·7167722 | 1·3079466 | 20·3211 | ·049210 | 10 |
| 11 | 5·3580003 | 6·6635108 | 4·7058982 | 1·3055105 | 20·2074 | ·049487 | 11 |
| 12 | 5·3387636 | 6·6414690 | 4·6963105 | 1·3027054 | 20·0773 | ·049807 | 12 |
| 13 | 5·3196543 | 6·6192806 | 4·6874772 | 1·2996263 | 19·9355 | ·050162 | 13 |
| 14 | 5·3005707 | 6·5969302 | 4·6789631 | 1·2963595 | 19·7861 | ·050541 | 14 |
| 15 | 5·2814242 | 6·5744065 | 4·6703997 | 1·2929823 | 19·6328 | ·050935 | 15 |
| 16 | 5·2621392 | 6·5517024 | 4·6614879 | 1·2895632 | 19·4788 | ·051338 | 16 |
| 17 | 5·2426536 | 6·5288140 | 4·6520131 | 1·2861604 | 19·3268 | ·051742 | 17 |
| 18 | 5·2229185 | 6·5057408 | 4·6418048 | 1·2828223 | 19·1788 | ·052141 | 18 |
| 19 | 5·2028979 | 6·4824845 | 4·6307551 | 1·2795866 | 19·0365 | ·052531 | 19 |
| 20 | 5·1825693 | 6·4590497 | 4·6188063 | 1·2764804 | 18·9008 | ·052908 | 20 |
| 21 | 5·1619234 | 6·4354420 | 4·6059466 | 1·2735186 | 18·7723 | ·053270 | 21 |
| 22 | 5·1411971 | 6·4116681 | 4·5930387 | 1·2704710 | 18·6411 | ·053645 | 22 |
| 23 | 5·1203931 | 6·3877224 | 4·5800924 | 1·2673293 | 18·5067 | ·054034 | 23 |
| 24 | 5·0995132 | 6·3635978 | 4·5671224 | 1·2640846 | 18·3690 | ·054440 | 24 |
| 25 | 5·0785583 | 6·3392870 | 4·5541431 | 1·2607287 | 18·2276 | ·054862 | 25 |
| 26 | 5·0575287 | 6·3147823 | 4·5411556 | 1·2572536 | 18·0823 | ·055303 | 26 |
| 27 | 5·0364235 | 6·2900749 | 4·5281653 | 1·2536514 | 17·9329 | ·055763 | 27 |
| 28 | 5·0152414 | 6·2651557 | 4·5151777 | 1·2499143 | 17·7793 | ·056245 | 28 |
| 29 | 4·9939798 | 6·2400148 | 4·5021898 | 1·2460350 | 17·6212 | ·056750 | 29 |
| 30 | 4·9726357 | 6·2146418 | 4·4891984 | 1·2420061 | 17·4585 | ·057279 | 30 |
| 31 | 4·9512050 | 6·1890248 | 4·4761999 | 1·2378198 | 17·2910 | ·057834 | 31 |
| 32 | 4·9296828 | 6·1631524 | 4·4631871 | 1·2334696 | 17·1187 | ·058416 | 32 |
| 33 | 4·9080633 | 6·1370115 | 4·4501526 | 1·2289482 | 16·9414 | ·059027 | 33 |
| 34 | 4·8863402 | 6·1105887 | 4·4370845 | 1·2242485 | 16·7590 | ·059669 | 34 |
| 35 | 4·8645059 | 6·0838694 | 4·4239712 | 1·2193635 | 16·5716 | ·060344 | 35 |
| 36 | 4·8425524 | 6·0568382 | 4·4108007 | 1·2142858 | 16·3789 | ·061054 | 36 |
| 37 | 4·8204705 | 6·0294787 | 4·3975614 | 1·2090082 | 16·1811 | ·061800 | 37 |
| 38 | 4·7982503 | 6·0017740 | 4·3842288 | 1·2035237 | 15·9780 | ·062586 | 38 |
| 39 | 4·7758813 | 5·9737055 | 4·3707950 | 1·1978242 | 15·7697 | ·063413 | 39 |
| 40 | 4·7533517 | 5·9452539 | 4·3572395 | 1·1919022 | 15·5562 | ·064283 | 40 |
| 41 | 4·7306492 | 5·9163981 | 4·3435413 | 1·1857489 | 15·3373 | ·065201 | 41 |
| 42 | 4·7077607 | 5·8871163 | 4·3296875 | 1·1793556 | 15·1132 | ·066167 | 42 |
| 43 | 4·6846721 | 5·8573856 | 4·3156563 | 1·1727135 | 14·8838 | ·067187 | 43 |
| 44 | 4·6613684 | 5·8271799 | 4·3014224 | 1·1658115 | 14·6491 | ·068263 | 44 |
| 45 | 4·6378340 | 5·7964731 | 4·2869742 | 1·1586391 | 14·4092 | ·069400 | 45 |
| 46 | 4·6140522 | 5·7652363 | 4·2722849 | 1·1511841 | 14·1639 | ·070602 | 46 |
| 47 | 4·5900058 | 5·7334380 | 4·2573379 | 1·1434322 | 13·9134 | ·071873 | 47 |
| 48 | 4·5656765 | 5·7010453 | 4·2421082 | 1·1353688 | 13·6574 | ·073220 | 48 |
| 49 | 4·5410452 | 5·6680223 | 4·2265770 | 1·1269771 | 13·3961 | ·074649 | 49 |
| 50 | 4·5160921 | 5·6343291 | 4·2107243 | 1·1182370 | 13·1292 | ·076166 | 50 |
| 51 | 4·4907963 | 5·5999234 | 4·1945288 | 1·1091271 | 12·8566 | ·077781 | 51 |
| 52 | 4·4648919 | 5·5647572 | 4·1774987 | 1·0998653 | 12·5853 | ·079457 | 52 |
| 53 | 4·4385426 | 5·5288010 | 4·1599731 | 1·0902584 | 12·3100 | ·081235 | 53 |
| 54 | 4·4117314 | 5·4920057 | 4·1419487 | 1·0802743 | 12·0302 | ·083124 | 54 |

## YEARLY TABLE:—MALES. Interest 4 per Cent.

| Age $(x)$ | $\lambda\, D_x$ | $\lambda\, N_x$ | $\lambda\, M_x$ | $\lambda\left(\frac{N_x}{D_x}\right) = \lambda\, \Lambda_x$ | $\frac{N_x}{D_x} = \Lambda_x$ | $\frac{D_x}{N_x} = a_x$ | Age $(x)$ |
|---|---|---|---|---|---|---|---|
| 55 | 4·3844308 | 5·4543158 | 4·1233988 | 1·0698850 | 11·7459 | ·085136 | 55 |
| 56 | 4·3566031 | 5·4156726 | 4·1042853 | 1·0590695 | 11·4570 | ·087283 | 56 |
| 57 | 4·3282004 | 5·3760091 | 4·0845545 | 1·0478087 | 11·1637 | ·089576 | 57 |
| 58 | 4·2991642 | 5·3352533 | 4·0641322 | 1·0360891 | 10·8665 | ·092026 | 58 |
| 59 | 4·2694258 | 5·2933272 | 4·0429396 | 1·0239014 | 10·5658 | ·094645 | 59 |
| 60 | 4·2389063 | 5·2501466 | 4·0208774 | 1·0112403 | 10·2622 | ·097445 | 60 |
| 61 | 4·2075163 | 5·2056211 | 3·9978458 | 0·9981048 | 9·9565 | ·100437 | 61 |
| 62 | 4·1751560 | 5·1596514 | 3·9737197 | 0·9844954 | 9·6493 | ·103635 | 62 |
| 63 | 4·1417156 | 5·1121356 | 3·9483753 | 0·9704200 | 9·3416 | ·107048 | 63 |
| 64 | 4·1070746 | 5·0629653 | 3·9216777 | 0·9558907 | 9·0342 | ·110690 | 64 |
| 65 | 4·0711025 | 5·0120185 | 3·8934721 | 0·9409160 | 8·7280 | ·114573 | 65 |
| 66 | 4·0336582 | 4·9591702 | 3·8636095 | 0·9255120 | 8·4239 | ·118710 | 66 |
| 67 | 3·9945904 | 4·9042865 | 3·8319241 | 0·9096961 | 8·1226 | ·123113 | 67 |
| 68 | 3·9537375 | 4·8472302 | 3·7982362 | 0·8934927 | 7·8252 | ·127793 | 68 |
| 69 | 3·9109276 | 4·7878500 | 3·7623702 | 0·8769224 | 7·5322 | ·132763 | 69 |
| 70 | 3·8659782 | 4·7259876 | 3·7241340 | 0·8600094 | 7·2445 | ·138035 | 70 |
| 71 | 3·8186969 | 4·6614767 | 3·6833272 | 0·8427798 | 6·9627 | ·143622 | 71 |
| 72 | 3·7688806 | 4·5941427 | 3·6397454 | 0·8252621 | 6·6875 | ·149533 | 72 |
| 73 | 3·7163161 | 4·5237998 | 3·5931753 | 0·8074837 | 6·4192 | ·155782 | 73 |
| 74 | 3·6607798 | 4·4502553 | 3·5433850 | 0·7894755 | 6·1585 | ·162377 | 74 |
| 75 | 3·6020377 | 4·3733038 | 3·4901398 | 0·7712661 | 5·9056 | ·169330 | 75 |
| 76 | 3·5398457 | 4·2927322 | 3·4332096 | 0·7528865 | 5·6609 | ·176650 | 76 |
| 77 | 3·4739491 | 4·2083177 | 3·3723246 | 0·7343686 | 5·4246 | ·184345 | 77 |
| 78 | 3·4040829 | 4·1198231 | 3·3072413 | 0·7157402 | 5·1969 | ·192424 | 78 |
| 79 | 3·3299721 | 4·0270069 | 3·2376794 | 0·6970348 | 4·9778 | ·200893 | 79 |
| 80 | 3·2513309 | 3·9296130 | 3·1633671 | 0·6782821 | 4·7674 | ·209758 | 80 |
| 81 | 3·1678636 | 3·8273757 | 3·0840040 | 0·6595121 | 4·5657 | ·219022 | 81 |
| 82 | 3·0792638 | 3·7200104 | 2·9992872 | 0·6407466 | 4·3727 | ·228693 | 82 |
| 83 | 2·9852151 | 3·6072394 | 2·9089352 | 0·6220243 | 4·1882 | ·238768 | 83 |
| 84 | 2·8853906 | 3·4887566 | 2·8126193 | 0·6033660 | 4·0120 | ·249249 | 84 |
| 85 | 2·7794531 | 3·3642526 | 2·7099819 | 0·5847995 | 3·8441 | ·260136 | 85 |
| 86 | 2·6670550 | 3·2334048 | 2·6006789 | 0·5663498 | 3·6843 | ·271425 | 86 |
| 87 | 2·5478385 | 3·0958805 | 2·4844422 | 0·5480420 | 3·5322 | ·283112 | 87 |
| 88 | 2·4214354 | 2·9513327 | 2·3608395 | 0·5298973 | 3·3876 | ·295191 | 88 |
| 89 | 2·2874672 | 2·7994026 | 2·2295027 | 0·5119354 | 3·2504 | ·307655 | 89 |
| 90 | 2·1455450 | 2·6397255 | 2·0900110 | 0·4941805 | 3·1202 | ·320494 | 90 |
| 91 | 1·9952698 | 2·4719207 | 1·942 073 | 0·4766509 | 2·9968 | ·333695 | 91 |
| 92 | 1·8362319 | 2·2955935 | 1·7852586 | 0·4593616 | 2·8798 | ·347247 | 92 |
| 93 | 1·6680117 | 2·1103439 | 1·6190933 | 0·4423322 | 2·7691 | ·361134 | 93 |
| 94 | 1·4901789 | 1·9157532 | 1·4432630 | 0·4255743 | 2·6642 | ·375341 | 94 |
| 95 | 1·3022931 | 1·7113938 | 1·2574386 | 0·4091007 | 2·5651 | ·389852 | 95 |
| 96 | 1·1039034 | 1·4968328 | 1·0603200 | 0·3929294 | 2·4713 | ·404642 | 96 |
| 97 | 0·8945488 | 1·2716186 | 0·8524800 | 0·3770698 | 2·3827 | ·419692 | 97 |
| 98 | 0·6737578 | 1·0352776 | 0·6324573 | 0·3615198 | 2·2989 | ·434991 | 98 |
| 99 | 0·4410486 | 0·7873329 | 0·4014005 | 0·3462843 | 2·2196 | ·450522 | 99 |
| 100 | 0·1959291 | 0·5272818 | 0·1553360 | 0·3313527 | 2·1446 | ·466281 | 100 |
| 101 | 1̄·9378969 | 0·2545964 | 1̄·9030900 | 0·3166995 | 2·0735 | ·482281 | 101 |
| 102 | 1̄·6664391 | 1̄·9686697 | 1̄·6232493 | 0·3022306 | 2·0055 | ·498620 | 102 |
| 103 | 1̄·3810328 | 1̄·6688516 | 1̄·3617278 | 0·2878188 | 1·9401 | ·515444 | 103 |
| 104 | 1̄·0811445 | 1̄·3541084 | 1̄·0413927 | 0·2729639 | 1·8748 | ·533379 | 104 |
| 105 | 2̄·7662304 | 1̄·0232525 | 2̄·7781513 | 0·2570221 | 1·8073 | ·553322 | 105 |
| 106 | 2̄·4357365 | 2̄·6730209 | 2̄·4771213 | 0·2372844 | 1·7270 | ·579049 | 106 |
| 107 | 2̄·0890984 | 2̄·2966652 | 2̄·0000000 | 0·2075668 | 1·6127 | ·620059 | 107 |
| 108 | 3̄·7257413 | 3̄·8750613 | ... | 0·1493200 | 1·4103 | ·709055 | 108 |
| 109 | 3̄·3450802 | 3̄·3424227 | ... | 1̄·9973425 | ·9939 | 1·006138 | 109 |

## YEARLY TABLE:—MALES. Interest 5 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $S_x$ | $C_x$ | $M_x$ | $R_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 0 | 511,745 | 7,009,086 | 113,095,640 | 79,732·37 | 177,979·04 | 1,623,582·49 | 0 |
| 1 | 407,644 | 6,497,341 | 106,086,554 | 24,962·36 | 98,246·67 | 1,445,603·45 | 1 |
| 2 | 363,270 | 6,089,697 | 99,589,213 | 12,279·45 | 73,284·31 | 1,347,356·78 | 2 |
| 3 | 333,692 | 5,726,427 | 93,499,516 | 7,579·56 | 61,004·86 | 1,274,072·47 | 3 |
| 4 | 310,222 | 5,392,735 | 87,773,089 | 5,264·51 | 53,425·30 | 1,213,067·61 | 4 |
| 5 | 290,185 | 5,082,513 | 82,380,354 | 3,755·70 | 48,160·79 | 1,159,642·31 | 5 |
| 6 | 272,611 | 4,792,328 | 77,297,841 | 2,809·32 | 44,405·09 | 1,111,481·52 | 6 |
| 7 | 256,820 | 4,519,717 | 72,505,513 | 2,240·34 | 41,595·77 | 1,067,076·43 | 7 |
| 8 | 242,351 | 4,262,897 | 67,985,796 | 1,762·36 | 39,355·43 | 1,025,480·66 | 8 |
| 9 | 229,048 | 4,020,546 | 63,722,899 | 1,410·16 | 37,593·07 | 986,125·23 | 9 |
| 10 | 216,730 | 3,791,498 | 59,702,353 | 1,159·42 | 36,182·91 | 948,532·16 | 10 |
| 11 | 205,251 | 3,574,768 | 55,910,855 | 988·94 | 35,023·49 | 912,349·25 | 11 |
| 12 | 194,488 | 3,369,517 | 52,336,087 | 883·52 | 34,034·55 | 877,325·76 | 12 |
| 13 | 184,343 | 3,175,029 | 48,966,570 | 826·80 | 33,151·03 | 843,291·21 | 13 |
| 14 | 174,738 | 2,990,686 | 45,791,541 | 807·63 | 32,324·23 | 810,140·18 | 14 |
| 15 | 165,609 | 2,815,948 | 42,800,855 | 815·90 | 31,516·60 | 777,815·95 | 15 |
| 16 | 156,908 | 2,650,339 | 39,984,907 | 841·18 | 30,700·70 | 746,299·35 | 16 |
| 17 | 148,594 | 2,493,431 | 37,334,568 | 877·58 | 29,859·52 | 715,598·65 | 17 |
| 18 | 140,641 | 2,344,837 | 34,841,137 | 918·10 | 28,981·94 | 685,739·13 | 18 |
| 19 | 133,025 | 2,204,196 | 32,496,300 | 957·68 | 28,063·84 | 656,757·19 | 19 |
| 20 | 125,733 | 2,071,171 | 30,292,104 | 992·12 | 27,106·16 | 628,693·35 | 20 |
| 21 | 118,754 | 1,945,438 | 28,220,933 | 957·52 | 26,114·04 | 601,587·19 | 21 |
| 22 | 112,141 | 1,826,684 | 26,275,495 | 923·32 | 25,156·52 | 575,473·15 | 22 |
| 23 | 105,878 | 1,714,543 | 24,448,811 | 889·27 | 24,233·20 | 550,316·63 | 23 |
| 24 | 99,947 | 1,608,665 | 22,734,268 | 855·49 | 23,343·93 | 526,083·43 | 24 |
| 25 | 94,332 | 1,508,718 | 21,125,603 | 822·91 | 22,488·44 | 502,739·50 | 25 |
| 26 | 89,017 | 1,414,386 | 19,616,885 | 791·22 | 21,665·53 | 480,251·06 | 26 |
| 27 | 83,987 | 1,325,369 | 18,202,499 | 760·43 | 20,874·31 | 458,585·53 | 27 |
| 28 | 79,227 | 1,241,382 | 16,877,130 | 731·03 | 20,113·88 | 437,711·22 | 28 |
| 29 | 74,723 | 1,162,155 | 15,635,748 | 702·92 | 19,382·85 | 417,597·34 | 29 |
| 30 | 70,462 | 1,087,432 | 14,473,593 | 676·06 | 18,679·93 | 398,214·49 | 30 |
| 31 | 66,431 | 1,016,970 | 13,386,161 | 650·59 | 18,003·87 | 379,534·56 | 31 |
| 32 | 62,617 | 950,539 | 12,369,191 | 626·40 | 17,353·28 | 361,530·69 | 32 |
| 33 | 59,009 | 887,922 | 11,418,652 | 603·62 | 16,726·88 | 344,177·41 | 33 |
| 34 | 55,595 | 828,913 | 10,530,730 | 582·12 | 16,123·26 | 327,450·53 | 34 |
| 35 | 52,366 | 773,318 | 9,701,817 | 561·83 | 15,541·14 | 311,327·27 | 35 |
| 36 | 49,310 | 720,952 | 8,928,499 | 542·64 | 14,979·31 | 295,786·13 | 36 |
| 37 | 46,419 | 671,642 | 8,207,547 | 524·94 | 14,436·67 | 280,806·82 | 37 |
| 38 | 43,684 | 625,223 | 7,535,905 | 508·00 | 13,911·73 | 266,370·15 | 38 |
| 39 | 41,096 | 581,539 | 6,910,682 | 492·19 | 13,403·73 | 252,458·42 | 39 |
| 40 | 38,647 | 540,443 | 6,329,143 | 477·41 | 12,911·54 | 239,054·69 | 40 |
| 41 | 36,329 | 501,796 | 5,788,700 | 463·31 | 12,434·13 | 226,143·15 | 41 |
| 42 | 34,136 | 465,467 | 5,286,904 | 450·08 | 11,970·82 | 213,709·02 | 42 |
| 43 | 32,060 | 431,331 | 4,821,437 | 437·76 | 11,520·74 | 201,738·20 | 43 |
| 44 | 30,096 | 399,271 | 4,390,106 | 425·82 | 11,082·98 | 190,217·46 | 44 |
| 45 | 28,237 | 369,175 | 3,990,835 | 414·66 | 10,657·16 | 179,134·48 | 45 |
| 46 | 26,478 | 340,938 | 3,621,660 | 403·90 | 10,242·50 | 168,477·32 | 46 |
| 47 | 24,813 | 314,460 | 3,280,722 | 393·70 | 9,838·60 | 158,234·82 | 47 |
| 48 | 23,238 | 289,647 | 2,966,262 | 383·84 | 9,444·90 | 148,396·22 | 48 |
| 49 | 21,747 | 266,409 | 2,676,615 | 374·28 | 9,061·06 | 138,951·32 | 49 |
| 50 | 20,337 | 244,662 | 2,410,206 | 365·01 | 8,686·78 | 129,890·26 | 50 |
| 51 | 19,004 | 224,325 | 2,165,544 | 365·90 | 8,321·77 | 121,203·48 | 51 |
| 52 | 17,733 | 205,321 | 1,941,219 | 358·42 | 7,955·87 | 112,881·71 | 52 |
| 53 | 16,530 | 187,588 | 1,735,898 | 350·46 | 7,597·45 | 104,925·84 | 53 |
| 54 | 15,393 | 171,058 | 1,548,310 | 342·52 | 7,246·99 | 97,328·39 | 54 |

YEARLY TABLE:—MALES. Interest 5 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $S_x$ | $C_x$ | $M_x$ | $R_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 55 | 14,317 | 155,665 | 1,377,252 | 334·73 | 6,904·47 | 90,081·40 | 55 |
| 56 | 13,301 | 141,348 | 1,221,587 | 327·29 | 6,569·74 | 83,176·93 | 56 |
| 57 | 12,340 | 128,047 | 1,080,239 | 320·38 | 6,242·45 | 76,607·19 | 57 |
| 58 | 11,432 | 115,707 | 952,192 | 313·89 | 5,922·07 | 70,364·74 | 58 |
| 59 | 10,574 | 104,275 | 836,485 | 307·94 | 5,608·18 | 64,442·67 | 59 |
| 60 | 9,762·2 | 93,701·3 | 732,210·1 | 302·30 | 5,300·24 | 58,834·49 | 60 |
| 61 | 8,995·0 | 83,939·1 | 638,508·8 | 297·08 | 4,997·94 | 53,534·25 | 61 |
| 62 | 8,269·6 | 74,944·1 | 554,569·7 | 292·00 | 4,700·86 | 48,536·31 | 62 |
| 63 | 7,583·9 | 66,674·5 | 479,625·6 | 286·95 | 4,408·86 | 43,835·45 | 63 |
| 64 | 6,935·7 | 59,090·6 | 412,951·1 | 281·88 | 4,121·91 | 39,426·59 | 64 |
| 65 | 6,323·6 | 52,154·9 | 353,860·5 | 276·49 | 3,840·03 | 35,304·68 | 65 |
| 66 | 5,746·0 | 45,831·3 | 301,705·6 | 270·70 | 3,563·54 | 31,464·65 | 66 |
| 67 | 5,201·6 | 40,085·3 | 255,874·3 | 264·41 | 3,292·84 | 27,901·11 | 67 |
| 68 | 4,689·6 | 34,883·7 | 215,789·0 | 257·37 | 3,028·43 | 24,608·27 | 68 |
| 69 | 4,208·9 | 30,194·1 | 180,905·3 | 249·55 | 2,771·06 | 21,579·84 | 69 |
| 70 | 3,758·9 | 25,985·2 | 150,711·2 | 240·86 | 2,521·51 | 18,808·78 | 70 |
| 71 | 3,339·1 | 22,226·3 | 124,726·0 | 231·21 | 2,280·65 | 16,287·27 | 71 |
| 72 | 2,948·8 | 18,887·2 | 102,499·7 | 220·60 | 2,049·44 | 14,006·62 | 72 |
| 73 | 2,587·8 | 15,938·4 | 83,612·5 | 209·09 | 1,828·84 | 11,957·18 | 73 |
| 74 | 2,255·5 | 13,350·6 | 67,674·1 | 196·72 | 1,619·75 | 10,128·34 | 74 |
| 75 | 1,951·4 | 11,095·1 | 54,323·5 | 183·52 | 1,423·03 | 8,508·59 | 75 |
| 76 | 1,674·9 | 9,143·7 | 43,228·4 | 169·76 | 1,239·51 | 7,085·56 | 76 |
| 77 | 1,425·4 | 7,468·8 | 34,084·7 | 155·49 | 1,069·75 | 5,846·05 | 77 |
| 78 | 1,202·0 | 6,043·4 | 26,615·9 | 140·99 | 914·26 | 4,776·30 | 78 |
| 79 | 1,003·8 | 4,841·4 | 20,572·5 | 126·43 | 773·27 | 3,862·04 | 79 |
| 80 | 829·57 | 3,837·62 | 15,731·14 | 112·07 | 646·84 | 3,088·77 | 80 |
| 81 | 678·00 | 3,008·05 | 11,893·52 | 98·11 | 534·77 | 2,441·93 | 81 |
| 82 | 547·61 | 2,330·05 | 8,885·47 | 84·74 | 436·66 | 1,907·16 | 82 |
| 83 | 436·79 | 1,782·44 | 6,555·42 | 72·19 | 351·92 | 1,470·50 | 83 |
| 84 | 343·79 | 1,345·65 | 4,772·98 | 60·61 | 279·73 | 1,118·58 | 84 |
| 85 | 266·81 | 1,001·86 | 3,427·33 | 50·11 | 219·12 | 838·85 | 85 |
| 86 | 204·01 | 735·05 | 2,425·47 | 40·72 | 169·01 | 619·73 | 86 |
| 87 | 153·56 | 531·04 | 1,690·42 | 32·56 | 128·29 | 450·72 | 87 |
| 88 | 113·69 | 377·48 | 1,159·38 | 25·56 | 95·73 | 322·43 | 88 |
| 89 | 82·715 | 263·793 | 781·900 | 19·70 | 70·17 | 226·70 | 89 |
| 90 | 59·089 | 181·078 | 518·107 | 14·86 | 50·47 | 156·53 | 90 |
| 91 | 41·407 | 121·989 | 337·029 | 11·00 | 35·61 | 106·06 | 91 |
| 92 | 28·437 | 80·582 | 215·040 | 7·96 | 24·61 | 70·45 | 92 |
| 93 | 19·121 | 52·145 | 134·458 | 5·64 | 16·65 | 45·84 | 93 |
| 94 | 12·575 | 33·024 | 82·313 | 3·89 | 11·01 | 29·19 | 94 |
| 95 | 8·0812 | 20·4485 | 49·2892 | 2·63 | 7·12 | 18·18 | 95 |
| 96 | 5·0691 | 12·3673 | 28·8407 | 1·73 | 4·49 | 11·06 | 96 |
| 97 | 3·1004 | 7·2982 | 16·4734 | 1·11 | 2·76 | 6·57 | 97 |
| 98 | 1·8470 | 4·1978 | 9·1752 | ·69 | 1·65 | 3·81 | 98 |
| 99 | 1·0706 | 2·3508 | 4·9774 | ·42 | ·96 | 2·16 | 99 |
| 100 | ·6030 | 1·2802 | 2·6266 | ·24 | ·54 | 1·20 | 100 |
| 101 | ·3297 | ·6772 | 1·3464 | ·14 | ·30 | ·66 | 101 |
| 102 | ·1748 | ·3475 | ·6692 | ·07 | ·16 | ·36 | 102 |
| 103 | ·0897 | ·1727 | ·3217 | ·04 | ·09 | ·20 | 103 |
| 104 | ·0446 | ·0830 | ·1490 | ·02 | ·05 | ·11 | 104 |
| 105 | ·0214 | ·0384 | ·0660 | ·01 | ·03 | ·06 | 105 |
| 106 | ·0099 | ·0170 | ·0276 | ·01 | ·02 | ·03 | 106 |
| 107 | ·0044 | ·0071 | ·0106 | ·01 | ·01 | ·01 | 107 |
| 108 | ·0019 | ·0027 | ·0035 | ... | ... | ... | 108 |
| 109 | ·0008 | ·0008 | ·0008 | ... | ... | ... | 109 |

## YEARLY TABLE:—MALES. Interest 5 per Cent.

| Age $(x)$ | $\lambda\, D_x$ | $\lambda\, N_x$ | $\lambda\, M_x$ | $\lambda\left(\frac{N_x}{D_x}\right) = \lambda\, A_x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | Age $(x)$ |
|---|---|---|---|---|---|---|---|
| 0 | 5·7090538 | 6·8456615 | 5·2503689 | 1·1366077 | 13·6964 | ·073012 | 0 |
| 1 | 5·6102809 | 6·8127357 | 4·9923178 | 1·2024548 | 15·9388 | ·062740 | 1 |
| 2 | 5·5602293 | 6·7845957 | 4·8650111 | 1·2243664 | 16·7636 | ·059653 | 2 |
| 3 | 5·5233453 | 6·7578837 | 4·7853644 | 1·2345384 | 17·1608 | ·058272 | 3 |
| 4 | 5·4916729 | 6·7318091 | 4·7277470 | 1·2401362 | 17·3835 | ·057526 | 4 |
| 5 | 5·4626749 | 6·7060786 | 4·6826936 | 1·2434037 | 17·5147 | ·057095 | 5 |
| 6 | 5·4355430 | 6·6805465 | 4·6474328 | 1·2450035 | 17·5794 | ·056885 | 6 |
| 7 | 5·4096288 | 6·6551113 | 4·6190492 | 1·2454825 | 17·5988 | ·056822 | 7 |
| 8 | 5·3844439 | 6·6297048 | 4·5950046 | 1·2452609 | 17·5898 | ·056851 | 8 |
| 9 | 5·3599258 | 6·6042851 | 4·5751078 | 1·2443593 | 17·5533 | ·056969 | 9 |
| 10 | 5·3359199 | 6·5788109 | 4·5585035 | 1·2428910 | 17·4941 | ·057162 | 10 |
| 11 | 5·3122847 | 6·5532479 | 4·5443594 | 1·2409632 | 17·4166 | ·057417 | 11 |
| 12 | 5·2888921 | 6·5275677 | 4·5319200 | 1·2386756 | 17·3251 | ·057720 | 12 |
| 13 | 5·2656269 | 6·5017476 | 4·5204970 | 1·2361207 | 17·2235 | ·058060 | 13 |
| 14 | 5·2423873 | 6·4757709 | 4·5095282 | 1·2333836 | 17·1153 | ·058427 | 14 |
| 15 | 5·2190848 | 6·4496246 | 4·4985394 | 1·2305398 | 17·0036 | ·058811 | 15 |
| 16 | 5·1956438 | 6·4233014 | 4·4871483 | 1·2276576 | 16·8911 | ·059203 | 16 |
| 17 | 5·1720023 | 6·3967974 | 4·4750829 | 1·2247951 | 16·7801 | ·059594 | 17 |
| 18 | 5·1481112 | 6·3701127 | 4·4621275 | 1·2220015 | 16·6725 | ·059979 | 18 |
| 19 | 5·1239347 | 6·3432502 | 4·4481471 | 1·2193155 | 16·5697 | ·060351 | 19 |
| 20 | 5·0994501 | 6·3162159 | 4·4330680 | 1·2167658 | 16·4727 | ·060706 | 20 |
| 21 | 5·0746482 | 6·2890174 | 4·4168741 | 1·2143692 | 16·3821 | ·061042 | 21 |
| 22 | 5·0497660 | 6·2616635 | 4·4006505 | 1·2118975 | 16·2891 | ·061391 | 22 |
| 23 | 5·0248060 | 6·2341484 | 4·3844108 | 1·2093424 | 16·1936 | ·061753 | 23 |
| 24 | 4·9997701 | 6·2064657 | 4·3681740 | 1·2066956 | 16·0952 | ·062130 | 24 |
| 25 | 4·9746593 | 6·1786081 | 4·3519593 | 1·2039488 | 15·9937 | ·062525 | 25 |
| 26 | 4·9494737 | 6·1505679 | 4·3357693 | 1·2010942 | 15·8889 | ·062937 | 26 |
| 27 | 4·9242126 | 6·1223369 | 4·3196121 | 1·1981243 | 15·7806 | ·063369 | 27 |
| 28 | 4·8988745 | 6·0939054 | 4·3034958 | 1·1950309 | 15·6686 | ·063822 | 28 |
| 29 | 4·8734570 | 6·0652642 | 4·2874176 | 1·1918072 | 15·5528 | ·064297 | 29 |
| 30 | 4·8479569 | 6·0364021 | 4·2713753 | 1·1884452 | 15·4328 | ·064797 | 30 |
| 31 | 4·8223702 | 6·0073082 | 4·2553659 | 1·1849380 | 15·3087 | ·065322 | 31 |
| 32 | 4·7966920 | 5·9779699 | 4·2393816 | 1·1812779 | 15·1802 | ·065875 | 32 |
| 33 | 4·7709167 | 5·9483748 | 4·2234150 | 1·1774581 | 15·0473 | ·066457 | 33 |
| 34 | 4·7450376 | 5·9185090 | 4·2074529 | 1·1734714 | 14·9098 | ·067070 | 34 |
| 35 | 4·7190474 | 5·8883581 | 4·1914829 | 1·1693107 | 14·7676 | ·067716 | 35 |
| 36 | 4·6929378 | 5·8579063 | 4·1754918 | 1·1649685 | 14·6207 | ·068396 | 36 |
| 37 | 4·6667000 | 5·8271379 | 4·1594671 | 1·1604379 | 14·4690 | ·069113 | 37 |
| 38 | 4·6403239 | 5·7960350 | 4·1433811 | 1·1557111 | 14·3124 | ·069870 | 38 |
| 39 | 4·6137988 | 5·7645789 | 4·1272257 | 1·1507801 | 14·1508 | ·070668 | 39 |
| 40 | 4·5871133 | 5·7327499 | 4·1109780 | 1·1456366 | 13·9842 | ·071509 | 40 |
| 41 | 4·5602549 | 5·7005272 | 4·0946155 | 1·1402723 | 13·8125 | ·072398 | 41 |
| 42 | 4·5332104 | 5·6678889 | 4·0781239 | 1·1346785 | 13·6357 | ·073337 | 42 |
| 43 | 4·5059658 | 5·6348107 | 4·0614804 | 1·1288449 | 13·4538 | ·074328 | 43 |
| 44 | 4·4785062 | 5·6012678 | 4·0446566 | 1·1227616 | 13·2667 | ·075377 | 44 |
| 45 | 4·4508158 | 5·5672323 | 4·0276415 | 1·1164165 | 13·0742 | ·076486 | 45 |
| 46 | 4·4228781 | 5·5326754 | 4·0104061 | 1·1097973 | 12·8765 | ·077661 | 46 |
| 47 | 4·3946757 | 5·4975654 | 3·9929333 | 1·1028897 | 12·6733 | ·078906 | 47 |
| 48 | 4·3661904 | 5·4618690 | 3·9751974 | 1·0956786 | 12·4646 | ·080227 | 48 |
| 49 | 4·3374032 | 5·4255489 | 3·9571790 | 1·0881457 | 12·2503 | ·081631 | 49 |
| 50 | 4·3082941 | 5·3885665 | 3·9388588 | 1·0802724 | 12·0302 | ·083124 | 50 |
| 51 | 4·2788424 | 5·3508777 | 3·9202157 | 1·0720353 | 11·8042 | ·084716 | 51 |
| 52 | 4·2487820 | 5·3124334 | 3·9006877 | 1·0636514 | 11·5785 | ·086367 | 52 |
| 53 | 4·2182768 | 5·2732051 | 3·8806679 | 1·0549283 | 11·3482 | ·088119 | 53 |
| 54 | 4·1873095 | 5·2331434 | 3·8601577 | 1·0458339 | 11·1131 | ·089984 | 54 |

## YEARLY TABLE:—MALES. Interest 5 per Cent.

| Age $(x)$ | $\lambda D_x$ | $\lambda N_x$ | $\lambda M_x$ | $\lambda\left(\frac{N_x}{D_x}\right)=\lambda A_x$ | $\frac{N_x}{D_x}=A_x$ | $\frac{D_x}{N_x}=a_x$ | Age $(x)$ |
|---|---|---|---|---|---|---|---|
| 55 | 4·1558530 | 5·1921910 | 3·8391303 | 1·0363380 | 10·8727 | ·091973 | 55 |
| 56 | 4·1238694 | 5·1502897 | 3·8175481 | 1·0264203 | 10·6272 | ·094098 | 56 |
| 57 | 4·0913107 | 5·1073694 | 3·7953551 | 1·0160587 | 10·3767 | ·096370 | 57 |
| 58 | 4·0581185 | 5·0633597 | 3·7724735 | 1·0052412 | 10·1214 | ·098800 | 58 |
| 59 | 4·0242242 | 5·0181803 | 3·7488219 | 0·9939561 | 9·8618 | ·101401 | 59 |
| 60 | 3·9895487 | 4·9717456 | 3·7242956 | 0·9821969 | 9·5984 | ·104184 | 60 |
| 61 | 3·9540027 | 4·9239643 | 3·6987911 | 0·9699616 | 9·3317 | ·107161 | 61 |
| 62 | 3·9174865 | 4·8747375 | 3·6721773 | 0·9572510 | 9·0626 | ·110344 | 62 |
| 63 | 3·8798901 | 4·8239598 | 3·6443263 | 0·9440697 | 8·7916 | ·113744 | 63 |
| 64 | 3·8410932 | 4·7715184 | 3·6150986 | 0·9304252 | 8·5197 | ·117375 | 64 |
| 65 | 3·8009651 | 4·7172951 | 3·5843346 | 0·9163300 | 8·2476 | ·121247 | 65 |
| 66 | 3·7593649 | 4·6611622 | 3·5518817 | 0·9017973 | 7·9762 | ·125373 | 66 |
| 67 | 3·7161411 | 4·6029851 | 3·5175706 | 0·8868440 | 7·7063 | ·129765 | 67 |
| 68 | 3·6711323 | 4·5426226 | 3·4812175 | 0·8714903 | 7·4386 | ·134434 | 68 |
| 69 | 3·6241663 | 4·4799221 | 3·4426459 | 0·8557558 | 7·1739 | ·139394 | 69 |
| 70 | 3·5750610 | 4·4147260 | 3·4016607 | 0·8396650 | 6·9130 | ·144655 | 70 |
| 71 | 3·5236237 | 4·3468672 | 3·3580587 | 0·8232435 | 6·6565 | ·150230 | 71 |
| 72 | 3·4696515 | 4·2761676 | 3·3116352 | 0·8065161 | 6·4050 | ·156129 | 72 |
| 73 | 3·4129310 | 4·2024447 | 3·2621757 | 0·7895137 | 6·1590 | ·162363 | 73 |
| 74 | 3·3532588 | 4·1255008 | 3·2094480 | 0·7722620 | 5·9192 | ·168942 | 74 |
| 75 | 3·2903408 | 4·0451312 | 3·1532141 | 0·7547904 | 5·6858 | ·175877 | 75 |
| 76 | 3·2239928 | 3·9611220 | 3·0932500 | 0·7371292 | 5·4592 | ·183177 | 76 |
| 77 | 3·1539402 | 3·8732508 | 3·0292824 | 0·7193106 | 5·2398 | ·190849 | 77 |
| 78 | 3·0799181 | 3·7812813 | 2·9610697 | 0·7013632 | 5·0276 | ·198901 | 78 |
| 79 | 3·0016513 | 3·6849710 | 2·8883312 | 0·6833197 | 4·8230 | ·207339 | 79 |
| 80 | 2·9188541 | 3·5840620 | 2·8107969 | 0·6652079 | 4·6260 | ·216168 | 80 |
| 81 | 2·8312308 | 3·4782851 | 2·7281670 | 0·6470543 | 4·4366 | ·225396 | 81 |
| 82 | 2·7384751 | 3·3673653 | 2·6401434 | 0·6288902 | 4·2549 | ·235023 | 82 |
| 83 | 2·6402705 | 3·2510149 | 2·5464439 | 0·6107444 | 4·0808 | ·245051 | 83 |
| 84 | 2·5362900 | 3·1289322 | 2·4467390 | 0·5926422 | 3·9142 | ·255481 | 84 |
| 85 | 2·4261965 | 3·0008070 | 2·3406820 | 0·5746105 | 3·7550 | ·266311 | 85 |
| 86 | 2·3096424 | 2·8663169 | 2·2279124 | 0·5566745 | 3·6031 | ·277540 | 86 |
| 87 | 2·1862700 | 2·7251272 | 2·1081928 | 0·5388572 | 3·4583 | ·289163 | 87 |
| 88 | 2·0557109 | 2·5768939 | 1·9810481 | 0·5211830 | 3·3203 | ·301174 | 88 |
| 89 | 1·9175867 | 2·4212633 | 1·8461515 | 0·5036766 | 3·1892 | ·313562 | 89 |
| 90 | 1·7715086 | 2·2578657 | 1·7030333 | 0·4863571 | 3·0645 | ·326319 | 90 |
| 91 | 1·6170774 | 2·0863207 | 1·5515720 | 0·4692433 | 2·9461 | ·339435 | 91 |
| 92 | 1·4538836 | 1·9062380 | 1·3911116 | 0·4523544 | 2·8337 | ·352895 | 92 |
| 93 | 1·2815074 | 1·7172127 | 1·2214142 | 0·4357053 | 2·7271 | ·366686 | 93 |
| 94 | 1·0995187 | 1·5188297 | 1·0417873 | 0·4193110 | 2·6261 | ·380793 | 94 |
| 95 | 0·9074769 | 1·3106615 | 0·8524800 | 0·4031846 | 2·5304 | ·395199 | 95 |
| 96 | 0·7049313 | 1·0922749 | 0·6522463 | 0·3873436 | 2·4397 | ·409880 | 96 |
| 97 | 0·4914207 | 0·8632158 | 0·4409091 | 0·3717951 | 2·3539 | ·424820 | 97 |
| 98 | 0·2664738 | 0·6230217 | 0·2174839 | 0·3565479 | 2·2727 | ·439999 | 98 |
| 99 | 0·0296086 | 0·3712157 | $\bar{1}$·9822712 | 0·3416071 | 2·1959 | ·455400 | 99 |
| 100 | $\bar{1}$·7803331 | 0·1072778 | $\bar{1}$·7323938 | 0·3269447 | 2·1230 | ·471037 | 100 |
| 101 | $\bar{1}$·5181449 | $\bar{1}$·8307169 | $\bar{1}$·4771213 | 0·3125720 | 2·0539 | ·486887 | 101 |
| 102 | $\bar{1}$·2425312 | $\bar{1}$·5409548 | $\bar{1}$·2041200 | 0·2984236 | 1·9880 | ·503010 | 102 |
| 103 | $\bar{2}$·9529689 | $\bar{1}$·2372923 | $\bar{2}$·9542425 | 0·2843234 | 1·9245 | ·519609 | 103 |
| 104 | $\bar{2}$·6489247 | $\bar{2}$·9190781 | $\bar{2}$·6989700 | 0·2701534 | 1·8627 | ·536842 | 104 |
| 105 | $\bar{2}$·3298546 | $\bar{2}$·5843312 | $\bar{2}$·4771213 | 0·2544766 | 1·7967 | ·556575 | 105 |
| 106 | $\bar{3}$·9952048 | $\bar{2}$·2304489 | $\bar{2}$·3010300 | 0·2352441 | 1·7189 | ·581776 | 106 |
| 107 | $\bar{3}$·6444107 | $\bar{3}$·8512583 | $\bar{2}$·0000000 | 0·2068476 | 1·6101 | ·621087 | 107 |
| 108 | $\bar{3}$·2768976 | $\bar{3}$·4313638 | ... | 0·1544662 | 1·4271 | ·700703 | 108 |
| 109 | $\bar{4}$·8920806 | $\bar{4}$·9030900 | ... | 0·0110094 | 1·0257 | ·974968 | 109 |

## YEARLY TABLE:—MALES. Interest 5 per Cent.

**A Table** deduced from the **English Life Table, No. 3.**, for determining the **Value of Annuities, Assurances, &c.** on the whole of a stationary Population—or on the Part of the Population of the Age $x$ and upwards.

| Age ($x$) | $\frac{1}{100} \cdot v^x . Q_x = Q'_x$ | $\Sigma Q'_x = Z_x$ | $\frac{Z_{x+1}}{Q'_x} = A'_x$ | $\lambda\left(\frac{1}{100} Q_x\right) + \lambda v^x = \lambda Q'_x$ | $\lambda Z_x$ | $\lambda Z_{x+1} - \lambda Q'_x = \lambda A'_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 0 | 204,261 | 2,909,766 | 13·245 | 5·3101863 | 6·4638580 | 1·1220620 | 0 |
| 1 | 190,184 | 2,705,505 | 13·226 | 5·2791739 | 6·4322483 | 1·1214196 | 1 |
| 2 | 177,391 | 2,515,321 | 13·180 | 5·2489307 | 6·4005935 | 1·1199008 | 2 |
| 3 | 165,555 | 2,337,930 | 13·122 | 5·2189416 | 6·3688315 | 1·1179932 | 3 |
| 4 | 154,534 | 2,172,375 | 13·058 | 5·1890242 | 6·3369348 | 1·1158627 | 4 |
| 5 | 144,249 | 2,017,841 | 12·989 | 5·1591132 | 6·3048869 | 1·1135619 | 5 |
| 6 | 134,636 | 1,873,592 | 12·916 | 5·1291628 | 6·2726751 | 1·1111258 | 6 |
| 7 | 125,644 | 1,738,956 | 12·840 | 5·0991410 | 6·2402886 | 1·1085773 | 7 |
| 8 | 117,227 | 1,613,312 | 12·762 | 5·0690260 | 6·2077183 | 1·1059303 | 8 |
| 9 | 109,345 | 1,496,085 | 12·682 | 5·0388008 | 6·1749563 | 1·1031942 | 9 |
| 10 | 101,964 | 1,386,740 | 12·600 | 5·0084490 | 6·1419950 | 1·1003784 | 10 |
| 11 | 95,051 | 1,284,776 | 12·517 | 4·9779562 | 6·1088274 | 1·0974904 | 11 |
| 12 | 88,575 | 1,189,725 | 12·432 | 4·9473110 | 6·0754466 | 1·0945356 | 12 |
| 13 | 82,509 | 1,101,150 | 12·346 | 4·9165030 | 6·0418466 | 1·0915182 | 13 |
| 14 | 76,829 | 1,018,641 | 12·259 | 4·8855239 | 6·0080212 | 1·0884403 | 14 |
| 15 | 71,510 | 941,812 | 12·170 | 4·8543672 | 5·9739642 | 1·0853028 | 15 |
| 16 | 66,532 | 870,302 | 12·081 | 4·8230278 | 5·9396700 | 1·0821040 | 16 |
| 17 | 61,873 | 803,770 | 11·991 | 4·7915025 | 5·9051318 | 1·0788411 | 17 |
| 18 | 57,516 | 741,897 | 11·899 | 4·7597883 | 5·8703436 | 1·0755096 | 18 |
| 19 | 53,442 | 684,381 | 11·806 | 4·7278837 | 5·8352979 | 1·0721037 | 19 |
| 20 | 49,635 | 630,939 | 11·712 | 4·6957886 | 5·7999874 | 1·0686147 | 20 |
| 21 | 46,079 | 581,304 | 11·615 | 4·6635028 | 5·7644033 | 1·0650336 | 21 |
| 22 | 42,759 | 535,225 | 11·517 | 4·6310227 | 5·7285364 | 1·0613536 | 22 |
| 23 | 39,659 | 492,466 | 11·418 | 4·5983415 | 5·6923763 | 1·0575716 | 23 |
| 24 | 36,767 | 452,807 | 11·316 | 4·5654526 | 5·6559131 | 1·0536825 | 24 |
| 25 | 34,068 | 416,040 | 11·212 | 4·5323483 | 5·6191351 | 1·0496833 | 25 |
| 26 | 31,552 | 381,972 | 11·106 | 4·4990207 | 5·5820316 | 1·0455682 | 26 |
| 27 | 29,205 | 350,420 | 10·999 | 4·4654608 | 5·5445889 | 1·0413351 | 27 |
| 28 | 27,018 | 321,215 | 10·889 | 4·4316605 | 5·5067959 | 1·0369778 | 28 |
| 29 | 24,981 | 294,197 | 10·777 | 4·3976091 | 5·4686383 | 1·0324918 | 29 |
| 30 | 23,083 | 269,216 | 10·663 | 4·3632966 | 5·4301009 | 1·0278733 | 30 |
| 31 | 21,316 | 246,133 | 10·547 | 4·3287125 | 5·3911699 | 1·0231166 | 31 |
| 32 | 19,672 | 224,817 | 10·428 | 4·2938450 | 5·3518291 | 1·0182160 | 32 |
| 33 | 18,142 | 205,145 | 10·308 | 4·2586817 | 5·3120610 | 1·0131669 | 33 |
| 34 | 16,719 | 187,003 | 10·185 | 4·2232097 | 5·2718486 | 1·0079641 | 34 |
| 35 | 15,396 | 170,284 | 10·060 | 4·1874153 | 5·2311738 | 1·0026025 | 35 |
| 36 | 14,167 | 154,888 | 9·933 | 4·1512835 | 5·1900178 | 0·9970754 | 36 |
| 37 | 13,026 | 140,721 | 9·803 | 4·1147989 | 5·1483589 | 0·9913750 | 37 |
| 38 | 11,966 | 127,695 | 9·672 | 4·0779450 | 5·1061739 | 0·9854973 | 38 |
| 39 | 10,983 | 115,729 | 9·537 | 4·0407044 | 5·0634423 | 0·9794331 | 39 |
| 40 | 10,071 | 104,746 | 9·401 | 4·0030579 | 5·0201375 | 0·9731774 | 40 |
| 41 | 9,225 | 94,675 | 9·262 | 3·9649859 | 4·9762353 | 0·9667262 | 41 |
| 42 | 8,442 | 85,450 | 9·122 | 3·9264672 | 4·9317121 | 0·9600686 | 42 |
| 43 | 7,718 | 77,008 | 8·978 | 3·8874789 | 4·8865358 | 0·9531917 | 43 |
| 44 | 7,047 | 69,290 | 8·833 | 3·8479968 | 4·8406706 | 0·9460937 | 44 |
| 45 | 6,427 | 62,243 | 8·685 | 3·8079951 | 4·7940905 | 0·9387636 | 45 |
| 46 | 5,854 | 55,816 | 8·535 | 3·7674458 | 4·7467587 | 0·9311940 | 46 |
| 47 | 5,325 | 49,962 | 8·383 | 3·7263187 | 4·6986398 | 0·9233763 | 47 |
| 48 | 4,837 | 44,637 | 8·228 | 3·6845817 | 4·6496950 | 0·9153014 | 48 |
| 49 | 4,387 | 39,800 | 8·072 | 3·6421997 | 4·5998831 | 0·9069630 | 49 |
| 50 | 3,973 | 35,413 | 7·913 | 3·5991348 | 4·5491627 | 0·8983477 | 50 |
| 51 | 3,592 | 31,440 | 7·753 | 3·5553455 | 4·4974825 | 0·8894485 | 51 |
| 52 | 3,242 | 27,848 | 7·590 | 3·5107931 | 4·4447940 | 0·8802479 | 52 |
| 53 | 2,920 | 24,606 | 7·426 | 3·4654381 | 4·3910410 | 0·8707414 | 53 |
| 54 | 2,626 | 21,686 | 7·259 | 3·4192316 | 4·3361795 | 0·8608913 | 54 |

## YEARLY TABLE:—MALES. Interest 5 per Cent.

**A Table** deduced from the **English Life Table, No. 3.**, for determining the **Value of Annuities, Assurances, &c.** on the whole of a stationary Population—or on the Part of the Population of the Age $x$ and upwards.

| Age ($x$) | $\frac{1}{100} \cdot v^x . Q_x = Q'_x$ | $\Sigma Q'_x = Z_x$ | $\frac{Z_{x+1}}{Q'_x} = A'_x$ | $\lambda\left(\frac{1}{100} Q_x\right) + \lambda v^x = \lambda Q'_x$ | $\lambda Z_x$ | $\lambda Z_{x+1} - \lambda Q'_x = \lambda A'_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 55 | 2,356 | 19,060 | 7·091 | 3·3721191 | 4·2801229 | 0·8507014 | 55 |
| 56 | 2,109 | 16,704 | 6·921 | 3·3240413 | 4·2228205 | 0·8401628 | 56 |
| 57 | 1,883 | 14,595 | 6·750 | 3·2749339 | 4·1642041 | 0·8292800 | 57 |
| 58 | 1,678 | 12,712 | 6·577 | 3·2247263 | 4·1042139 | 0·8180067 | 58 |
| 59 | 1,491 | 11,034 | 6·402 | 3·1733425 | 4·0427330 | 0·8063424 | 59 |
| 60 | 1,320 | 9,543 | 6·228 | 3·1207005 | 3·9796849 | 0·7943298 | 60 |
| 61 | 1,166 | 8,223 | 6·052 | 3·0667118 | 3·9150303 | 0·7819083 | 61 |
| 62 | 1,026 | 7,057 | 5·876 | 3·0112814 | 3·8486201 | 0·7691079 | 62 |
| 63 | 900 | 6,031 | 5·700 | 2·9543074 | 3·7803893 | 0·7558946 | 63 |
| 64 | 786 | 5,131 | 5·525 | 2·8956807 | 3·7102020 | 0·7423091 | 64 |
| 65 | 684 | 4,345 | 5·350 | 2·8352851 | 3·6379898 | 0·7283146 | 65 |
| 66 | 593 | 3,661 | 5·174 | 2·7729958 | 3·5635997 | 0·7138596 | 66 |
| 67 | 511 | 3,068 | 5·001 | 2·7086811 | 3·4868554 | 0·6990496 | 67 |
| 68 | 439 | 2,557 | 4·828 | 2·6422001 | 3·4077307 | 0·6837259 | 68 |
| 69 | 374 | 2,118 | 4·657 | 2·5734038 | 3·3259260 | 0·6681427 | 69 |
| 70 | 318 | 1,744 | 4·487 | 2·5021343 | 3·2415465 | 0·6519852 | 70 |
| 71 | 268 | 1,426 | 4·320 | 2·4282238 | 3·1541195 | 0·6354848 | 71 |
| 72 | 225 | 1,158 | 4·153 | 2·3514958 | 3·0637086 | 0·6183858 | 72 |
| 73 | 187 | 933 | 3·990 | 2·2717634 | 2·9698816 | 0·6009754 | 73 |
| 74 | 154 | 746 | 3·833 | 2·1888303 | 2·8727388 | 0·5834914 | 74 |
| 75 | 127 | 592 | 3·673 | 2·1024896 | 2·7723217 | 0·5649634 | 75 |
| 76 | 103 | 465 | 3·517 | 2·0125243 | 2·6674530 | 0·5461843 | 76 |
| 77 | 83 | 362 | 3·364 | 1·9187062 | 2·5587086 | 0·5268980 | 77 |
| 78 | 66 | 279 | 3·218 | 1·8207962 | 2·4456042 | 0·5075834 | 78 |
| 79 | 52 | 213 | 3·078 | 1·7185454 | 2·3283796 | 0·4882805 | 79 |
| 80 | 41 | 161 | 2·934 | 1·6116927 | 2·2068259 | 0·4674885 | 80 |
| 81 | 32 | 120 | 2·783 | 1·4999647 | 2·0791812 | 0·4445180 | 81 |
| 82 | 24 | 88 | 2·649 | 1·3830777 | 1·9444827 | 0·4231023 | 82 |
| 83 | 18 | 64 | 2·524 | 1·2607368 | 1·8061800 | 0·4020210 | 83 |
| 84 | 14 | 46 | 2·358 | 1·1326345 | 1·6627578 | 0·3725155 | 84 |
| 85 | 10 | 32 | 2·208 | 0·9984569 | 1·5051500 | 0·3439658 | 85 |
| 86 | 7 | 22 | 2·081 | 0·8578654 | 1·3424227 | 0·3182259 | 86 |
| 87 | 5 | 15 | 1·947 | 0·7105232 | 1·1760913 | 0·2894768 | 87 |
| 88 | 4 | 10 | 1·668 | 0·5560729 | 1·0000000 | 0·2220784 | 88 |
| 89 | 2 | 6 | 1·614 | 0·3941614 | 0·7781513 | 0·2078986 | 89 |
| 90 | 2 | 4 | 1·193 | 0·2243893 | 0·6020600 | 0·0766407 | 90 |
| 91 | 1 | 2 | ·899 | 0·0463776 | 0·3010300 | $\bar{1}$·9536224 | 91 |
| 92 | 1 | 1 | ... | $\bar{1}$·8597400 | 0·0000000 | ... | 92 |
| 93 | ... | ... | ... | $\bar{1}$·6640740 | ... | ... | 93 |
| 94 | ... | ... | ... | $\bar{1}$·4589168 | ... | ... | 94 |
| 95 | ... | ... | ... | $\bar{1}$·2437343 | ... | ... | 95 |
| 96 | ... | ... | ... | $\bar{1}$·0181564 | ... | ... | 96 |
| 97 | ... | ... | ... | $\bar{2}$·7815947 | ... | ... | 97 |
| 98 | ... | ... | ... | $\bar{2}$·5341089 | ... | ... | 98 |
| 99 | ... | ... | ... | $\bar{2}$·2751714 | ... | ... | 99 |
| 100 | ... | ... | ... | $\bar{2}$·0049217 | ... | ... | 100 |

**Note.**—The first and second columns in this Table correspond in the nature of their construction and relations with the columns D and N in the previous Tables for calculating Life Annuities. The numbers in the first column are obtained by multiplying the numbers in the column Q of the Life Table by the successive powers of $v = \frac{1}{1 \cdot 05}$ (when the interest of money is 5 per cent.), and dividing by 100. The division by 100 is equivalent to cutting off 2 figures, which is done merely for the sake of convenience, as the Table in its present form is sufficiently extensive for all the purposes to which it can be applied. The $v$ varies with the interest of money.

## YEARLY TABLE:—MALES. Interest 6 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 511,745 | 6,126,391 | 6·7872047 | 55 | 8,500·4 | 85,970·5 | 4·9343495 |
| 1 | 403,798 | 5,614,646 | 6·7493224 | 56 | 7,822·4 | 77,470·1 | 4·8891342 |
| 2 | 356,448 | 5,210,848 | 6·7169084 | 57 | 7,189·0 | 69,647·7 | 4·8429067 |
| 3 | 324,336 | 4,854,400 | 6·6861356 | 58 | 6,597·2 | 62,458·7 | 4·7955929 |
| 4 | 298,680 | 4,530,064 | 6·6561044 | 59 | 6,044·3 | 55,861·5 | 4·7471126 |
| 5 | 276,753 | 4,231,384 | 6·6264824 | 60 | 5,527·8 | 49,817·2 | 4·6973793 |
| 6 | 257,539 | 3,954,631 | 6·5971060 | 61 | 5,045·4 | 44,289·4 | 4·6462998 |
| 7 | 240,333 | 3,697,092 | 6·5678602 | 62 | 4,594·7 | 39,244·0 | 4·5937733 |
| 8 | 224,653 | 3,456,759 | 6·5386691 | 63 | 4,173·9 | 34,649·3 | 4·5396945 |
| 9 | 210,318 | 3,232,106 | 6·5094856 | 64 | 3,781·2 | 30,475·4 | 4·4839494 |
| 10 | 197,131 | 3,021,788 | 6·4802640 | 65 | 3,415·0 | 26,694·2 | 4·4264169 |
| 11 | 184,928 | 2,824,657 | 6·4509658 | 66 | 3,073·8 | 23,279·2 | 4·3669680 |
| 12 | 173,577 | 2,639,729 | 6·4215594 | 67 | 2,756·3 | 20,205·4 | 4·3054675 |
| 13 | 162,971 | 2,466,152 | 6·3920199 | 68 | 2,461·5 | 17,449·1 | 4·2417730 |
| 14 | 153,023 | 2,303,181 | 6·3623281 | 69 | 2,188·4 | 14,987·6 | 4·1757321 |
| 15 | 143,660 | 2,150,158 | 6·3324704 | 70 | 1,936·0 | 12,799·2 | 4·1071828 |
| 16 | 134,828 | 2,006,498 | 6·3024387 | 71 | 1,703·5 | 10,863·2 | 4·0359578 |
| 17 | 126,480 | 1,871,670 | 6·2722292 | 72 | 1,490·2 | 9,159·7 | 3·9618812 |
| 18 | 118,580 | 1,745,190 | 6·2418427 | 73 | 1,295·5 | 7,669·5 | 3·8847671 |
| 19 | 111,101 | 1,626,610 | 6·2112835 | 74 | 1,118·4 | 6,374·0 | 3·8044121 |
| 20 | 104,020 | 1,515,509 | 6·1805585 | 75 | 958·51 | 5,255·58 | 3·7206206 |
| 21 | 97,320 | 1,411,489 | 6·1496775 | 76 | 814·96 | 4,297·07 | 3·6331725 |
| 22 | 91,034 | 1,314,169 | 6·1186513 | 77 | 687·01 | 3,482·11 | 3·5418425 |
| 23 | 85,138 | 1,223,135 | 6·0874745 | 78 | 573·89 | 2,795·10 | 3·4463974 |
| 24 | 79,611 | 1,137,997 | 6·0561413 | 79 | 474·73 | 2,221·21 | 3·3465897 |
| 25 | 74,430 | 1,058,386 | 6·0246442 | 80 | 388·62 | 1,746·48 | 3·2421636 |
| 26 | 69,573 | 983,956 | 5·9929756 | 81 | 314·62 | 1,357·86 | 3·1328550 |
| 27 | 65,023 | 914,383 | 5·9611281 | 82 | 251·72 | 1,043·24 | 3·0183843 |
| 28 | 60,759 | 849,360 | 5·9290918 | 83 | 198·88 | 791·52 | 2·8984619 |
| 29 | 56,764 | 788,601 | 5·8968574 | 84 | 155·06 | 592·64 | 2·7727910 |
| 30 | 53,022 | 731,837 | 5·8644143 | 85 | 119·20 | 437·58 | 2·6410575 |
| 31 | 49,517 | 678,815 | 5·8317514 | 86 | 90·285 | 318·375 | 2·5029390 |
| 32 | 46,234 | 629,298 | 5·7988563 | 87 | 67·318 | 228·090 | 2·3581062 |
| 33 | 43,159 | 583,064 | 5·7657162 | 88 | 49·369 | 160·772 | 2·2062104 |
| 34 | 40,279 | 539,905 | 5·7323174 | 89 | 35·581 | 111·403 | 2·0468969 |
| 35 | 37,581 | 499,626 | 5·6986450 | 90 | 25·178 | 75·822 | 1·8797952 |
| 36 | 35,054 | 462,045 | 5·6646843 | 91 | 17·477 | 50·644 | 1·7045280 |
| 37 | 32,688 | 426,991 | 5·6304187 | 92 | 11·889 | 33·167 | 1·5207062 |
| 38 | 30,472 | 394,303 | 5·5958301 | 93 | 7·9189 | 21·2784 | 1·3279390 |
| 39 | 28,396 | 363,831 | 5·5608997 | 94 | 5·1590 | 13·3595 | 1·1257902 |
| 40 | 26,452 | 335,435 | 5·5256084 | 95 | 3·2840 | 8·2005 | 0·9138403 |
| 41 | 24,631 | 308,983 | 5·4899346 | 96 | 2·0405 | 4·9165 | 0·6916560 |
| 42 | 22,925 | 284,352 | 5·4538563 | 97 | 1·2363 | 2·8760 | 0·4587889 |
| 43 | 21,328 | 261,427 | 5·4173504 | 98 | ·7295 | 1·6397 | 0·2147644 |
| 44 | 19,832 | 240,099 | 5·3803904 | 99 | ·4189 | ·9102 | $\bar{1}$·9591368 |
| 45 | 18,432 | 220,267 | 5·3429495 | 100 | ·2337 | ·4913 | $\bar{1}$·6913468 |
| 46 | 17,120 | 201,835 | 5·3049965 | 101 | ·1266 | ·2576 | $\bar{1}$·4109459 |
| 47 | 15,893 | 184,715 | 5·2665022 | 102 | ·0665 | ·1310 | $\bar{1}$·1172713 |
| 48 | 14,743 | 168,822 | 5·2274290 | 103 | ·0338 | ·0645 | $\bar{2}$·8095597 |
| 49 | 13,668 | 154,079 | 5·1877435 | 104 | ·0166 | ·0307 | $\bar{2}$·4871384 |
| 50 | 12,661 | 140,411 | 5·1474011 | 105 | ·0079 | ·0141 | $\bar{2}$·1492191 |
| 51 | 11,719 | 127,750 | 5·1063609 | 106 | ·0036 | ·0062 | $\bar{3}$·7923917 |
| 52 | 10,832 | 116,031 | 5·0645741 | 107 | ·0016 | ·0026 | $\bar{3}$·4149733 |
| 53 | 10,002 | 105,199 | 5·0220117 | 108 | ·0007 | ·0010 | $\bar{3}$·0000000 |
| 54 | 9,226·0 | 95,196·5 | 4·9786210 | 109 | ·0003 | ·0003 | $\bar{4}$·4771213 |

## YEARLY TABLE:—Males. Interest 7 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 511,745 | 5,445,241 | 6·7360171 | 55 | 5,071·7 | 47,927·3 | 4·6805829 |
| 1 | 400,024 | 4,933,496 | 6·6931547 | 56 | 4,623·6 | 42,855·6 | 4·6320076 |
| 2 | 349,817 | 4,533,472 | 6·6564309 | 57 | 4,209·5 | 38,232·0 | 4·5824270 |
| 3 | 315,328 | 4,183,655 | 6·6215559 | 58 | 3,826·8 | 34,022·5 | 4·5317662 |
| 4 | 287,670 | 3,868,327 | 6·5875232 | 59 | 3,473·4 | 30,195·7 | 4·4799451 |
| 5 | 264,060 | 3,580,657 | 6·5539628 | 60 | 3,146·9 | 26,722·3 | 4·4268739 |
| 6 | 243,431 | 3,316,597 | 6·5206927 | 61 | 2,845·4 | 23,575·4 | 4·3724591 |
| 7 | 225,044 | 3,073,166 | 6·4875861 | 62 | 2,567·0 | 20,730·0 | 4·3165993 |
| 8 | 208,395 | 2,848,122 | 6·4545586 | 63 | 2,310·1 | 18,163·0 | 4·2591876 |
| 9 | 193,275 | 2,639,727 | 6·4215591 | 64 | 2,073·2 | 15,852·9 | 4·2001088 |
| 10 | 179,463 | 2,446,452 | 6·3885368 | 65 | 1,854·9 | 13,779·7 | 4·1392398 |
| 11 | 166,781 | 2,266,989 | 6·3554494 | 66 | 1,654·0 | 11,924·8 | 4·0764512 |
| 12 | 155,081 | 2,100,208 | 6·3222624 | 67 | 1,469·3 | 10,270·8 | 4·0116042 |
| 13 | 144,244 | 1,945,127 | 6·2889480 | 68 | 1,299·9 | 8,801·5 | 3·9445567 |
| 14 | 134,173 | 1,800,883 | 6·2554855 | 69 | 1,144·8 | 7,501·6 | 3·8751539 |
| 15 | 124,786 | 1,666,710 | 6·2218600 | 70 | 1,003·3 | 6,356·8 | 3·8032385 |
| 16 | 116,020 | 1,541,924 | 6·1880629 | 71 | 874·61 | 5,353·52 | 3·7286394 |
| 17 | 107,819 | 1,425,904 | 6·1540903 | 72 | 757·96 | 4,478·91 | 3·6511724 |
| 18 | 100,141 | 1,318,085 | 6·1199435 | 73 | 652·73 | 3,720·95 | 3·5706539 |
| 19 | 92,948 | 1,217,944 | 6·0856273 | 74 | 558·27 | 3,068·22 | 3·4868865 |
| 20 | 86,211 | 1,124,996 | 6·0511510 | 75 | 473·97 | 2,509·95 | 3·3996651 |
| 21 | 79,903 | 1,038,785 | 6·0165257 | 76 | 399·22 | 2,035·98 | 3·3087735 |
| 22 | 74,044 | 958,882 | 5·9817652 | 77 | 333·40 | 1,636·76 | 3·2139850 |
| 23 | 68,601 | 884,838 | 5·9468637 | 78 | 275·90 | 1,303·36 | 3·1150644 |
| 24 | 63,548 | 816,237 | 5·9118163 | 79 | 226·09 | 1,027·46 | 3·0117650 |
| 25 | 58,857 | 752,689 | 5·8766155 | 80 | 183·36 | 801·37 | 2·9038331 |
| 26 | 54,503 | 693,832 | 5·8412543 | 81 | 147·05 | 618·01 | 2·7909955 |
| 27 | 50,462 | 639,329 | 5·8057244 | 82 | 116·55 | 470·96 | 2·6729840 |
| 28 | 46,712 | 588,867 | 5·7700172 | 83 | 91·228 | 354·412 | 2·5495084 |
| 29 | 43,233 | 542,155 | 5·7341235 | 84 | 70·462 | 263·184 | 2·4202595 |
| 30 | 40,006 | 498,922 | 5·6980326 | 85 | 53·662 | 192·722 | 2·2849313 |
| 31 | 37,012 | 458,916 | 5·6617332 | 86 | 40·264 | 139·060 | 2·1432022 |
| 32 | 34,235 | 421,904 | 5·6252136 | 87 | 29·741 | 98·796 | 1·9947394 |
| 33 | 31,659 | 387,669 | 5·5884611 | 88 | 21·607 | 69·055 | 1·8391951 |
| 34 | 29,270 | 356,010 | 5·5514622 | 89 | 15·427 | 47·448 | 1·6762179 |
| 35 | 27,055 | 326,740 | 5·5142023 | 90 | 10·814 | 32·021 | 1·5054349 |
| 36 | 25,000 | 299,685 | 5·4766651 | 91 | 7·4367 | 21·2073 | 1·3264854 |
| 37 | 23,094 | 274,685 | 5·4388349 | 92 | 5·0118 | 13·7706 | 1·1389529 |
| 38 | 21,327 | 251,591 | 5·4006951 | 93 | 3·3069 | 8·7588 | 0·9424446 |
| 39 | 19,689 | 230,264 | 5·3622261 | 94 | 2·1342 | 5·4519 | 0·7365479 |
| 40 | 18,169 | 210,575 | 5·3234068 | 95 | 1·3459 | 3·3177 | 0·5208371 |
| 41 | 16,760 | 192,406 | 5·2842186 | 96 | ·8284 | 1·9718 | 0·2948629 |
| 42 | 15,454 | 175,646 | 5·2446383 | 97 | ·4972 | 1·1434 | 0·0581982 |
| 43 | 14,243 | 160,192 | 5·2046408 | 98 | ·2907 | ·6462 | $\bar{1}$·8103670 |
| 44 | 13,120 | 145,949 | 5·1642011 | 99 | ·1653 | ·3555 | $\bar{1}$·5508396 |
| 45 | 12,080 | 132,829 | 5·1232929 | 100 | ·0914 | ·1902 | $\bar{1}$·2792105 |
| 46 | 11,116 | 120,749 | 5·0818835 | 101 | ·0490 | ·0988 | $\bar{2}$·9947569 |
| 47 | 10,222 | 109,633 | 5·0399413 | 102 | ·0255 | ·0498 | $\bar{2}$·6972293 |
| 48 | 9,394·1 | 99,410·9 | 4·9974340 | 103 | ·0129 | ·0243 | $\bar{2}$·3856063 |
| 49 | 8,627·3 | 90,016·8 | 4·9543235 | 104 | ·0063 | ·0114 | $\bar{2}$·0569049 |
| 50 | 7,917·2 | 81,389·5 | 4·9105684 | 105 | ·0029 | ·0051 | $\bar{3}$·7075702 |
| 51 | 7,259·8 | 73,472·3 | 4·8661237 | 106 | ·0013 | ·0022 | $\bar{3}$·3424227 |
| 52 | 6,647·7 | 66,212·5 | 4·8209400 | 107 | ·0006 | ·0009 | $\bar{4}$·9542425 |
| 53 | 6,080·9 | 59,564·8 | 4·7749897 | 108 | ·0002 | ·0003 | $\bar{4}$·4771213 |
| 54 | 5,556·6 | 53,483·9 | 4·7282231 | 109 | ·0001 | ·0001 | $\bar{4}$·0000000 |

## YEARLY TABLE:—MALES. Interest 8 per Cent.

| Age $(x)$ | $D_x$ | $N_x$ | $\lambda N_x$ | Age $(x)$ | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 511,745 | 4,906,777 | 6·6907963 | 55 | 3,040·6 | 26,958·2 | 4·4306909 |
| 1 | 396,320 | 4,395,032 | 6·6429621 | 56 | 2,746·2 | 23,917·6 | 4·3787176 |
| 2 | 343,368 | 3,998,712 | 6·6019201 | 57 | 2,477·1 | 21,171·4 | 4·3257496 |
| 3 | 306,649 | 3,655,344 | 6·5629283 | 58 | 2,231·1 | 18,694·3 | 4·2717092 |
| 4 | 277,163 | 3,348,695 | 6·5248756 | 59 | 2,006·3 | 16,463·2 | 4·2165143 |
| 5 | 252,059 | 3,071,532 | 6·4873551 | 60 | 1,800·9 | 14,456·9 | 4·1600752 |
| 6 | 230,216 | 2,819,473 | 6·4501680 | 61 | 1,613·2 | 12,656·0 | 4·1022965 |
| 7 | 210,857 | 2,589,257 | 6·4131752 | 62 | 1,442·0 | 11,042·8 | 4·0430793 |
| 8 | 193,450 | 2,378,400 | 6·3762849 | 63 | 1,285·6 | 9,600·8 | 3·9823074 |
| 9 | 177,752 | 2,184,950 | 6·3394415 | 64 | 1,143·1 | 8,315·2 | 3·9198727 |
| 10 | 163,522 | 2,007,198 | 6·3025901 | 65 | 1,013·3 | 7,172·1 | 3·8556463 |
| 11 | 150,559 | 1,843,676 | 6·2656846 | 66 | 895·14 | 6,158·80 | 3·7894961 |
| 12 | 138,701 | 1,693,117 | 6·2286870 | 67 | 787·83 | 5,263·66 | 3·7212878 |
| 13 | 127,814 | 1,554,416 | 6·1915673 | 68 | 690·54 | 4,475·83 | 3·6508736 |
| 14 | 117,789 | 1,426,602 | 6·1543028 | 69 | 602·54 | 3,785·29 | 3·5780992 |
| 15 | 108,535 | 1,308,813 | 6·1168776 | 70 | 523·18 | 3,182·75 | 3·5028025 |
| 16 | 99,975 | 1,200,278 | 6·0792819 | 71 | 451·83 | 2,659·57 | 3·4248114 |
| 17 | 92,048 | 1,100,303 | 6·0415123 | 72 | 387·95 | 2,207·74 | 3·3439479 |
| 18 | 84,701 | 1,008,255 | 6·0035705 | 73 | 330·99 | 1,819·79 | 3·2600213 |
| 19 | 77,890 | 923,554 | 5·9654623 | 74 | 280·47 | 1,488·80 | 3·1728364 |
| 20 | 71,575 | 845,664 | 5·9271978 | 75 | 235·92 | 1,208·33 | 3·0821856 |
| 21 | 65,724 | 774,089 | 5·8887909 | 76 | 196·87 | 972·41 | 2·9878494 |
| 22 | 60,340 | 708,365 | 5·8502571 | 77 | 162·89 | 775·54 | 2·8896042 |
| 23 | 55,388 | 648,025 | 5·8115918 | 78 | 133·55 | 612·65 | 2·7872124 |
| 24 | 50,833 | 592,637 | 5·7727888 | 79 | 108·42 | 479·10 | 2·6804262 |
| 25 | 46,644 | 541,804 | 5·7338422 | 80 | 87·116 | 370·676 | 2·5689945 |
| 26 | 42,794 | 495,160 | 5·6947456 | 81 | 69·221 | 283·560 | 2·4526450 |
| 27 | 39,254 | 452,366 | 5·6554900 | 82 | 54·356 | 214·339 | 2·3311012 |
| 28 | 36,001 | 413,112 | 5·6160678 | 83 | 42·151 | 159·983 | 2·2040738 |
| 29 | 33,011 | 377,111 | 5·5764692 | 84 | 32·255 | 117·832 | 2·0712633 |
| 30 | 30,264 | 344,100 | 5·5366847 | 85 | 24·337 | 85·577 | 1·9323571 |
| 31 | 27,740 | 313,836 | 5·4967028 | 86 | 18·092 | 61·240 | 1·7870352 |
| 32 | 25,421 | 286,096 | 5·4565118 | 87 | 13·240 | 43·148 | 1·6349607 |
| 33 | 23,291 | 260,675 | 5·4160994 | 88 | 9·5297 | 29·9080 | 1·4757874 |
| 34 | 21,334 | 237,384 | 5·3754514 | 89 | 6·7409 | 20·3783 | 1·3091680 |
| 35 | 19,536 | 216,050 | 5·3345543 | 90 | 4·6817 | 13·6374 | 1·1347316 |
| 36 | 17,885 | 196,514 | 5·2933935 | 91 | 3·1896 | 8·9557 | 0·9520995 |
| 37 | 16,369 | 178,629 | 5·2519520 | 92 | 2·1297 | 5·7661 | 0·7608822 |
| 38 | 14,977 | 162,260 | 5·2102115 | 93 | 1·3922 | 3·6364 | 0·5606716 |
| 39 | 13,698 | 147,283 | 5·1681527 | 94 | ·8902 | 2·2442 | 0·3510616 |
| 40 | 12,524 | 133,585 | 5·1257577 | 95 | ·5562 | 1·3540 | 0·1316187 |
| 41 | 11,446 | 121,061 | 5·0830043 | 96 | ·3392 | ·7978 | $\bar{1}$·9018940 |
| 42 | 10,456 | 109,615 | 5·0398701 | 97 | ·2017 | ·4586 | $\bar{1}$·6614341 |
| 43 | 9,547·4 | 99,159·3 | 4·9963334 | 98 | ·1168 | ·2569 | $\bar{1}$·4097641 |
| 44 | 8,713·4 | 89,611·9 | 4·9523657 | 99 | ·0658 | ·1401 | $\bar{1}$·1464381 |
| 45 | 7,948·1 | 80,898·5 | 4·9079405 | 100 | ·0360 | ·0743 | $\bar{2}$·8709888 |
| 46 | 7,245·9 | 72,950·4 | 4·8630277 | 101 | ·0192 | ·0383 | $\bar{2}$·5831988 |
| 47 | 6,601·7 | 65,704·5 | 4·8175951 | 102 | ·0099 | ·0191 | $\bar{2}$·2810334 |
| 48 | 6,010·9 | 59,102·8 | 4·7716080 | 103 | ·0049 | ·0092 | $\bar{3}$·9637878 |
| 49 | 5,469·1 | 53,091·9 | 4.7250283 | 104 | ·0024 | ·0043 | $\bar{3}$·6334685 |
| 50 | 4,972·5 | 47,622·8 | 4·6778150 | 105 | ·0011 | ·0019 | $\bar{3}$·2787536 |
| 51 | 4,517·4 | 42,650·3 | 4·6299221 | 106 | ·0005 | ·0008 | $\bar{4}$·9030900 |
| 52 | 4,098·2 | 38,132·9 | 4·5812999 | 107 | ·0002 | ·0003 | $\bar{4}$·4771213 |
| 53 | 3,714·1 | 34,034·7 | 4·5319220 | 108 | ·0001 | ·0001 | $\bar{4}$·0000000 |
| 54 | 3,362·4 | 30,320·6 | 4·4817378 | 109 | ... | ... | ... |

YEARLY TABLE:—MALES. Interest 9 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 511,745 | 4,472,060 | 6·6505076 | 55 | 1,831·5 | 15,292·7 | 4·1844842 |
| 1 | 392,684 | 3,960,315 | 6·5977298 | 56 | 1,639·0 | 13,461·2 | 4·1290838 |
| 2 | 337,097 | 3,567,631 | 6·5523799 | 57 | 1,464·8 | 11,822·2 | 4·0726983 |
| 3 | 298,287 | 3,230,534 | 6·5092743 | 58 | 1,307·3 | 10,357·4 | 4·0152508 |
| 4 | 267,131 | 2,932,247 | 6·4672005 | 59 | 1,164·7 | 9,050·1 | 3·9566534 |
| 5 | 240,707 | 2,665,116 | 6·4257161 | 60 | 1,035·9 | 7,885·4 | 3·8968237 |
| 6 | 217,831 | 2,424,409 | 6·3846059 | 61 | 919·46 | 6,849·52 | 3·8356602 |
| 7 | 197,683 | 2,206,578 | 6·3437193 | 62 | 814·29 | 5,930·06 | 3·7730591 |
| 8 | 179,699 | 2,008,895 | 6·3029572 | 63 | 719·36 | 5,115·77 | 3·7089111 |
| 9 | 163,603 | 1,829,196 | 6·2622602 | 64 | 633·74 | 4,396·41 | 3·6430982 |
| 10 | 149,124 | 1,665,593 | 6·2215689 | 65 | 556·61 | 3,762·67 | 3·5754962 |
| 11 | 136,043 | 1,516,469 | 6·1808336 | 66 | 487·20 | 3,206·06 | 3·5059717 |
| 12 | 124,178 | 1,380,426 | 6·1400132 | 67 | 424·86 | 2,718·86 | 3·4343868 |
| 13 | 113,382 | 1,256,248 | 6·0990755 | 68 | 368·98 | 2,294·00 | 3·3605934 |
| 14 | 103,530 | 1,142,866 | 6·0579954 | 69 | 319·01 | 1,925·02 | 3·2844352 |
| 15 | 94,521 | 1,039,336 | 6·0167560 | 70 | 274·45 | 1,606·01 | 3·2057482 |
| 16 | 86,268 | 944,815 | 5·9753468 | 71 | 234·85 | 1,331·56 | 3·1243608 |
| 17 | 78,699 | 858,547 | 5·9337641 | 72 | 199·79 | 1,096·71 | 3·0400918 |
| 18 | 71,753 | 779,848 | 5·8920100 | 73 | 168·89 | 896·92 | 2·9527537 |
| 19 | 65,377 | 708,095 | 5·8500916 | 74 | 141·80 | 728·03 | 2·8621493 |
| 20 | 59,526 | 642,718 | 5·8080205 | 75 | 118·18 | 586·23 | 2·7680680 |
| 21 | 54,159 | 583,192 | 5·7658116 | 76 | 97·716 | 468·053 | 2·6702950 |
| 22 | 49,266 | 529,033 | 5·7234828 | 77 | 80·108 | 370·337 | 2·5685971 |
| 23 | 44,807 | 479,767 | 5·6810304 | 78 | 65·075 | 290·229 | 2·4627408 |
| 24 | 40,745 | 434,960 | 5·6384493 | 79 | 52·349 | 225·154 | 2·3524797 |
| 25 | 37,045 | 394,215 | 5·5957332 | 80 | 41·675 | 172·805 | 2·2375563 |
| 26 | 33,675 | 357,170 | 5·5528750 | 81 | 32·811 | 131·130 | 2·1177021 |
| 27 | 30,606 | 323,495 | 5·5098676 | 82 | 25·528 | 98·319 | 1·9926375 |
| 28 | 27,812 | 292,889 | 5·4667030 | 83 | 19·615 | 72·791 | 1·8620777 |
| 29 | 25,268 | 265,077 | 5·4233721 | 84 | 14·872 | 53·176 | 1·7257157 |
| 30 | 22,953 | 239,809 | 5·3798655 | 85 | 11·118 | 38·304 | 1·5832441 |
| 31 | 20,846 | 216,856 | 5·3361715 | 86 | 8·1892 | 27·1857 | 1·4343405 |
| 32 | 18,928 | 196,010 | 5·2922782 | 87 | 5·9379 | 18·9965 | 1·2786736 |
| 33 | 17,183 | 177,082 | 5·2481744 | 88 | 4·2348 | 13·0586 | 1·1158966 |
| 34 | 15,595 | 159,899 | 5·2038458 | 89 | 2·9681 | 8·8238 | 0·9456557 |
| 35 | 14,150 | 144,304 | 5·1592783 | 90 | 2·0425 | 5·8557 | 0·7675788 |
| 36 | 12,835 | 130,154 | 5·1144575 | 91 | 1·3788 | 3·8132 | 0·5812896 |
| 37 | 11,639 | 117,319 | 5·0693684 | 92 | ·9121 | 2·4344 | 0·3863919 |
| 38 | 10,551 | 105,680 | 5·0239928 | 93 | ·5908 | 1·5223 | 0·1825002 |
| 39 | 9,562·0 | 95,128·9 | 4·9783125 | 94 | ·3743 | ·9315 | $\bar{1}$·9691829 |
| 40 | 8,662·1 | 85,566·9 | 4·9323058 | 95 | ·2317 | ·5572 | $\bar{1}$·7460111 |
| 41 | 7,843·9 | 76,904·8 | 4·8859535 | 96 | ·1400 | ·3255 | $\bar{1}$·5125510 |
| 42 | 7,099·8 | 69,060·9 | 4·8392323 | 97 | ·0825 | ·1855 | $\bar{1}$·2683439 |
| 43 | 6,423·4 | 61,961·1 | 4·7921191 | 98 | ·0473 | ·1030 | $\bar{1}$·0128372 |
| 44 | 5,808·6 | 55,537·7 | 4·7445879 | 99 | ·0264 | ·0557 | $\bar{2}$·7458552 |
| 45 | 5,249·8 | 49,729·1 | 4·6966106 | 100 | ·0143 | ·0293 | $\bar{2}$·4668676 |
| 46 | 4,742·1 | 44,479·3 | 4·6481579 | 101 | ·0076 | ·0150 | $\bar{2}$·1760913 |
| 47 | 4,280·8 | 39,737·2 | 4·5991973 | 102 | ·0039 | ·0074 | $\bar{3}$·8692317 |
| 48 | 3,861·9 | 35,456·4 | 4·5496946 | 103 | ·0019 | ·0035 | $\bar{3}$·5440680 |
| 49 | 3,481·6 | 31,594·5 | 4·4996115 | 104 | ·0009 | ·0016 | $\bar{3}$·2041200 |
| 50 | 3,136·4 | 28,112·9 | 4·4489057 | 105 | ·0004 | ·0007 | $\bar{4}$·8450980 |
| 51 | 2,823·2 | 24,976·5 | 4·3975316 | 106 | ·0002 | ·0003 | $\bar{4}$·4771213 |
| 52 | 2,537·7 | 22,153·3 | 4·3454384 | 107 | ·0001 | ·0001 | $\bar{4}$·0000000 |
| 53 | 2,278·8 | 19,615·6 | 4·2926016 | 108 | ... | ... | ... |
| 54 | 2,044·1 | 17,336·8 | 4·2389689 | 109 | ... | ... | ... |

## YEARLY TABLE:—MALES. Interest 10 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 511,745 | 4,114,630 | 6·6143308 | 55 | 1,108·3 | 8,745·8 | 3·9417995 |
| 1 | 389,115 | 3,602,885 | 6·5566504 | 56 | 982·83 | 7,637·51 | 3·8829518 |
| 2 | 330,996 | 3,213,770 | 6·5070148 | 57 | 870·40 | 6,654·68 | 3·8231272 |
| 3 | 290,225 | 2,882,774 | 6·4598106 | 58 | 769·70 | 5,784·28 | 3·7622493 |
| 4 | 257,549 | 2,592,549 | 6·4137270 | 59 | 679·55 | 5,014·58 | 3·7002346 |
| 5 | 229,963 | 2,335,000 | 6·3682869 | 60 | 598·89 | 4,335·03 | 3·6369921 |
| 6 | 206,216 | 2,105,037 | 6·3232597 | 61 | 526·74 | 3,736·14 | 3·5724231 |
| 7 | 185,441 | 1,898,821 | 6·2784840 | 62 | 462·25 | 3,209·40 | 3·5064238 |
| 8 | 167,039 | 1,713,380 | 6·2338537 | 63 | 404·65 | 2,747·15 | 3·4388824 |
| 9 | 150,694 | 1,546,341 | 6·1893053 | 64 | 353·25 | 2,342·50 | 3·3696796 |
| 10 | 136,109 | 1,395,647 | 6·1447756 | 65 | 307·43 | 1,989·25 | 3·2986894 |
| 11 | 123,040 | 1,259,538 | 6·1002114 | 66 | 266·65 | 1,681·82 | 3·2257795 |
| 12 | 111,289 | 1,136,498 | 6·0555688 | 67 | 230·42 | 1,415·17 | 3·1508086 |
| 13 | 100,689 | 1,025,209 | 6·0108124 | 68 | 198·29 | 1,184·75 | 3·0736268 |
| 14 | 91,105 | 924,520 | 5·9659163 | 69 | 169·88 | 986·46 | 2·9940795 |
| 15 | 82,420 | 833,415 | 5·9208613 | 70 | 144·82 | 816·58 | 2·9119987 |
| 16 | 74,540 | 750,995 | 5·8756371 | 71 | 122·80 | 671·76 | 2·8272141 |
| 17 | 67,382 | 676,455 | 5·8302389 | 72 | 103·52 | 548·96 | 2·7395407 |
| 18 | 60,877 | 609,073 | 5·7846693 | 73 | 86·713 | 445·443 | 2·6487921 |
| 19 | 54,963 | 548,196 | 5·7389358 | 74 | 72·142 | 358·730 | 2·5547677 |
| 20 | 49,589 | 493,233 | 5·6930521 | 75 | 59·578 | 286·588 | 2·4572580 |
| 21 | 44,707 | 443,644 | 5·6470346 | 76 | 48·813 | 227·010 | 2·3560450 |
| 22 | 40,299 | 398,937 | 5·6009043 | 77 | 39·653 | 178·197 | 2·2509004 |
| 23 | 36,319 | 358,638 | 5·5546563 | 78 | 31·919 | 138·544 | 2·1415877 |
| 24 | 32,726 | 322,319 | 5·5082860 | 79 | 25·444 | 106·625 | 2·0278591 |
| 25 | 29,483 | 289,593 | 5·4617881 | 80 | 20·072 | 81·181 | 1·9094544 |
| 26 | 26,557 | 260,110 | 5·4151570 | 81 | 15·659 | 61·109 | 1·7861052 |
| 27 | 23,918 | 233,553 | 5·3683855 | 82 | 12·073 | 45·450 | 1·6575339 |
| 28 | 21,537 | 209,635 | 5·3214638 | 83 | 9·1916 | 33·3769 | 1·5234460 |
| 29 | 19,389 | 188,098 | 5·2743842 | 84 | 6·9057 | 24·1853 | 1·3835515 |
| 30 | 17,452 | 168,709 | 5·2271382 | 85 | 5·1157 | 17·2796 | 1·2375337 |
| 31 | 15,706 | 151,257 | 5·1797155 | 86 | 3·7338 | 12·1639 | 1·0850728 |
| 32 | 14,131 | 135,551 | 5·1321027 | 87 | 2·6827 | 8·4301 | 0·9258327 |
| 33 | 12,712 | 121,420 | 5·0842902 | 88 | 1·8959 | 5·7474 | 0·7594714 |
| 34 | 11,432 | 108,708 | 5·0362616 | 89 | 1·3167 | 3·8515 | 0·5856299 |
| 35 | 10,278 | 97,276 | 4·9880057 | 90 | ·8979 | 2·5348 | 0·4039437 |
| 36 | 9,238·8 | 86,997·7 | 4·9395078 | 91 | ·6006 | 1·6369 | 0·2140221 |
| 37 | 8,301·8 | 77,758·9 | 4·8907501 | 92 | ·3937 | 1·0363 | 0·0154855 |
| 38 | 7,457·5 | 69,457·1 | 4·8417166 | 93 | ·2527 | ·6426 | $\bar{1}$·8079407 |
| 39 | 6,696·8 | 61,999·6 | 4·7923889 | 94 | ·1586 | ·3899 | $\bar{1}$·5909532 |
| 40 | 6,011·4 | 55,302·8 | 4·7427471 | 95 | ·0973 | ·2313 | $\bar{1}$·3641756 |
| 41 | 5,394·1 | 49,291·4 | 4·6927711 | 96 | ·0583 | ·1340 | $\bar{1}$·1271048 |
| 42 | 4,838·0 | 43,897·3 | 4·6424378 | 97 | ·0340 | ·0757 | $\bar{2}$·8790959 |
| 43 | 4,337·3 | 39,059·3 | 4·5917244 | 98 | ·0193 | ·0417 | $\bar{2}$·6201361 |
| 44 | 3,886·5 | 34,722·0 | 4·5406047 | 99 | ·0107 | ·0224 | $\bar{2}$·3502480 |
| 45 | 3,480·7 | 30,835·5 | 4·4890510 | 100 | ·0058 | ·0117 | $\bar{2}$·0681859 |
| 46 | 3,115·5 | 27,354·8 | 4·4370335 | 101 | ·0030 | ·0059 | $\bar{3}$·7708520 |
| 47 | 2,786·9 | 24,239·3 | 4·3845201 | 102 | ·0015 | ·0029 | $\bar{3}$·4623980 |
| 48 | 2,491·3 | 21,452·4 | 4·3314759 | 103 | ·0007 | ·0014 | $\bar{3}$·1461280 |
| 49 | 2,225·5 | 18,961·1 | 4·2778635 | 104 | ·0004 | ·0007 | $\bar{4}$·8450980 |
| 50 | 1,986·7 | 16,735·6 | 4·2236413 | 105 | ·0002 | ·0003 | $\bar{4}$·4771213 |
| 51 | 1,772·0 | 14,748·9 | 4·1687597 | 106 | ·0001 | ·0001 | $\bar{4}$·0000000 |
| 52 | 1,578·4 | 12,976·9 | 4·1131710 | 107 | ... | ... | ... |
| 53 | 1,404·4 | 11,398·5 | 4·0568478 | 108 | ... | ... | ... |
| 54 | 1,248·3 | 9,994·1 | 3·9997437 | 109 | ... | ... | ... |

# SINGLE LIVES.

## YEARLY TABLE.

### FEMALES.

**With Interest.**

## YEARLY TABLE:—Females.

## Logarithms of the Series $D_x$; Rates of Interest 3, $3\frac{1}{4}$, $3\frac{1}{3}$, and $3\frac{1}{2}$ per Cent.

| $\lambda D_x$ | | | | | | | |
|---|---|---|---|---|---|---|---|
| Age ($x$) | 3 per cent. | Age ($x$) | $3\frac{1}{4}$ per cent. | Age ($x$) | $3\frac{1}{3}$ per cent. | Age ($x$) | $3\frac{1}{2}$ per cent. |
| 0 | 5·6886465 | 0 | 5·6886465 | 0 | 5·6886465 | 0 | 5·6886465 |
| 1 | 5·6129697 | 1 | 5·6119168 | 1 | 5·6115665 | 1 | 5·6108666 |
| 2 | 5·5723735 | 2 | 5·5702678 | 2 | 5·5695670 | 2 | 5·5681672 |
| 3 | 5·5438916 | 3 | 5·5407331 | 3 | 5·5396820 | 3 | 5·5375823 |
| 4 | 5·5204254 | 4 | 5·5162141 | 4 | 5·5148125 | 4 | 5·5120129 |
| 5 | 5·4998405 | 5 | 5·4945763 | 5 | 5·4928244 | 5 | 5·4893249 |
| 6 | 5·4811983 | 6 | 5·4748813 | 6 | 5·4727790 | 6 | 5·4685795 |
| 7 | 5·4637539 | 7 | 5·4563840 | 7 | 5·4539314 | 7 | 5·4490320 |
| 8 | 5·4469558 | 8 | 5·4385332 | 8 | 5·4357301 | 8 | 5·4301308 |
| 9 | 5·4307681 | 9 | 5·4212926 | 9 | 5·4181392 | 9 | 5·4118400 |
| 10 | 5·4150471 | 10 | 5·4045187 | 10 | 5·4010149 | 10 | 5·3940158 |
| 11 | 5·3996612 | 11 | 5·3880800 | 11 | 5·3842259 | 11 | 5·3765268 |
| 12 | 5·3844914 | 12 | 5·3718573 | 12 | 5·3676528 | 12 | 5·3592539 |
| 13 | 5·3694305 | 13 | 5·3557437 | 13 | 5·3511888 | 13 | 5·3420899 |
| 14 | 5·3543840 | 14 | 5·3396443 | 14 | 5·3347390 | 14 | 5·3249402 |
| 15 | 5·3392692 | 15 | 5·3234766 | 15 | 5·3182210 | 15 | 5·3077223 |
| 16 | 5·3240158 | 16 | 5·3071704 | 16 | 5·3015644 | 16 | 5·2903658 |
| 17 | 5·3085658 | 17 | 5·2906676 | 17 | 5·2847112 | 17 | 5·2728127 |
| 18 | 5·2928734 | 18 | 5·2739223 | 18 | 5·2676155 | 18 | 5·2550171 |
| 19 | 5·2769048 | 19 | 5·2569010 | 19 | 5·2502438 | 19 | 5·2369455 |
| 20 | 5·2606388 | 20 | 5·2395821 | 20 | 5·2325746 | 20 | 5·2185763 |
| 21 | 5·2440662 | 21 | 5·2219567 | 21 | 5·2145987 | 21 | 5·1999006 |
| 22 | 5·2273961 | 22 | 5·2042337 | 22 | 5·1965254 | 22 | 5·1811273 |
| 23 | 5·2106318 | 23 | 5·1864166 | 23 | 5·1783578 | 23 | 5·1622599 |
| 24 | 5·1937762 | 24 | 5·1685082 | 24 | 5·1600991 | 24 | 5·1433012 |
| 25 | 5·1768319 | 25 | 5·1505110 | 25 | 5·1417515 | 25 | 5·1242537 |
| 26 | 5·1598006 | 26 | 5·1324269 | 26 | 5·1233170 | 26 | 5·1051194 |
| 27 | 5·1426840 | 27 | 5·1142574 | 27 | 5·1047972 | 27 | 5·0858996 |
| 28 | 5·1254831 | 28 | 5·0960037 | 28 | 5·0861931 | 28 | 5·0665956 |
| 29 | 5·1081983 | 29 | 5·0776661 | 29 | 5·0675051 | 29 | 5·0472077 |
| 30 | 5·0908299 | 30 | 5·0592448 | 30 | 5·0487334 | 30 | 5·0277361 |
| 31 | 5·0733773 | 31 | 5·0407394 | 31 | 5·0298777 | 31 | 5·0081805 |
| 32 | 5·0558399 | 32 | 5·0221492 | 32 | 5·0109370 | 32 | 4·9885399 |
| 33 | 5·0382162 | 33 | 5·0034726 | 33 | 4·9919101 | 33 | 4·9688131 |
| 34 | 5·0205045 | 34 | 4·9847080 | 34 | 4·9727952 | 34 | 4·9489982 |
| 35 | 5·0027024 | 35 | 4·9658532 | 35 | 4·9535899 | 35 | 4·9290930 |
| 36 | 4·9848074 | 36 | 4·9469053 | 36 | 4·9342917 | 36 | 4·9090949 |
| 37 | 4·9668161 | 37 | 4·9278612 | 37 | 4·9148972 | 37 | 4·8890005 |
| 38 | 4·9487250 | 38 | 4·9087173 | 38 | 4·8954029 | 38 | 4·8688063 |
| 39 | 4·9305300 | 39 | 4·8894694 | 39 | 4·8758046 | 39 | 4·8485081 |
| 40 | 4·9122263 | 40 | 4·8701129 | 40 | 4·8560977 | 40 | 4·8281013 |
| 41 | 4·8938090 | 41 | 4·8506427 | 41 | 4·8362772 | 41 | 4·8075808 |
| 42 | 4·8752725 | 42 | 4·8310534 | 42 | 4·8163374 | 42 | 4·7869412 |
| 43 | 4·8566108 | 43 | 4·8113388 | 43 | 4·7962725 | 43 | 4·7661764 |
| 44 | 4·8378174 | 44 | 4·7914926 | 44 | 4·7760760 | 44 | 4·7452799 |
| 45 | 4·8188855 | 45 | 4·7715079 | 45 | 4·7557408 | 45 | 4·7242448 |
| 46 | 4·7998075 | 46 | 4·7513771 | 46 | 4·7352597 | 46 | 4·7030638 |
| 47 | 4·7805757 | 47 | 4·7310925 | 47 | 4·7146247 | 47 | 4·6817288 |
| 48 | 4·7611817 | 48 | 4·7106456 | 48 | 4·6938274 | 48 | 4·6602317 |
| 49 | 4·7416166 | 49 | 4·6900277 | 49 | 4·6728591 | 49 | 4·6385635 |
| 50 | 4·7218713 | 50 | 4·6692295 | 50 | 4·6517106 | 50 | 4·6167150 |
| 51 | 4·7019358 | 51 | 4·6482412 | 51 | 4·6303719 | 51 | 4·5946765 |
| 52 | 4·6818002 | 52 | 4·6270527 | 52 | 4·6088330 | 52 | 4·5724376 |
| 53 | 4·6614535 | 53 | 4·6056532 | 53 | 4·5870831 | 53 | 4·5499879 |
| 54 | 4·6408847 | 54 | 4·5840316 | 54 | 4·5651111 | 54 | 4·5273160 |

## YEARLY TABLE:—FEMALES.

## Logarithms of the Series $D_x$; Rates of Interest 3, $3\frac{1}{4}$, $3\frac{1}{3}$, and $3\frac{1}{2}$ per Cent.

| λ $D_x$ | | | | | | | |
|---|---|---|---|---|---|---|---|
| Age ($x$) | 3 per cent. | Age ($x$) | $3\frac{1}{4}$ per cent. | Age ($x$) | $3\frac{1}{3}$ per cent. | Age ($x$) | $3\frac{1}{2}$ per cent. |
| 55 | 4·6194190 | 55 | 4·5615130 | 55 | 4·5422422 | 55 | 4·5037472 |
| 56 | 4·5973737 | 56 | 4·5384149 | 56 | 4·5187937 | 56 | 4·4795987 |
| 57 | 4·5747229 | 57 | 4·5147113 | 57 | 4·4947397 | 57 | 4·4548448 |
| 58 | 4·5514296 | 58 | 4·4903652 | 58 | 4·4700432 | 58 | 4·4294484 |
| 59 | 4·5274461 | 59 | 4·4653288 | 59 | 4·4446564 | 59 | 4·4033617 |
| 60 | 4·5027135 | 60 | 4·4395434 | 60 | 4·4185207 | 60 | 4·3765261 |
| 61 | 4·4771622 | 61 | 4·4129392 | 61 | 4·3915661 | 61 | 4·3488716 |
| 62 | 4·4507115 | 62 | 4·3854357 | 62 | 4·3637122 | 62 | 4·3203177 |
| 63 | 4·4232697 | 63 | 4·3569411 | 63 | 4·3348672 | 63 | 4·2907729 |
| 64 | 4·3947345 | 64 | 4·3273530 | 64 | 4·3049287 | 64 | 4·2601345 |
| 65 | 4·3649922 | 65 | 4·2965579 | 65 | 4·2737832 | 65 | 4·2282891 |
| 66 | 4·3339185 | 66 | 4·2644313 | 66 | 4·2413063 | 66 | 4·1951122 |
| 67 | 4·3013780 | 67 | 4·2308380 | 67 | 4·2073626 | 67 | 4·1604686 |
| 68 | 4·2672244 | 68 | 4·1956316 | 68 | 4·1718058 | 68 | 4·1242120 |
| 69 | 4·2313006 | 69 | 4·1586549 | 69 | 4·1344788 | 69 | 4·0861850 |
| 70 | 4·1934382 | 70 | 4·1197397 | 70 | 4·0952132 | 70 | 4·0462195 |
| 71 | 4·1534583 | 71 | 4·0787070 | 71 | 4·0538301 | 71 | 4·0041365 |
| 72 | 4·1111707 | 72 | 4·0353666 | 72 | 4·0101393 | 72 | 3·9597458 |
| 73 | 4·0663745 | 73 | 3·9895175 | 73 | 3·9639399 | 73 | 3·9128464 |
| 74 | 4·0188578 | 74 | 3·9409479 | 74 | 3·9150199 | 74 | 3·8632265 |
| 75 | 3·9683976 | 75 | 3·8894349 | 75 | 3·8631565 | 75 | 3·8106632 |
| 76 | 3·9147601 | 76 | 3·8347446 | 76 | 3·8081158 | 76 | 3·7549226 |
| 77 | 3·8577006 | 77 | 3·7766323 | 77 | 3·7496531 | 77 | 3·6957600 |
| 78 | 3·7969634 | 78 | 3·7148423 | 78 | 3·6875127 | 78 | 3·6329197 |
| 79 | 3·7322819 | 79 | 3·6491079 | 79 | 3·6214280 | 79 | 3·5661351 |
| 80 | 3·6633785 | 80 | 3·5791517 | 80 | 3·5511214 | 80 | 3·4951286 |
| 81 | 3·5899647 | 81 | 3·5046850 | 81 | 3·4763043 | 81 | 3·4196116 |
| 82 | 3·5117410 | 82 | 3·4254085 | 82 | 3·3966774 | 82 | 3·3392848 |
| 83 | 3·4283971 | 83 | 3·3410117 | 83 | 3·3119303 | 83 | 3·2538377 |
| 84 | 3·3396115 | 84 | 3·2511733 | 84 | 3·2217415 | 84 | 3·1629490 |
| 85 | 3·2450521 | 85 | 3·1555611 | 85 | 3·1257789 | 85 | 3·0662865 |
| 86 | 3·1443756 | 86 | 3·0538318 | 86 | 3·0236992 | 86 | 2·9635069 |
| 87 | 3·0372279 | 87 | 2·9456312 | 87 | 2·9151483 | 87 | 2·8542561 |
| 88 | 2·9232439 | 88 | 2·8305944 | 88 | 2·7997610 | 88 | 2·7381689 |
| 89 | 2·8020475 | 89 | 2·7083451 | 89 | 2·6771614 | 89 | 2·6148694 |
| 90 | 2·6732518 | 90 | 2·5784966 | 90 | 2·5469625 | 90 | 2·4839706 |
| 91 | 2·5364589 | 91 | 2·4406509 | 91 | 2·4087664 | 91 | 2·3450746 |
| 92 | 2·3912599 | 92 | 2·2943990 | 92 | 2·2621642 | 92 | 2·1977724 |
| 93 | 2·2372350 | 93 | 2·1393213 | 93 | 2·1067361 | 93 | 2·0416444 |
| 94 | 2·0739535 | 94 | 1·9749870 | 94 | 1·9420514 | 94 | 1·8762598 |
| 95 | 1·9009738 | 95 | 1·8009544 | 95 | 1·7676684 | 95 | 1·7011769 |
| 96 | 1·7178431 | 96 | 1·6167709 | 96 | 1·5831345 | 96 | 1·5159432 |
| 97 | 1·5240980 | 97 | 1·4219730 | 97 | 1·3879862 | 97 | 1·3200950 |
| 98 | 1·3192640 | 98 | 1·2160861 | 98 | 1·1817490 | 98 | 1·1131578 |
| 99 | 1·1028557 | 99 | 0·9986250 | 99 | 0·9639375 | 99 | 0·8946463 |
| 100 | 0·8743766 | 100 | 0·7690930 | 100 | 0·7340552 | 100 | 0·6640641 |
| 101 | 0·6333195 | 101 | 0·5269831 | 101 | 0·4915948 | 101 | 0·4209039 |
| 102 | 0·3791661 | 102 | 0·2717768 | 102 | 0·2360382 | 102 | 0·1646473 |
| 103 | 0·1113872 | 103 | 0·0029451 | 103 | 9·9668561 | 103 | 9·8947653 |
| 104 | 9·8294427 | 104 | 9·7199478 | 104 | 9·6835084 | 104 | 9·6107177 |
| 105 | 9·5327815 | 105 | 9·4222338 | 105 | 9·3854440 | 105 | 9·3119534 |
| 106 | 9·2208416 | 106 | 9·1092411 | 106 | 9·0721009 | 106 | 8·9979104 |
| 107 | 8·8930502 | 107 | 8·7803967 | 107 | 8·7429062 | 107 | 8·6680158 |
| 108 | 8·5488231 | 108 | 8·4351169 | 108 | 8·3972760 | 108 | 8·3216357 |
| 109 | 8·1875658 | 109 | 8·0728067 | 109 | 8·0346154 | 109 | 7·9583252 |

## YEARLY TABLE:—Females.

### Logarithms of the Series $D_x$; Rates of Interest $3\frac{3}{4}$, 4, 5, and 6 per Cent.

| λ $D_x$ | | | | | | | |
|---|---|---|---|---|---|---|---|
| Age ($x$) | $3\frac{3}{4}$ per cent. | Age ($x$) | 4 per cent. | Age ($x$) | 5 per cent. | Age ($x$) | 6 per cent. |
| 0 | 5·6886465 | 0 | 5·6886465 | 0 | 5·6886465 | 0 | 5·6886465 |
| 1 | 5·6098188 | 1 | 5·6087736 | 1 | 5·6046176 | 1 | 5·6005010 |
| 2 | 5·5660717 | 2 | 5·5639812 | 2 | 5·5556693 | 2 | 5·5474362 |
| 3 | 5·5344390 | 3 | 5·5313033 | 3 | 5·5188354 | 3 | 5·5064857 |
| 4 | 5·5078219 | 4 | 5·5036409 | 4 | 5·4870171 | 4 | 5·4705508 |
| 5 | 5·4840861 | 5 | 5·4788599 | 5 | 5·4580801 | 5 | 5·4374973 |
| 6 | 5·4622930 | 6 | 5·4560216 | 6 | 5·4310858 | 6 | 5·4063864 |
| 7 | 5·4416977 | 7 | 5·4343811 | 7 | 5·4052893 | 7 | 5·3764734 |
| 8 | 5·4217488 | 8 | 5·4133869 | 8 | 5·3801392 | 8 | 5·3472067 |
| 9 | 5·4024102 | 9 | 5·3930031 | 9 | 5·3555995 | 9 | 5·3185504 |
| 10 | 5·3835383 | 10 | 5·3730859 | 10 | 5·3315263 | 10 | 5·2903607 |
| 11 | 5·3650015 | 11 | 5·3535040 | 11 | 5·3077884 | 11 | 5·2625062 |
| 12 | 5·3466808 | 12 | 5·3341380 | 12 | 5·2842665 | 12 | 5·2348677 |
| 13 | 5·3284691 | 13 | 5·3148811 | 13 | 5·2608536 | 13 | 5·2073382 |
| 14 | 5·3102717 | 14 | 5·2956384 | 14 | 5·2374549 | 14 | 5·1798230 |
| 15 | 5·2920060 | 15 | 5·2763275 | 15 | 5·2139881 | 15 | 5·1522396 |
| 16 | 5·2736017 | 16 | 5·2568780 | 16 | 5·1903826 | 16 | 5·1245176 |
| 17 | 5·2550009 | 17 | 5·2372319 | 17 | 5·1665806 | 17 | 5·0965989 |
| 18 | 5·2361575 | 18 | 5·2173433 | 18 | 5·1425360 | 18 | 5·0684378 |
| 19 | 5·2170381 | 19 | 5·1971787 | 19 | 5·1182154 | 19 | 5·0400007 |
| 20 | 5·1976212 | 20 | 5·1767166 | 20 | 5·0935974 | 20 | 5·0112660 |
| 21 | 5·1778977 | 21 | 5·1559478 | 21 | 5·0686727 | 21 | 4·9822248 |
| 22 | 5·1580767 | 22 | 5·1350816 | 22 | 5·0436504 | 22 | 4·9530860 |
| 23 | 5·1381615 | 23 | 5·1141211 | 23 | 5·0185341 | 23 | 4·9238530 |
| 24 | 5·1181551 | 24 | 5·0930695 | 24 | 4·9933264 | 24 | 4·8945289 |
| 25 | 5·0980598 | 25 | 5·0719290 | 25 | 4·9680300 | 25 | 4·8651158 |
| 26 | 5·0778777 | 26 | 5·0507016 | 26 | 4·9426467 | 26 | 4·8356160 |
| 27 | 5·0576102 | 27 | 5·0293889 | 27 | 4·9171780 | 27 | 4·8060307 |
| 28 | 5·0372584 | 28 | 5·0079918 | 28 | 4·8916250 | 28 | 4·7763611 |
| 29 | 5·0168228 | 29 | 4·9865110 | 29 | 4·8659882 | 29 | 4·7466077 |
| 30 | 4·9963035 | 30 | 4·9649464 | 30 | 4·8402676 | 30 | 4·7167707 |
| 31 | 4·9757000 | 31 | 4·9432978 | 31 | 4·8144630 | 31 | 4·6868495 |
| 32 | 4·9550117 | 32 | 4·9215642 | 32 | 4·7885735 | 32 | 4·6568434 |
| 33 | 4·9342371 | 33 | 4·8997444 | 33 | 4·7625977 | 33 | 4·6267511 |
| 34 | 4·9133745 | 34 | 4·8778366 | 34 | 4·7365339 | 34 | 4·5965707 |
| 35 | 4·8924216 | 35 | 4·8558384 | 35 | 4·7103798 | 35 | 4·5663000 |
| 36 | 4·8713757 | 36 | 4·8337473 | 36 | 4·6841327 | 36 | 4·5359363 |
| 37 | 4·8502336 | 37 | 4·8115599 | 37 | 4·6577894 | 37 | 4·5054764 |
| 38 | 4·8289916 | 38 | 4·7892727 | 38 | 4·6313462 | 38 | 4·4749167 |
| 39 | 4·8076456 | 39 | 4·7668815 | 39 | 4·6047991 | 39 | 4·4442530 |
| 40 | 4·7861911 | 40 | 4·7443817 | 40 | 4·5781433 | 40 | 4·4134807 |
| 41 | 4·7646229 | 41 | 4·7217683 | 41 | 4·5513739 | 41 | 4·3825947 |
| 42 | 4·7429355 | 42 | 4·6990356 | 42 | 4·5244853 | 42 | 4·3515895 |
| 43 | 4·7211229 | 43 | 4·6761778 | 43 | 4·4974716 | 43 | 4·3204592 |
| 44 | 4·6991787 | 44 | 4·6531884 | 44 | 4·4703261 | 44 | 4·2891972 |
| 45 | 4·6770958 | 45 | 4·6300603 | 45 | 4·4430421 | 45 | 4·2577967 |
| 46 | 4·6548670 | 46 | 4·6067863 | 46 | 4·4156121 | 46 | 4·2262501 |
| 47 | 4·6324843 | 47 | 4·5833583 | 47 | 4·3880282 | 47 | 4·1945496 |
| 48 | 4·6099394 | 48 | 4·5597682 | 48 | 4·3602821 | 48 | 4·1626870 |
| 49 | 4·5872235 | 49 | 4·5360070 | 49 | 4·3323650 | 49 | 4·1306533 |
| 50 | 4·5643272 | 50 | 4·5120655 | 50 | 4·3042676 | 50 | 4·0984392 |
| 51 | 4·5412409 | 51 | 4·4879340 | 51 | 4·2759801 | 51 | 4·0660352 |
| 52 | 4·5179544 | 52 | 4·4636022 | 52 | 4·2474923 | 52 | 4·0334308 |
| 53 | 4·4944568 | 53 | 4·4390594 | 53 | 4·2187935 | 53 | 4·0006155 |
| 54 | 4·4707372 | 54 | 4·4142945 | 54 | 4·1898727 | 54 | 3·9675781 |

## YEARLY TABLE:—FEMALES.

## Logarithms of the Series $D_x$; Rates of Interest $3\frac{3}{4}$, 4, 5, and 6 per Cent.

| λ $D_x$ | | | | | | | |
|---|---|---|---|---|---|---|---|
| Age ($x$) | $3\frac{3}{4}$ per cent. | Age ($x$) | 4 per cent. | Age ($x$) | 5 per cent. | Age ($x$) | 6 per cent. |
| 55 | 4·4461206 | 55 | 4·3886327 | 55 | 4·1600549 | 55 | 3·9336438 |
| 56 | 4·4209244 | 56 | 4·3623913 | 56 | 4·1296575 | 56 | 3·8991298 |
| 57 | 4·3951227 | 57 | 4·3355443 | 57 | 4·0986546 | 57 | 3·8640104 |
| 58 | 4·3686785 | 58 | 4·3080550 | 58 | 4·0670093 | 58 | 3·8282485 |
| 59 | 4·3415441 | 59 | 4·2798753 | 59 | 4·0346737 | 59 | 3·7917963 |
| 60 | 4·3136607 | 60 | 4·2509466 | 60 | 4·0015891 | 60 | 3·7545951 |
| 61 | 4·2849585 | 61 | 4·2211992 | 61 | 3·9676857 | 61 | 3·7165751 |
| 62 | 4·2553569 | 62 | 4·1905524 | 62 | 3·9328829 | 62 | 3·6776557 |
| 63 | 4·2247642 | 63 | 4·1589145 | 63 | 3·8970890 | 63 | 3·6377454 |
| 64 | 4·1930781 | 64 | 4·1261831 | 64 | 3·8602017 | 64 | 3·5967415 |
| 65 | 4·1601849 | 65 | 4·0922447 | 65 | 3·8221073 | 65 | 3·5545305 |
| 66 | 4·1259603 | 66 | 4·0569749 | 66 | 3·7826816 | 66 | 3·5109882 |
| 67 | 4·0902690 | 67 | 4·0202383 | 67 | 3·7417890 | 67 | 3·4659791 |
| 68 | 4·0529645 | 68 | 3·9818886 | 68 | 3·6992834 | 68 | 3·4193569 |
| 69 | 4·0138898 | 69 | 3·9417687 | 69 | 3·6550074 | 69 | 3·3709644 |
| 70 | 3·9728766 | 70 | 3·8997102 | 70 | 3·6087930 | 70 | 3·3206334 |
| 71 | 3·9297458 | 71 | 3·8555342 | 71 | 3·5604610 | 71 | 3·2681848 |
| 72 | 3·8843073 | 72 | 3·8090505 | 72 | 3·5098214 | 72 | 3·2134286 |
| 73 | 3·8363602 | 73 | 3·7600582 | 73 | 3·4566731 | 73 | 3·1561638 |
| 74 | 3·7856926 | 74 | 3·7083453 | 74 | 3·4008043 | 74 | 3·0961784 |
| 75 | 3·7320815 | 75 | 3·6536890 | 75 | 3·3419920 | 75 | 3·0332495 |
| 76 | 3·6752932 | 76 | 3·5958554 | 76 | 3·2800024 | 76 | 2·9671434 |
| 77 | 3·6150828 | 77 | 3·5345998 | 77 | 3·2145909 | 77 | 2·8976153 |
| 78 | 3·5511947 | 78 | 3·4696665 | 78 | 3·1455016 | 78 | 2·8244095 |
| 79 | 3·4833624 | 79 | 3·4007889 | 79 | 3·0724681 | 79 | 2·7472593 |
| 80 | 3·4113081 | 80 | 3·3276894 | 80 | 2·9952126 | 80 | 2·6658873 |
| 81 | 3·3347434 | 81 | 3·2500794 | 81 | 2·9134467 | 81 | 2·5800048 |
| 82 | 3·2533688 | 82 | 3·1676596 | 82 | 2·8268709 | 82 | 2·4893125 |
| 83 | 3·1668740 | 83 | 3·0801195 | 83 | 2·7351749 | 83 | 2·3934999 |
| 84 | 3·0749375 | 84 | 2·9871379 | 84 | 2·6380373 | 84 | 2·2922457 |
| 85 | 2·9772272 | 85 | 2·8883824 | 85 | 2·5351258 | 85 | 2·1852177 |
| 86 | 2·8733999 | 86 | 2·7835098 | 86 | 2·4260972 | 86 | 2·0720725 |
| 87 | 2·7631013 | 87 | 2·6721659 | 87 | 2·3105974 | 87 | 1·9524562 |
| 88 | 2·6459664 | 88 | 2·5539858 | 88 | 2·1882613 | 88 | 1·8260035 |
| 89 | 2·5216191 | 89 | 2·4285933 | 89 | 2·0587129 | 89 | 1·6923335 |
| 90 | 2·3896726 | 90 | 2·2956015 | 90 | 1·9215651 | 90 | 1·5510742 |
| 91 | 2·2497288 | 91 | 2·1546125 | 91 | 1·7764201 | 91 | 1·4018126 |
| 92 | 2·1013789 | 92 | 2·0052173 | 92 | 1·6228690 | 92 | 1·2441450 |
| 93 | 1·9442031 | 93 | 1·8469964 | 93 | 1·4604921 | 93 | 1·0776514 |
| 94 | 1·7777707 | 94 | 1·6795188 | 94 | 1·2888585 | 94 | 0·9019013 |
| 95 | 1·6016401 | 95 | 1·5023429 | 95 | 1·1075267 | 95 | 0·7164529 |
| 96 | 1·4153586 | 96 | 1·3150161 | 96 | 0·9160440 | 96 | 0·5208536 |
| 97 | 1·2184626 | 97 | 1·1170749 | 97 | 0·7139468 | 97 | 0·3146399 |
| 98 | 1·0104777 | 98 | 0·9080448 | 98 | 0·5007608 | 98 | 0·0973373 |
| 99 | 0·7909185 | 99 | 0·6874403 | 99 | 0·2760003 | 99 | 9·8684603 |
| 100 | 0·5592885 | 100 | 0·4547651 | 100 | 0·0391692 | 100 | 9·6275125 |
| 101 | 0·3150805 | 101 | 0·2095119 | 101 | 9·7897600 | 101 | 9·3739868 |
| 102 | 0·0577762 | 102 | 9·9511624 | 102 | 9·5272545 | 102 | 9·1073647 |
| 103 | 9·7868465 | 103 | 9·6791874 | 103 | 9·2511235 | 103 | 8·8271172 |
| 104 | 9·5017511 | 104 | 9·3930468 | 104 | 8·9608269 | 104 | 8·5327041 |
| 105 | 9·2019390 | 105 | 9·0921895 | 105 | 8·6558137 | 105 | 8·2235742 |
| 106 | 8·8868483 | 106 | 8·7760535 | 106 | 8·3355218 | 106 | 7·8991657 |
| 107 | 8·5559059 | 107 | 8·4440659 | 107 | 7·9993782 | 107 | 7·5589056 |
| 108 | 8·2085280 | 108 | 8·0956428 | 108 | 7·6467991 | 108 | 7·2022100 |
| 109 | 7·8441198 | 109 | 7·7301893 | 109 | 7·2771897 | 109 | 6·8284839 |

## YEARLY TABLE:—Females.

### Logarithms of the Series $D_x$; Rates of Interest 7, 8, 9, and 10 per Cent.

| $\lambda\ D_x$ | | | | | | | |
|---|---|---|---|---|---|---|---|
| Age ($x$) | 7 per cent. | Age ($x$) | 8 per cent. | Age ($x$) | 9 per cent. | Age ($x$) | 10 per cent. |
| 0 | 5·6886465 | 0 | 5·6886465 | 0 | 5·6886465 | 0 | 5·6886465 |
| 1 | 5·5964231 | 1 | 5·5923831 | 1 | 5·5883804 | 1 | 5·5844142 |
| 2 | 5·5392803 | 2 | 5·5312004 | 2 | 5·5231949 | 2 | 5·5152625 |
| 3 | 5·4942520 | 3 | 5·4821320 | 3 | 5·4701238 | 3 | 5·4582252 |
| 4 | 5·4542392 | 4 | 5·4380793 | 4 | 5·4220683 | 4 | 5·4062036 |
| 5 | 5·4171077 | 5 | 5·3969078 | 5 | 5·3768941 | 5 | 5·3570632 |
| 6 | 5·3819190 | 6 | 5·3576791 | 6 | 5·3336626 | 6 | 5·3098655 |
| 7 | 5·3479280 | 7 | 5·3196482 | 7 | 5·2916290 | 7 | 5·2638656 |
| 8 | 5·3145834 | 8 | 5·2822636 | 8 | 5·2502417 | 8 | 5·2185122 |
| 9 | 5·2818492 | 9 | 5·2454894 | 9 | 5·2094647 | 9 | 5·1737690 |
| 10 | 5·2495815 | 10 | 5·2091818 | 10 | 5·1691543 | 10 | 5·1294925 |
| 11 | 5·2176491 | 11 | 5·1732094 | 11 | 5·1291792 | 11 | 5·0855512 |
| 12 | 5·1859327 | 12 | 5·1374530 | 12 | 5·0894201 | 12 | 5·0418258 |
| 13 | 5·1543254 | 13 | 5·1018056 | 13 | 5·0497700 | 13 | 4·9982096 |
| 14 | 5·1227323 | 14 | 5·0661726 | 14 | 5·0101342 | 14 | 4·9546075 |
| 15 | 5·0910709 | 15 | 5·0304712 | 15 | 4·9704301 | 15 | 4·9109373 |
| 16 | 5·0592710 | 16 | 4·9946313 | 16 | 4·9305874 | 16 | 4·8671284 |
| 17 | 5·0272744 | 17 | 4·9585948 | 17 | 4·8905482 | 17 | 4·8231230 |
| 18 | 4·9950354 | 18 | 4·9223158 | 18 | 4·8502665 | 18 | 4·7788751 |
| 19 | 4·9625203 | 19 | 4·8857608 | 19 | 4·8097087 | 19 | 4·7343511 |
| 20 | 4·9297078 | 20 | 4·8489082 | 20 | 4·7688534 | 20 | 4·6895296 |
| 21 | 4·8965886 | 21 | 4·8117491 | 21 | 4·7276915 | 21 | 4·6444015 |
| 22 | 4·8633719 | 22 | 4·7744924 | 22 | 4·6864321 | 22 | 4·5991759 |
| 23 | 4·8300611 | 23 | 4·7371416 | 23 | 4·6450785 | 23 | 4·5538562 |
| 24 | 4·7966590 | 24 | 4·6996995 | 24 | 4·6036337 | 24 | 4·5084452 |
| 25 | 4·7631680 | 25 | 4·6621686 | 25 | 4·5621000 | 25 | 4·4629453 |
| 26 | 4·7295902 | 26 | 4·6245508 | 26 | 4·5204795 | 26 | 4·4173586 |
| 27 | 4·6959271 | 27 | 4·5868477 | 27 | 4·4787736 | 27 | 4·3716866 |
| 28 | 4·6621796 | 28 | 4·5490602 | 28 | 4·4369834 | 28 | 4·3259302 |
| 29 | 4·6283483 | 29 | 4·5111889 | 29 | 4·3951094 | 29 | 4·2800900 |
| 30 | 4·5944333 | 30 | 4·4732340 | 30 | 4·3531517 | 30 | 4·2341661 |
| 31 | 4·5604342 | 31 | 4·4351949 | 31 | 4·3111099 | 31 | 4·1881581 |
| 32 | 4·5263502 | 32 | 4·3970709 | 32 | 4·2689832 | 32 | 4·1420652 |
| 33 | 4·4921799 | 33 | 4·3588607 | 33 | 4·2267702 | 33 | 4·0958860 |
| 34 | 4·4579217 | 34 | 4·3205624 | 34 | 4·1844692 | 34 | 4·0496183 |
| 35 | 4·4235731 | 35 | 4·2821739 | 35 | 4·1420779 | 35 | 4·0032613 |
| 36 | 4·3891315 | 36 | 4·2436923 | 36 | 4·0995936 | 36 | 3·9568108 |
| 37 | 4·3545937 | 37 | 4·2051145 | 37 | 4·0570131 | 37 | 3·9102641 |
| 38 | 4·3199560 | 38 | 4·1664369 | 38 | 4·0143327 | 38 | 3·8636176 |
| 39 | 4·2852144 | 39 | 4·1276553 | 39 | 3·9715483 | 39 | 3·8168670 |
| 40 | 4·2503642 | 40 | 4·0887651 | 40 | 3·9286554 | 40 | 3·7700079 |
| 41 | 4·2154003 | 41 | 4·0497612 | 41 | 3·8856488 | 41 | 3·7230351 |
| 42 | 4·1803172 | 42 | 4·0106382 | 42 | 3·8425230 | 42 | 3·6759431 |
| 43 | 4·1451090 | 43 | 3·9713899 | 43 | 3·7992721 | 43 | 3·6287260 |
| 44 | 4·1097691 | 44 | 3·9320101 | 44 | 3·7558895 | 44 | 3·5813772 |
| 45 | 4·0742906 | 45 | 3·8924916 | 45 | 3·7123683 | 45 | 3·5338898 |
| 46 | 4·0386661 | 46 | 3·8528271 | 46 | 3·6687011 | 46 | 3·4862564 |
| 47 | 4·0028877 | 47 | 3·8130088 | 47 | 3·6248800 | 47 | 3·4384691 |
| 48 | 3·9669472 | 48 | 3·7730282 | 48 | 3·5808967 | 48 | 3·3905196 |
| 49 | 3·9308355 | 49 | 3·7328766 | 49 | 3·5367424 | 49 | 3·3423991 |
| 50 | 3·8945436 | 50 | 3·6925447 | 50 | 3·4924077 | 50 | 3·2940983 |
| 51 | 3·8580617 | 51 | 3·6520228 | 51 | 3·4478831 | 51 | 3·2456074 |
| 52 | 3·8213794 | 52 | 3·6113006 | 52 | 3·4031581 | 52 | 3·1969162 |
| 53 | 3·7844862 | 53 | 3·5703674 | 53 | 3·3582222 | 53 | 3·1480141 |
| 54 | 3·7473709 | 54 | 3·5292121 | 54 | 3·3130642 | 54 | 3·0988899 |

## YEARLY TABLE:—FEMALES.

## Logarithms of the Series $D_x$; Rates of Interest 7, 8, 9, and 10 per Cent.

| λ $D_x$ | | | | | | | |
|---|---|---|---|---|---|---|---|
| Age ($x$) | 7 per cent. | Age ($x$) | 8 per cent. | Age ($x$) | 9 per cent. | Age ($x$) | 10 per cent. |
| 55 | 3·7093586 | 55 | 3·4871598 | 55 | 3·2670092 | 55 | 3·0488687 |
| 56 | 3·6707667 | 56 | 3·4445280 | 56 | 3·2203746 | 56 | 2·9982679 |
| 57 | 3·6315694 | 57 | 3·4012906 | 57 | 3·1731345 | 57 | 2·9470616 |
| 58 | 3·5917295 | 58 | 3·3574108 | 58 | 3·1252520 | 58 | 2·8952129 |
| 59 | 3·5511995 | 59 | 3·3128408 | 59 | 3·0766792 | 59 | 2·8426739 |
| 60 | 3·5099203 | 60 | 3·2675217 | 60 | 3·0273573 | 60 | 2·7893859 |
| 61 | 3·4678225 | 61 | 3·2213838 | 61 | 2·9772167 | 61 | 2·7352791 |
| 62 | 3·4248252 | 62 | 3·1743466 | 62 | 2·9261767 | 62 | 2·6802729 |
| 63 | 3·3808369 | 63 | 3·1263183 | 63 | 2·8741457 | 63 | 2·6242757 |
| 64 | 3·3357551 | 64 | 3·0771965 | 64 | 2·8210212 | 64 | 2·5671850 |
| 65 | 3·2894662 | 65 | 3·0268677 | 65 | 2·7666896 | 65 | 2·5088872 |
| 66 | 3·2418460 | 66 | 2·9752074 | 66 | 2·7110266 | 66 | 2·4492581 |
| 67 | 3·1927589 | 67 | 2·9220804 | 67 | 2·6538969 | 67 | 2·3881621 |
| 68 | 3·1420588 | 68 | 2·8673403 | 68 | 2·5951540 | 68 | 2·3254531 |
| 69 | 3·0895884 | 69 | 2·8108299 | 69 | 2·5346409 | 69 | 2·2609738 |
| 70 | 3·0351795 | 70 | 2·7523811 | 70 | 2·4721893 | 70 | 2·1945560 |
| 71 | 2·9786531 | 71 | 2·6918146 | 71 | 2·4076201 | 71 | 2·1260206 |
| 72 | 2·9198189 | 72 | 2·6289405 | 72 | 2·3407433 | 72 | 2·0551776 |
| 73 | 2·8584762 | 73 | 2·5635578 | 73 | 2·2713578 | 73 | 1·9818259 |
| 74 | 2·7944128 | 74 | 2·4954545 | 74 | 2·1992517 | 74 | 1·9057537 |
| 75 | 2·7274061 | 75 | 2·4244077 | 75 | 2·1242023 | 75 | 1·8267380 |
| 76 | 2·6572221 | 76 | 2·3501837 | 76 | 2·0459755 | 76 | 1·7445451 |
| 77 | 2·5836160 | 77 | 2·2725377 | 77 | 1·9643268 | 77 | 1·6589302 |
| 78 | 2·5063323 | 78 | 2·1912140 | 78 | 1·8790003 | 78 | 1·5696375 |
| 79 | 2·4251042 | 79 | 2·1059460 | 79 | 1·7897295 | 79 | 1·4764006 |
| 80 | 2·3396543 | 80 | 2·0164561 | 80 | 1·6962369 | 80 | 1·3789417 |
| 81 | 2·2496939 | 81 | 1·9224557 | 81 | 1·5982338 | 81 | 1·2769724 |
| 82 | 2·1549237 | 82 | 1·8236455 | 82 | 1·4954208 | 82 | 1·1701932 |
| 83 | 2·0550332 | 83 | 1·7197150 | 83 | 1·3874876 | 83 | 1·0582938 |
| 84 | 1·9497011 | 84 | 1·6103429 | 84 | 1·2741128 | 84 | 0·9409528 |
| 85 | 1·8385951 | 85 | 1·4951970 | 85 | 1·1549641 | 85 | 0·8178380 |
| 86 | 1·7213721 | 86 | 1·3739340 | 86 | 1·0296983 | 86 | 0·6886060 |
| 87 | 1·5976778 | 87 | 1·2461997 | 87 | 0·8979613 | 87 | 0·5529029 |
| 88 | 1·4671472 | 88 | 1·1116292 | 88 | 0·7593880 | 88 | 0·4103634 |
| 89 | 1·3294043 | 89 | 0·9698463 | 89 | 0·6136024 | 89 | 0·2606115 |
| 90 | 1·1840621 | 90 | 0·8204641 | 90 | 0·4602174 | 90 | 0·1032604 |
| 91 | 1·0307226 | 91 | 0·6630846 | 91 | 0·2988352 | 91 | 9·9379120 |
| 92 | 0·8689770 | 92 | 0·4972991 | 92 | 0·1290469 | 92 | 9·7641575 |
| 93 | 0·6984056 | 93 | 0·3226877 | 93 | 9·9504328 | 93 | 9·5815772 |
| 94 | 0·5185775 | 94 | 0·1388196 | 94 | 9·7625620 | 94 | 9·3897402 |
| 95 | 0·3290512 | 95 | 9·9452533 | 95 | 9·5649930 | 95 | 9·1882050 |
| 96 | 0·1293740 | 96 | 9·7415362 | 96 | 9·3572731 | 96 | 8·9765189 |
| 97 | 9·9190824 | 97 | 9·5272046 | 97 | 9·1389387 | 97 | 8·7542184 |
| 98 | 9·6977019 | 98 | 9·3017840 | 98 | 8·9095155 | 98 | 8·5208289 |
| 99 | 9·4647469 | 99 | 9·0647891 | 99 | 8·6685178 | 99 | 8·2758651 |
| 100 | 9·2197213 | 100 | 8·8157235 | 100 | 8·4154495 | 100 | 8·0188305 |
| 101 | 8·9621176 | 101 | 8·5540799 | 101 | 8·1498031 | 101 | 7·7492180 |
| 102 | 8·6914177 | 102 | 8·2793399 | 102 | 7·8710604 | 102 | 7·4665091 |
| 103 | 8·4070922 | 103 | 7·9909745 | 103 | 7·5786922 | 103 | 7·1701747 |
| 104 | 8·1086012 | 104 | 7·6884435 | 104 | 7·2721585 | 104 | 6·8596748 |
| 105 | 7·7953934 | 105 | 7·3711958 | 105 | 6·9509080 | 105 | 6·5344582 |
| 106 | 7·4669070 | 106 | 7·0386694 | 106 | 6·6143789 | 106 | 6·1939628 |
| 107 | 7·1225690 | 107 | 6·6902914 | 107 | 6·2619981 | 107 | 5·8376159 |
| 108 | 6·7617954 | 108 | 6·3254778 | 108 | 5·8931818 | 108 | 5·4648334 |
| 109 | 6·3839915 | 109 | 5·9430339 | 109 | 5·5073352 | 109 | 5·0750206 |

## YEARLY TABLE:—Females. Interest 3 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $S_x$ | $C_x$ | $M_x$ | $R_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 0 | 488,255 | 9,691,956 | 205,605,825 | 63,858·26 | 205,965·03 | 3,703,432·41 | 0 |
| 1 | 410,175 | 9,203,701 | 195,913,869 | 24,657·37 | 142,106·77 | 3,497,467·38 | 1 |
| 2 | 373,571 | 8,793,526 | 186,710,168 | 12,833·03 | 117,449·40 | 3,355,360·61 | 2 |
| 3 | 349,858 | 8,419,955 | 177,916,642 | 8,212·29 | 104,616·37 | 3,237,911·21 | 3 |
| 4 | 331,456 | 8,070,097 | 169,496,687 | 5,689·77 | 96,404·08 | 3,133,294·84 | 4 |
| 5 | 316,112 | 7,738,641 | 161,426,590 | 4,075·20 | 90,714·31 | 3,036,890·76 | 5 |
| 6 | 302,830 | 7,422,529 | 153,687,949 | 3,101·94 | 86,639·11 | 2,946,176·45 | 6 |
| 7 | 290,907 | 7,119,699 | 146,265,420 | 2,564·79 | 83,537·17 | 2,859,537·34 | 7 |
| 8 | 279,870 | 6,828,792 | 139,145,721 | 2,087·72 | 80,972·38 | 2,776,000·17 | 8 |
| 9 | 269,630 | 6,548,922 | 132,316,929 | 1,732·25 | 78,884·66 | 2,695,027·79 | 9 |
| 10 | 260,044 | 6,279,292 | 125,768,007 | 1,477·35 | 77,152·41 | 2,616,143·13 | 10 |
| 11 | 250,993 | 6,019,248 | 119,488,715 | 1,305·27 | 75,675·06 | 2,538,990·72 | 11 |
| 12 | 242,377 | 5,768,255 | 113,469,467 | 1,201·88 | 74,369·79 | 2,463,315·66 | 12 |
| 13 | 234,116 | 5,525,878 | 107,701,212 | 1,153·65 | 73,167·91 | 2,388,945·87 | 13 |
| 14 | 226,143 | 5,291,762 | 102,175,334 | 1,148·29 | 72,014·26 | 2,315,777·96 | 14 |
| 15 | 218,408 | 5,065,619 | 96,883,572 | 1,176·54 | 70,865·97 | 2,243,763·70 | 15 |
| 16 | 210,870 | 4,847,211 | 91,817,953 | 1,227·58 | 69,689·43 | 2,172,897·73 | 16 |
| 17 | 203,501 | 4,636,341 | 86,970,742 | 1,295·21 | 68,461·85 | 2,103,208·30 | 17 |
| 18 | 196,279 | 4,432,840 | 82,334,401 | 1,368·69 | 67,166·64 | 2,034,746·45 | 18 |
| 19 | 189,193 | 4,236,561 | 77,901,561 | 1,444·54 | 65,797·95 | 1,967,579·81 | 19 |
| 20 | 182,238 | 4,047,368 | 73,665,000 | 1,515·35 | 64,353·41 | 1,901,781·86 | 20 |
| 21 | 175,415 | 3,865,130 | 69,617,632 | 1,496·27 | 62,838·06 | 1,837,428·45 | 21 |
| 22 | 168,809 | 3,689,715 | 65,752,502 | 1,475·49 | 61,341·79 | 1,774,590·39 | 22 |
| 23 | 162,417 | 3,520,906 | 62,062,787 | 1,452·19 | 59,866·30 | 1,713,248·60 | 23 |
| 24 | 156,234 | 3,358,489 | 58,541,881 | 1,427·56 | 58,414·11 | 1,653,382·30 | 24 |
| 25 | 150,256 | 3,202,255 | 55,183,392 | 1,402·21 | 56,986·55 | 1,594,968·19 | 25 |
| 26 | 144,478 | 3,051,999 | 51,981,137 | 1,375·33 | 55,584·34 | 1,537,981·64 | 26 |
| 27 | 138,894 | 2,907,521 | 48,929,138 | 1,347·94 | 54,209·01 | 1,482,397·30 | 27 |
| 28 | 133,501 | 2,768,627 | 46,021,617 | 1,320·57 | 52,861·07 | 1,428,188·29 | 28 |
| 29 | 128,292 | 2,635,126 | 43,252,990 | 1,292·81 | 51,540·50 | 1,375,327·22 | 29 |
| 30 | 123,262 | 2,506,834 | 40,617,864 | 1,265·16 | 50,247·69 | 1,323,786·72 | 30 |
| 31 | 118,407 | 2,383,572 | 38,111,030 | 1,237·63 | 48,982·53 | 1,273,539·03 | 31 |
| 32 | 113,721 | 2,265,165 | 35,727,458 | 1,209·88 | 47,744·90 | 1,224,556·50 | 32 |
| 33 | 109,198 | 2,151,444 | 33,462,293 | 1,183·42 | 46,535·02 | 1,176,811·60 | 33 |
| 34 | 104,835 | 2,042,246 | 31,310,849 | 1,156·77 | 45,351·60 | 1,130,276·58 | 34 |
| 35 | 100,624 | 1,937,411 | 29,268,603 | 1,131·36 | 44,194·83 | 1,084,924·98 | 35 |
| 36 | 96,562 | 1,836,787 | 27,331,192 | 1,105·78 | 43,063·47 | 1,040,730·15 | 36 |
| 37 | 92,644 | 1,740,225 | 25,494,405 | 1,081·70 | 41,957·69 | 997,666·68 | 37 |
| 38 | 88,864 | 1,647,581 | 23,754,180 | 1,057·77 | 40,875·99 | 955,708·99 | 38 |
| 39 | 85,218 | 1,558,717 | 22,106,599 | 1,034·94 | 39,818·22 | 914,833·00 | 39 |
| 40 | 81,701 | 1,473,499 | 20,547,882 | 1,012·53 | 38,783·28 | 875,014·78 | 40 |
| 41 | 78,309 | 1,391,798 | 19,074,383 | 991·42 | 37,770·75 | 836,231·50 | 41 |
| 42 | 75,036 | 1,313,489 | 17,682,585 | 970·40 | 36,779·33 | 798,460·75 | 42 |
| 43 | 71,880 | 1,238,453 | 16,369,096 | 950·58 | 35,808·93 | 761,681·42 | 43 |
| 44 | 68,836 | 1,166,573 | 15,130,643 | 931·35 | 34,858·35 | 725,872·49 | 44 |
| 45 | 65,900 | 1,097,737 | 13,964,070 | 912·70 | 33,927·00 | 691,014·14 | 45 |
| 46 | 63,068 | 1,031,837 | 12,866,333 | 895·09 | 33,014·30 | 657,087·14 | 46 |
| 47 | 60,336 | 968,769 | 11,834,496 | 877·73 | 32,119·21 | 624,072·84 | 47 |
| 48 | 57,701 | 908,433 | 10,865,727 | 861·09 | 31,241·48 | 591,953·63 | 48 |
| 49 | 55,159 | 850,732 | 9,957,294 | 845·14 | 30,380·39 | 560,712·15 | 49 |
| 50 | 52,707 | 795,573 | 9,106,562 | 829·60 | 29,535·25 | 530,331·76 | 50 |
| 51 | 50,343 | 742,866 | 8,310,989 | 814·47 | 28,705·65 | 500,796·51 | 51 |
| 52 | 48,062 | 692,523 | 7,568,123 | 799·93 | 27,891·18 | 472,090·86 | 52 |
| 53 | 45,862 | 644,461 | 6,875,600 | 785·55 | 27,091·25 | 444,199·68 | 53 |
| 54 | 43,741 | 598,599 | 6,231,139 | 835·47 | 26,305·70 | 417,108·43 | 54 |

## YEARLY TABLE:—FEMALES. Interest 3 per Cent.

| Age $(x)$ | $D_x$ | $N_x$ | $S_x$ | $C_x$ | $M_x$ | $R_x$ | Age $(x)$ |
|---|---|---|---|---|---|---|---|
| 55 | 41,631 | 554,858 | 5,632,540 | 848·01 | 25,470·23 | 390,802·73 | 55 |
| 56 | 39,571 | 513,227 | 5,077,682 | 858·36 | 24,622·22 | 365,332·50 | 56 |
| 57 | 37,560 | 473,656 | 4,564,455 | 867·40 | 23,763·86 | 340,710·28 | 57 |
| 58 | 35,598 | 436,096 | 4,090,799 | 875·70 | 22,896·46 | 316,946·42 | 58 |
| 59 | 33,686 | 400,498 | 3,654,703 | 883·63 | 22,020·76 | 294,049·96 | 59 |
| 60 | 31,821 | 366,812 | 3,254,205 | 891·35 | 21,137·13 | 272,029·20 | 60 |
| 61 | 30,003 | 334,991 | 2,887,393 | 898·98 | 20,245·78 | 250,892·07 | 61 |
| 62 | 28,230 | 304,988 | 2,552,402 | 906·35 | 19,346·80 | 230,646·29 | 62 |
| 63 | 26,501 | 276,758 | 2,247,414 | 913·43 | 18,440·45 | 211,299·49 | 63 |
| 64 | 24,816 | 250,257 | 1,970,656 | 919·77 | 17,527·02 | 192,859·04 | 64 |
| 65 | 23,174 | 225,441 | 1,720,399 | 925·25 | 16,607·25 | 175,332·02 | 65 |
| 66 | 21,573 | 202,267 | 1,494,958 | 928·94 | 15,682·00 | 158,724·77 | 66 |
| 67 | 20,016 | 180,694 | 1,292,691 | 930·82 | 14,753·06 | 143,042·77 | 67 |
| 68 | 18,502 | 160,678 | 1,111,997 | 929·99 | 13,822·24 | 128,289·71 | 68 |
| 69 | 17,033 | 142,176 | 951,319 | 926·01 | 12,892·25 | 114,467·47 | 69 |
| 70 | 15,611 | 125,143 | 809,143 | 918·29 | 11,966·24 | 101,575·22 | 70 |
| 71 | 14,238 | 109,532 | 684,000 | 906·31 | 11,047·95 | 89,608·98 | 71 |
| 72 | 12,917 | 95,294 | 574,468 | 889·73 | 10,141·64 | 78,561·03 | 72 |
| 73 | 11,651 | 82,377 | 479,174 | 868·08 | 9,251·91 | 68,419·39 | 73 |
| 74 | 10,444 | 70,726 | 396,797 | 841·49 | 8,383·83 | 59,167·48 | 74 |
| 75 | 9,298·2 | 60,281·5 | 326,070·7 | 809·47 | 7,542·34 | 50,783·65 | 75 |
| 76 | 8,217·9 | 50,983·3 | 265,789·2 | 772·34 | 6,732·87 | 43,241·31 | 76 |
| 77 | 7,206·1 | 42,765·4 | 214,805·9 | 730·70 | 5,960·53 | 36,508·44 | 77 |
| 78 | 6,265·6 | 35,559·3 | 172,040·5 | 684·45 | 5,229·83 | 30,547·91 | 78 |
| 79 | 5,398·6 | 29,293·7 | 136,481·2 | 634·82 | 4,545·38 | 25,318·08 | 79 |
| 80 | 4,606·6 | 23,895·1 | 107,187·5 | 582·29 | 3,910·56 | 20,772·70 | 80 |
| 81 | 3,890·1 | 19,288·5 | 83,292·4 | 527·86 | 3,328·27 | 16,862·14 | 81 |
| 82 | 3,248·9 | 15,398·4 | 64,003·9 | 472·67 | 2,800·41 | 13,533·87 | 82 |
| 83 | 2,681·6 | 12,149·5 | 48,605·5 | 417·74 | 2,327·74 | 10,733·46 | 83 |
| 84 | 2,185·8 | 9,467·9 | 36,456·0 | 363·98 | 1,910·00 | 8,405·72 | 84 |
| 85 | 1,758·1 | 7,282·1 | 26,988·1 | 312·61 | 1,546·02 | 6,495·72 | 85 |
| 86 | 1,394·4 | 5,524·0 | 19,706·0 | 264·23 | 1,233·41 | 4,949·70 | 86 |
| 87 | 1,089·5 | 4,129·6 | 14,182·0 | 219·74 | 969·18 | 3,716·29 | 87 |
| 88 | 838·00 | 3,040·10 | 10,052·37 | 179·63 | 749·44 | 2,747·11 | 88 |
| 89 | 633·94 | 2,202·10 | 7,012·27 | 144·26 | 569·81 | 1,997·67 | 89 |
| 90 | 471·25 | 1,568·16 | 4,810·17 | 113·58 | 425·55 | 1,427·86 | 90 |
| 91 | 343·92 | 1,096·91 | 3,242·01 | 87·73 | 311·97 | 1,002·31 | 91 |
| 92 | 246·18 | 752·99 | 2,145·10 | 66·36 | 224·24 | 690·34 | 92 |
| 93 | 172·68 | 506·81 | 1,392·11 | 49·08 | 157·88 | 466·10 | 93 |
| 94 | 118·56 | 334·13 | 885·30 | 35·47 | 108·80 | 308·22 | 94 |
| 95 | 79·611 | 215·574 | 551·173 | 25·07 | 73·33 | 199·42 | 95 |
| 96 | 52·221 | 135·963 | 335·599 | 17·28 | 48·26 | 126·09 | 96 |
| 97 | 33·427 | 83·742 | 199·636 | 11·59 | 30·98 | 77·83 | 97 |
| 98 | 20·858 | 50·315 | 115·894 | 7·61 | 19·39 | 46·85 | 98 |
| 99 | 12·672 | 29·457 | 65·579 | 4·79 | 11·78 | 27·46 | 99 |
| 100 | 7·4882 | 16·7848 | 36·1217 | 2·98 | 6·99 | 15·68 | 100 |
| 101 | 4·2985 | 9·2966 | 19·3369 | 1·77 | 4·01 | 8·69 | 101 |
| 102 | 2·3942 | 4·9981 | 10·0403 | 1·05 | 2·24 | 4·68 | 102 |
| 103 | 1·2924 | 2·6039 | 5·0422 | ·55 | 1·19 | 2·44 | 103 |
| 104 | ·6752 | 1·3115 | 2·4383 | ·31 | ·64 | 1·25 | 104 |
| 105 | ·3410 | ·6363 | 1·1268 | ·17 | ·33 | ·61 | 105 |
| 106 | ·1663 | ·2953 | ·4905 | ·08 | ·16 | ·28 | 106 |
| 107 | ·0782 | ·1290 | ·1952 | ·04 | ·08 | ·12 | 107 |
| 108 | ·0354 | ·0508 | ·0662 | ·04 | ·04 | ·04 | 108 |
| 109 | ·0154 | ·0154 | ·0154 | ... | ... | ... | 109 |

## YEARLY TABLE:—FEMALES. Interest 3 per Cent.

| Age $(x)$ | λ $D_x$ | λ $N_x$ | λ $M_x$ | Age $(x)$ | λ $D_x$ | λ $N_x$ | λ $M_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 5·6886465 | 6·9864115 | 5·3137936 | 55 | 4·6194190 | 5·7441818 | 4·4060328 |
| 1 | 5·6129697 | 6·9639626 | 5·1526148 | 56 | 4·5973737 | 5·7103095 | 4·3913272 |
| 2 | 5·5723735 | 6·9441631 | 5·0698509 | 57 | 4·5747229 | 5·6754630 | 4·3759170 |
| 3 | 5·5438916 | 6·9253098 | 5·0195996 | 58 | 4·5514296 | 5·6395821 | 4·3597683 |
| 4 | 5·5204254 | 6·9068788 | 4·9840955 | 59 | 4·5274461 | 5·6026003 | 4·3428323 |
| 5 | 5·4998405 | 6·8886647 | 4·9576758 | 60 | 4·5027135 | 5·5644436 | 4·3250460 |
| 6 | 5·4811983 | 6·8705519 | 4·9377140 | 61 | 4·4771622 | 5·5250331 | 4·3063345 |
| 7 | 5·4637539 | 6·8524617 | 4·9218798 | 62 | 4·4507115 | 5·4842828 | 4·2866091 |
| 8 | 5·4469558 | 6·8343439 | 4·9083369 | 63 | 4·4232697 | 5·4421002 | 4·2657715 |
| 9 | 5·4307681 | 6·8161698 | 4·8969925 | 64 | 4·3947345 | 5·3983862 | 4·2437081 |
| 10 | 5·4150471 | 6·7979106 | 4·8873495 | 65 | 4·3649922 | 5·3530329 | 4·2202977 |
| 11 | 5·3996612 | 6·7795423 | 4·8789528 | 66 | 4·3339185 | 5·3059251 | 4·1954014 |
| 12 | 5·3844914 | 6·7610445 | 4·8713965 | 67 | 4·3013780 | 5·2569437 | 4·1688821 |
| 13 | 5·3694305 | 6·7424013 | 4·8643207 | 68 | 4·2672244 | 5·2059564 | 4·1405785 |
| 14 | 5·3543840 | 6·7236003 | 4·8574185 | 69 | 4·2313006 | 5·1528263 | 4·1103287 |
| 15 | 5·3392692 | 6·7046326 | 4·8504377 | 70 | 4·1934382 | 5·0974066 | 4·0779578 |
| 16 | 5·3240158 | 6·6854919 | 4·8431669 | 71 | 4·1534583 | 5·0395410 | 4·0432818 |
| 17 | 5·3085658 | 6·6661754 | 4·8354486 | 72 | 4·1111707 | 4·9790656 | 4·0061082 |
| 18 | 5·2928734 | 6·6466820 | 4·8271537 | 73 | 4·0663745 | 4·9158060 | 3·9662314 |
| 19 | 5·2769048 | 6·6270135 | 4·8182123 | 74 | 4·0188578 | 4·8495791 | 3·9234425 |
| 20 | 5·2606388 | 6·6071727 | 4·8085716 | 75 | 3·9683976 | 4·7801841 | 3·8775061 |
| 21 | 5·2440662 | 6·5871641 | 4·7982228 | 76 | 3·9147601 | 4·7074280 | 3·8282003 |
| 22 | 5·2273961 | 6·5669929 | 4·7877564 | 77 | 3·8577006 | 4·6310925 | 3·7752849 |
| 23 | 5·2106318 | 6·5466544 | 4·7771824 | 78 | 3·7969634 | 4·5509532 | 3·7184876 |
| 24 | 5·1937762 | 6·5261440 | 4·7665178 | 79 | 3·7322819 | 4·4667743 | 3·6575702 |
| 25 | 5·1768319 | 6·5054560 | 4·7557724 | 80 | 3·6633785 | 4·3783088 | 3·5922390 |
| 26 | 5·1598006 | 6·4845844 | 4·7449524 | 81 | 3·5899647 | 4·2852985 | 3·5222186 |
| 27 | 5·1426840 | 6·4635229 | 4·7340715 | 82 | 3·5117410 | 4·1874756 | 3·4472217 |
| 28 | 5·1254831 | 6·4422644 | 4·7231360 | 83 | 3·4283971 | 4·0845585 | 3·3669345 |
| 29 | 5·1081983 | 6·4208014 | 4·7121486 | 84 | 3·3396115 | 3·9762537 | 3·2810334 |
| 30 | 5·0908299 | 6·3991256 | 4·7011161 | 85 | 3·2450521 | 3·8622566 | 3·1892151 |
| 31 | 5·0733773 | 6·3772283 | 4·6900413 | 86 | 3·1443756 | 3·7422537 | 3·0911074 |
| 32 | 5·0558399 | 6·3550999 | 4·6789270 | 87 | 3·0372279 | 3·6150080 | 2·9864044 |
| 33 | 5·0382162 | 6·3327301 | 4·6677799 | 88 | 2·9232439 | 3·4828879 | 2·8747369 |
| 34 | 5·0205045 | 6·3101081 | 4·6565926 | 89 | 2·8020475 | 3·3428370 | 2·7557301 |
| 35 | 5·0027024 | 6·2872217 | 4·6453714 | 90 | 2·6732518 | 3·1953904 | 2·6289506 |
| 36 | 4·9848074 | 6·2640589 | 4·6341090 | 91 | 2·5364589 | 3·0401710 | 2·4941128 |
| 37 | 4·9668161 | 6·2406055 | 4·6228115 | 92 | 2·3912599 | 2·8767892 | 2·3507131 |
| 38 | 4·9487250 | 6·2168468 | 4·6114683 | 93 | 2·2372350 | 2·7048452 | 2·1983271 |
| 39 | 4·9305300 | 6·1927673 | 4·6000818 | 94 | 2·0739535 | 2·5239155 | 2·0366289 |
| 40 | 4·9122263 | 6·1683499 | 4·5886445 | 95 | 1·9009738 | 2·3335964 | 1·8652817 |
| 41 | 4·8938090 | 6·1435762 | 4·5771557 | 96 | 1·7178431 | 2·1334208 | 1·6835873 |
| 42 | 4·8752725 | 6·1184265 | 4·5656038 | 97 | 1·5240980 | 1·9229433 | 1·4910814 |
| 43 | 4·8566108 | 6·0928796 | 4·5539914 | 98 | 1·3192640 | 1·7016975 | 1·2875778 |
| 44 | 4·8378174 | 6·0669119 | 4·5423068 | 99 | 1·1028557 | 1·4691885 | 1·0711453 |
| 45 | 4·8188855 | 6·0404984 | 4·5305455 | 100 | 0·8743766 | 1·2249161 | 0·8444772 |
| 46 | 4·7998075 | 6·0136111 | 4·5187021 | 101 | 0·6333195 | 0·9683241 | 0·6031444 |
| 47 | 4·7805757 | 5·9862203 | 4·5067648 | 102 | 0·3791661 | 0·6988049 | 0·3502480 |
| 48 | 4·7611817 | 5·9582929 | 4·4947316 | 103 | 0·1113872 | 0·4156243 | 0·0755470 |
| 49 | 4·7416166 | 5·9297927 | 4·4825934 | 104 | $\bar{1}$·8294427 | 0·1177683 | $\bar{1}$·8061800 |
| 50 | 4·7218713 | 5·9006801 | 4·4703406 | 105 | $\bar{1}$·5327815 | $\bar{1}$·8036619 | $\bar{1}$·5185139 |
| 51 | 4·7019358 | 5·8709105 | 4·4579675 | 106 | $\bar{1}$·2208416 | $\bar{1}$·4702634 | $\bar{1}$·2041200 |
| 52 | 4·6818002 | 5·8404342 | 4·4454670 | 107 | $\bar{2}$·8930502 | $\bar{1}$·1105897 | $\bar{2}$·9030900 |
| 53 | 4·6614535 | 5·8091967 | 4·4328290 | 108 | $\bar{2}$·5488231 | $\bar{2}$·7058637 | $\bar{2}$·6020600 |
| 54 | 4·6408847 | 5·7771360 | 4·4200499 | 109 | $\bar{2}$·1875658 | $\bar{2}$·1875207 | ... |

## YEARLY TABLE:—FEMALES. Interest 3 per Cent.

| Age $(x)$ | $\lambda\left(\frac{N_x}{D_x}\right)=\lambda A_x$ | $\lambda\left(\frac{M_x}{D_x}\right)=\lambda \Pi_x$ | $\lambda\left(\frac{M_x}{N_x}\right)=\lambda \pi_x$ |
|---|---|---|---|
| 0 | 1·2977650 | $\bar{1}$·6251471 | $\bar{2}$·3273821 |
| 1 | 1·3509929 | $\bar{1}$·5396451 | $\bar{2}$·1886522 |
| 2 | 1·3717896 | $\bar{1}$·4974774 | $\bar{2}$·1256878 |
| 3 | 1·3814182 | $\bar{1}$·4757080 | $\bar{2}$·0942898 |
| 4 | 1·3864534 | $\bar{1}$·4636701 | $\bar{2}$·0772167 |
| 5 | 1·3888242 | $\bar{1}$·4578353 | $\bar{2}$·0690111 |
| 6 | 1·3893536 | $\bar{1}$·4565157 | $\bar{2}$·0671621 |
| 7 | 1·3887078 | $\bar{1}$·4581259 | $\bar{2}$·0694181 |
| 8 | 1·3873881 | $\bar{1}$·4613811 | $\bar{2}$·0739930 |
| 9 | 1·3854017 | $\bar{1}$·4662244 | $\bar{2}$·0808227 |
| 10 | 1·3828635 | $\bar{1}$·4723024 | $\bar{2}$·0894389 |
| 11 | 1·3798811 | $\bar{1}$·4792916 | $\bar{2}$·0994105 |
| 12 | 1·3765531 | $\bar{1}$·4869051 | $\bar{2}$·1103520 |
| 13 | 1·3729708 | $\bar{1}$·4948902 | $\bar{2}$·1219194 |
| 14 | 1·3692163 | $\bar{1}$·5030345 | $\bar{2}$·1338182 |
| 15 | 1·3653634 | $\bar{1}$·5111685 | $\bar{2}$·1458051 |
| 16 | 1·3614761 | $\bar{1}$·5191511 | $\bar{2}$·1576750 |
| 17 | 1·3576096 | $\bar{1}$·5268828 | $\bar{2}$·1692732 |
| 18 | 1·3538086 | $\bar{1}$·5342803 | $\bar{2}$·1804717 |
| 19 | 1·3501087 | $\bar{1}$·5413075 | $\bar{2}$·1911988 |
| 20 | 1·3465339 | $\bar{1}$·5479328 | $\bar{2}$·2013989 |
| 21 | 1·3430979 | $\bar{1}$·5541566 | $\bar{2}$·2110587 |
| 22 | 1·3395968 | $\bar{1}$·5603603 | $\bar{2}$·2207635 |
| 23 | 1·3360226 | $\bar{1}$·5665506 | $\bar{2}$·2305280 |
| 24 | 1·3323678 | $\bar{1}$·5727416 | $\bar{2}$·2403738 |
| 25 | 1·3286241 | $\bar{1}$·5789405 | $\bar{2}$·2503164 |
| 26 | 1·3247838 | $\bar{1}$·5851518 | $\bar{2}$·2603680 |
| 27 | 1·3208389 | $\bar{1}$·5913875 | $\bar{2}$·2705486 |
| 28 | 1·3167813 | $\bar{1}$·5976529 | $\bar{2}$·2808716 |
| 29 | 1·3126031 | $\bar{1}$·6039503 | $\bar{2}$·2913472 |
| 30 | 1·3082957 | $\bar{1}$·6102862 | $\bar{2}$·3019905 |
| 31 | 1·3038510 | $\bar{1}$·6166640 | $\bar{2}$·3128130 |
| 32 | 1·2992600 | $\bar{1}$·6230871 | $\bar{2}$·3238271 |
| 33 | 1·2945139 | $\bar{1}$·6295637 | $\bar{2}$·3350498 |
| 34 | 1·2896036 | $\bar{1}$·6360881 | $\bar{2}$·3464845 |
| 35 | 1·2845193 | $\bar{1}$·6426690 | $\bar{2}$·3581497 |
| 36 | 1·2792515 | $\bar{1}$·6493016 | $\bar{2}$·3700501 |
| 37 | 1·2737894 | $\bar{1}$·6559954 | $\bar{2}$·3822060 |
| 38 | 1·2681218 | $\bar{1}$·6627433 | $\bar{2}$·3946215 |
| 39 | 1·2622373 | $\bar{1}$·6695518 | $\bar{2}$·4073145 |
| 40 | 1·2561236 | $\bar{1}$·6764182 | $\bar{2}$·4202946 |
| 41 | 1·2497672 | $\bar{1}$·6833467 | $\bar{2}$·4335795 |
| 42 | 1·2431540 | $\bar{1}$·6903313 | $\bar{2}$·4471773 |
| 43 | 1·2362688 | $\bar{1}$ 6973806 | $\bar{2}$·4611118 |
| 44 | 1·2290945 | $\bar{1}$·7044894 | $\bar{2}$·4753949 |
| 45 | 1·2216129 | $\bar{1}$·7116600 | $\bar{2}$·4900471 |
| 46 | 1·2138036 | $\bar{1}$·7188946 | $\bar{2}$·5050910 |
| 47 | 1·2056446 | $\bar{1}$·7261891 | $\bar{2}$·5205445 |
| 48 | 1·1971112 | $\bar{1}$·7335499 | $\bar{2}$·5364387 |
| 49 | 1·1881761 | $\bar{1}$·7409768 | $\bar{2}$·5528007 |
| 50 | 1·1788088 | $\bar{1}$·7484693 | $\bar{2}$·5696605 |
| 51 | 1·1689747 | $\bar{1}$·7560317 | $\bar{2}$·5870570 |
| 52 | 1·1586340 | $\bar{1}$·7636668 | $\bar{2}$·6050328 |
| 53 | 1·1477432 | $\bar{1}$·7713755 | $\bar{2}$·6236323 |
| 54 | 1·1362513 | $\bar{1}$·7791652 | $\bar{2}$·6429139 |
| 55 | 1·1247628 | $\bar{1}$·7866138 | $\bar{2}$·6618510 |
| 56 | 1·1129358 | $\bar{1}$·7939535 | $\bar{2}$·6810177 |
| 57 | 1·1007401 | $\bar{1}$·8011941 | $\bar{2}$·7004540 |
| 58 | 1·0881525 | $\bar{1}$·8083387 | $\bar{2}$·7201862 |
| 59 | 1·0751542 | $\bar{1}$·8153862 | $\bar{2}$·7402320 |
| 60 | 1·0617301 | $\bar{1}$·8223325 | $\bar{2}$·7606024 |
| 61 | 1·0478709 | $\bar{1}$·8291723 | $\bar{2}$·7813014 |
| 62 | 1·0335713 | $\bar{1}$·8358976 | $\bar{2}$·8023263 |
| 63 | 1·0188305 | $\bar{1}$·8425018 | $\bar{2}$·8236713 |
| 64 | 1·0036517 | $\bar{1}$·8489736 | $\bar{2}$·8453219 |
| 65 | 0·9880407 | $\bar{1}$·8553055 | $\bar{2}$·8672648 |
| 66 | 0·9720066 | $\bar{1}$·8614829 | $\bar{2}$·8894763 |
| 67 | 0·9555657 | $\bar{1}$·8675041 | $\bar{2}$·9119384 |
| 68 | 0·9387320 | $\bar{1}$·8733541 | $\bar{2}$·9346221 |
| 69 | 0·9215257 | $\bar{1}$·8790281 | $\bar{2}$·9575024 |
| 70 | 0·9039684 | $\bar{1}$·8845196 | $\bar{2}$·9805512 |
| 71 | 0·8860827 | $\bar{1}$·8898235 | $\bar{1}$·0037408 |
| 72 | 0·8678949 | $\bar{1}$·8949375 | $\bar{1}$·0270426 |
| 73 | 0·8494315 | $\bar{1}$·8998569 | $\bar{1}$·0504254 |
| 74 | 0·8307213 | $\bar{1}$·9045847 | $\bar{1}$·0738634 |
| 75 | 0·8117865 | $\bar{1}$·9091085 | $\bar{1}$·0973220 |
| 76 | 0·7926679 | $\bar{1}$·9134402 | $\bar{1}$·1207723 |
| 77 | 0·7733919 | $\bar{1}$·9175843 | $\bar{1}$·1441924 |
| 78 | 0·7539898 | $\bar{1}$·9215242 | $\bar{1}$·1675344 |
| 79 | 0·7344924 | $\bar{1}$·9252883 | $\bar{1}$·1907959 |
| 80 | 0·7149303 | $\bar{1}$·9288605 | $\bar{1}$·2139502 |
| 81 | 0·6953338 | $\bar{1}$·9322539 | $\bar{1}$·2369201 |
| 82 | 0·6757346 | $\bar{1}$·9354807 | $\bar{1}$·2597461 |
| 83 | 0·6561614 | $\bar{1}$·9385374 | $\bar{1}$·2823760 |
| 84 | 0·6366422 | $\bar{1}$·9414219 | $\bar{1}$·3047797 |
| 85 | 0·6172045 | $\bar{1}$·9441630 | $\bar{1}$·3269585 |
| 86 | 0·5978781 | $\bar{1}$·9467318 | $\bar{1}$·3488537 |
| 87 | 0·5786801 | $\bar{1}$·9491765 | $\bar{1}$·3704964 |
| 88 | 0·5596440 | $\bar{1}$·9514930 | $\bar{1}$·3918490 |
| 89 | 0·5407895 | $\bar{1}$·9536826 | $\bar{1}$·4128931 |
| 90 | 0·5221386 | $\bar{1}$·9556988 | $\bar{1}$·4335602 |
| 91 | 0·5037121 | $\bar{1}$·9576539 | $\bar{1}$·4539418 |
| 92 | 0·4855293 | $\bar{1}$·9594532 | $\bar{1}$·4739239 |
| 93 | 0·4676102 | $\bar{1}$·9610921 | $\bar{1}$·4934819 |
| 94 | 0·4499620 | $\bar{1}$·9626754 | $\bar{1}$·5127134 |
| 95 | 0·4326226 | $\bar{1}$·9643079 | $\bar{1}$·5316853 |
| 96 | 0·4155777 | $\bar{1}$·9657442 | $\bar{1}$·5501665 |
| 97 | 0·3988453 | $\bar{1}$·9669834 | $\bar{1}$·5681381 |
| 98 | 0·3824335 | $\bar{1}$·9683138 | $\bar{1}$·5858803 |
| 99 | 0·3663328 | $\bar{1}$·9682896 | $\bar{1}$·6019568 |
| 100 | 0·3505395 | $\bar{1}$·9701006 | 1·6195611 |

## YEARLY TABLE:—FEMALES. Interest 3 per Cent.

VALUES OF ANNUITIES. SINGLE and ANNUAL PREMIUMS, which insure £1 on the LIFE of a FEMALE.

| **Age** | **Present value** of an **Annuity** of £1 (first payment at the age $x$). | **Annuity** (first payment at age $x$) which £1 will purchase. | Sum which **One Premium** of £1 will insure over **One Year.** | Sum which **One Premium** of £1 will insure over the **Whole Term of Life.** | Sum which an **Annual Premium** of £1 will insure over the **Whole Term of Life.** | **Single Premium** which will insure £1 over **One Year.** | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Annual Premium** which will insure £1 over the **Whole Term of Life.** |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x}=A_x$ | $\frac{D_x}{N_x}=a_x$ | $\frac{D_x}{C_x}$ | $\frac{D_x}{M_x}=\Sigma_x$ | $\frac{N_x}{M_x}=s_x$ | $\frac{C_x}{D_x}$ | $\frac{M_x}{D_x}=\Pi_x$ | $\frac{M_x}{N_x}=\pi_x$ |
| | £ | £ | £ | £ | £ | £ | £ | £ |
| 0 | 19·8502 | ·050377 | 7·65 | 2·37057 | 47·0563 | ·130789 | ·42184 | ·021251 |
| 1 | 22·4385 | ·044566 | 16·64 | 2·88639 | 64·7661 | ·060114 | ·34645 | ·015440 |
| 2 | 23·5391 | ·042483 | 29·11 | 3·18070 | 74·8708 | ·034352 | ·31440 | ·013356 |
| 3 | 24·0668 | ·041551 | 42·60 | 3·34420 | 80·4841 | ·023473 | ·29903 | ·012425 |
| 4 | 24·3474 | ·041072 | 58·25 | 3·43819 | 83·7112 | ·017166 | ·29085 | ·011946 |
| 5 | 24·4807 | ·040848 | 77·57 | 3·48469 | 85·3078 | ·012892 | ·28697 | ·011722 |
| 6 | 24·5106 | ·040799 | 97·63 | 3·49530 | 85·6718 | ·010243 | ·28610 | ·011672 |
| 7 | 24·4742 | ·040859 | 113·42 | 3·48236 | 85·2279 | ·008817 | ·28716 | ·011733 |
| 8 | 24·3999 | ·040984 | 134·06 | 3·45636 | 84·3348 | ·007460 | ·28932 | ·011857 |
| 9 | 24·2886 | ·041172 | 155·65 | 3·41803 | 83·0190 | ·006425 | ·29257 | ·012045 |
| 10 | 24·1470 | ·041413 | 176·02 | 3·37053 | 81·3881 | ·005681 | ·29669 | ·012287 |
| 11 | 23·9818 | ·041698 | 192·29 | 3·31672 | 79·5407 | ·005200 | ·30150 | ·012572 |
| 12 | 23·7987 | ·042019 | 201·67 | 3·25908 | 77·5618 | ·004959 | ·30684 | ·012893 |
| 13 | 23·6032 | ·042367 | 202·93 | 3·19970 | 75·5232 | ·004928 | ·31253 | ·013241 |
| 14 | 23·4000 | ·042735 | 196·94 | 3·14026 | 73·4821 | ·005078 | ·31845 | ·013609 |
| 15 | 23·1933 | ·043116 | 185·64 | 3·08199 | 71·4817 | ·005387 | ·32447 | ·013990 |
| 16 | 22·9867 | ·043503 | 171·78 | 3·02586 | 69·5545 | ·005821 | ·33048 | ·014377 |
| 17 | 22·7829 | ·043893 | 157·12 | 2·97247 | 67·7215 | ·006365 | ·33642 | ·014766 |
| 18 | 22·5844 | ·044278 | 143·41 | 2·92227 | 65·9976 | ·006973 | ·34220 | ·015152 |
| 19 | 22·3928 | ·044657 | 130·97 | 2·87536 | 64·3874 | ·007635 | ·34778 | ·015531 |
| 20 | 22·2093 | ·045026 | 120·26 | 2·83183 | 62·8928 | ·008315 | ·35313 | ·015900 |
| 21 | 22·0342 | ·045384 | 117·24 | 2·79154 | 61·5094 | ·008530 | ·35823 | ·016258 |
| 22 | 21·8573 | ·045751 | 114·41 | 2·75195 | 60·1501 | ·008741 | ·36338 | ·016625 |
| 23 | 21·6782 | ·046129 | 111·84 | 2·71300 | 58·8128 | ·008941 | ·36860 | ·017003 |
| 24 | 21·4965 | ·046519 | 109·44 | 2·67460 | 57·4945 | ·009137 | ·37389 | ·017393 |
| 25 | 21·3120 | ·046922 | 107·16 | 2·63669 | 56·1932 | ·009332 | ·37926 | ·017796 |
| 26 | 21·1244 | ·047339 | 105·05 | 2·59925 | 54·9075 | ·009519 | ·38473 | ·018212 |
| 27 | 20·9334 | ·047771 | 103·04 | 2·56220 | 53·6354 | ·009705 | ·39029 | ·018644 |
| 28 | 20·7387 | ·048219 | 101·09 | 2·52550 | 52·3755 | ·009892 | ·39596 | ·019093 |
| 29 | 20·5401 | ·048685 | 99·23 | 2·48914 | 51·1273 | ·010077 | ·40174 | ·019559 |
| 30 | 20·3374 | ·049170 | 97·43 | 2·45309 | 49·8895 | ·010264 | ·40765 | ·020044 |
| 31 | 20·1303 | ·049676 | 95·67 | 2·41733 | 48·6617 | ·010452 | ·41368 | ·020550 |
| 32 | 19·9187 | ·050204 | 93·99 | 2·38184 | 47·4431 | ·010639 | ·41984 | ·021078 |
| 33 | 19·7022 | ·050756 | 92·27 | 2·34658 | 46·2328 | ·010837 | ·42615 | ·021630 |
| 34 | 19·4807 | ·051333 | 90·63 | 2·31160 | 45·0314 | ·011034 | ·43260 | ·022207 |
| 35 | 19·2539 | ·051937 | 88 94 | 2·27683 | 43·8380 | ·011243 | ·43921 | ·022811 |
| 36 | 19·0218 | ·052571 | 87·33 | 2·24232 | 42·6530 | ·011451 | ·44597 | ·023445 |
| 37 | 18·7841 | ·053237 | 85·65 | 2·20803 | 41·4757 | ·011676 | ·45289 | ·024110 |
| 38 | 18·5405 | ·053936 | 84·01 | 2·17399 | 40·3068 | ·011903 | ·45998 | ·024810 |
| 39 | 18·2910 | ·054672 | 82·34 | 2·14017 | 39·1458 | ·012145 | ·46725 | ·025545 |
| 40 | 18·0353 | ·055447 | 80·69 | 2·10660 | 37·9932 | ·012393 | ·47470 | ·026321 |
| 41 | 17·7733 | ·056264 | 78·99 | 2·07326 | 36·8486 | ·012660 | ·48233 | ·027138 |
| 42 | 17·5047 | ·057128 | 77·33 | 2·04018 | 35·7127 | ·012932 | ·49015 | ·028001 |
| 43 | 17·2293 | ·058041 | 75·62 | 2·00733 | 34·5850 | ·013224 | ·49817 | ·028914 |
| 44 | 16·9471 | ·059007 | 73·91 | 1·97474 | 33·4661 | ·013530 | ·50640 | ·029881 |
| 45 | 16·6576 | ·060033 | 72·20 | 1·94241 | 32·3559 | ·013850 | ·51483 | ·030906 |
| 46 | 16·3608 | ·061122 | 70·46 | 1·91032 | 31·2542 | ·014192 | ·52347 | ·031996 |
| 47 | 16·0563 | ·062281 | 68·74 | 1·87850 | 30·1617 | ·014547 | ·53234 | ·033155 |
| 48 | 15·7439 | ·063517 | 67·01 | 1·84693 | 29·0778 | ·014923 | ·54144 | ·034391 |
| 49 | 15·4233 | ·064837 | 65·27 | 1·81561 | 28·0027 | ·015322 | ·55078 | ·035711 |

## YEARLY TABLE:—FEMALES. Interest 3 per Cent.

### VALUES OF ANNUITIES. SINGLE and ANNUAL PREMIUMS, which insure £1 on the LIFE of a FEMALE.

| **Age** | **Present value** of an **Annuity** of £1 (first payment at the age $x$). | **Annuity** (first payment at age $x$) which £1 will purchase. | Sum which **One Premium** of £1 will insure over **One Year.** | Sum which **One Premium** of £1 will insure over the **Whole Term of Life.** | Sum which an **Annual Premium** of £1 will insure over the **Whole Term of Life.** | **Single Premium** which will insure £1 over **One Year.** | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Annual Premium** which will insure £1 over the **Whole Term of Life.** |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x}=A_x$ | $\frac{D_x}{N_x}=a_x$ | $\frac{D_x}{C_x}$ | $\frac{D_x}{M_x}=\Sigma_x$ | $\frac{N_x}{M_x}=s_x$ | $\frac{C_x}{D_x}$ | $\frac{M_x}{D_x}=\Pi_x$ | $\frac{M_x}{N_x}=\pi_x$ |
| | £ | £ | £ | £ | £ | £ | £ | £ |
| 50 | 15·0942 | ·066251 | 63·53 | 1·78456 | 26·9364 | ·015740 | ·56036 | ·037124 |
| 51 | 14·7562 | ·067768 | 61·81 | 1·75375 | 25·8787 | ·016179 | ·57021 | ·038642 |
| 52 | 14·4090 | ·069401 | 60·08 | 1·72319 | 24·8295 | ·016644 | ·58032 | ·040275 |
| 53 | 14·0522 | ·071163 | 58·38 | 1·69287 | 23·7885 | ·017129 | ·59071 | ·042037 |
| 54 | 13·6852 | ·073072 | 52·35 | 1·66278 | 22·7555 | ·019101 | ·60140 | ·043945 |
| 55 | 13·3279 | ·075030 | 49·09 | 1·63450 | 21·7846 | ·020370 | ·61181 | ·045904 |
| 56 | 12·9699 | ·077102 | 46·10 | 1·60711 | 20·8441 | ·021692 | ·62223 | ·047975 |
| 57 | 12·6107 | ·079298 | 43·30 | 1·58054 | 19·9318 | ·023094 | ·63269 | ·050171 |
| 58 | 12·2505 | ·081630 | 40·65 | 1·55475 | 19·0464 | ·024599 | ·64319 | ·052503 |
| 59 | 11·8892 | ·084110 | 38·12 | 1·52973 | 18·1873 | ·026232 | ·65371 | ·054983 |
| 60 | 11·5274 | ·086750 | 35·70 | 1·50545 | 17·3539 | ·028011 | ·66425 | ·057624 |
| 61 | 11·1653 | ·089563 | 33·37 | 1·48193 | 16·5462 | ·029963 | ·67480 | ·060437 |
| 62 | 10·8037 | ·092561 | 31·15 | 1·45916 | 15·7643 | ·032106 | ·68533 | ·063435 |
| 63 | 10·4431 | ·095757 | 29·01 | 1·43714 | 15·0082 | ·034467 | ·69583 | ·066630 |
| 64 | 10·0844 | ·099163 | 26·98 | 1·41588 | 14·2784 | ·037063 | ·70627 | ·070036 |
| 65 | 9·7284 | ·102792 | 25·05 | 1·39539 | 13·5749 | ·039927 | ·71665 | ·073666 |
| 66 | 9·3758 | ·106658 | 23·22 | 1·37568 | 12·8980 | ·043059 | ·72691 | ·077531 |
| 67 | 9·0275 | ·110773 | 21·50 | 1·35674 | 12·2479 | ·046504 | ·73706 | ·081647 |
| 68 | 8·6842 | ·115151 | 19·90 | 1·33858 | 11·6246 | ·050263 | ·74706 | ·086024 |
| 69 | 8·3469 | ·119805 | 18·39 | 1·32121 | 11·0280 | ·054365 | ·75688 | ·090678 |
| 70 | 8·0162 | ·124747 | 17·00 | 1·30461 | 10·4580 | ·058822 | ·76651 | ·095621 |
| 71 | 7·6928 | ·129992 | 15·71 | 1·28877 | 9·9142 | ·063653 | ·77593 | ·100865 |
| 72 | 7·3773 | ·135552 | 14·52 | 1·27369 | 9·3963 | ·068879 | ·78512 | ·106425 |
| 73 | 7·0702 | ·141439 | 13·42 | 1·25934 | 8·9038 | ·074505 | ·79407 | ·112312 |
| 74 | 6·7721 | ·147665 | 12·41 | 1·24571 | 8·4360 | ·080574 | ·80276 | ·118540 |
| 75 | 6·4832 | ·154246 | 11·49 | 1·23280 | 7·9924 | ·087057 | ·81116 | ·125119 |
| 76 | 6·2039 | ·161188 | 10·64 | 1·22056 | 7·5723 | ·093983 | ·81929 | ·132060 |
| 77 | 5·9346 | ·168503 | 9·86 | 1·20897 | 7·1748 | ·101401 | ·82715 | ·139377 |
| 78 | 5·6753 | ·176202 | 9·15 | 1·19805 | 6·7993 | ·109239 | ·83469 | ·147073 |
| 79 | 5·4262 | ·184292 | 8·50 | 1·18771 | 6·4447 | ·117589 | ·84195 | ·155166 |
| 80 | 5·1872 | ·192783 | 7·91 | 1·17798 | 6·1104 | ·126405 | ·84891 | ·163655 |
| 81 | 4·9583 | ·201682 | 7·37 | 1·16882 | 5·7954 | ·135693 | ·85557 | ·172552 |
| 82 | 4·7395 | ·210992 | 6·87 | 1·16016 | 5·4986 | ·145484 | ·86195 | ·181864 |
| 83 | 4·5307 | ·220718 | 6·42 | 1·15203 | 5·2194 | ·155778 | ·86804 | ·191591 |
| 84 | 4·3315 | ·230865 | 6·01 | 1·14440 | 4·9570 | ·166522 | ·87382 | ·201734 |
| 85 | 4·1419 | ·241432 | 5·62 | 1·13720 | 4·7102 | ·177810 | ·87935 | ·212304 |
| 86 | 3·9617 | ·252419 | 5·28 | 1·13049 | 4·4786 | ·189501 | ·88457 | ·223282 |
| 87 | 3·7904 | ·263827 | 4·96 | 1·12415 | 4·2609 | ·201689 | ·88956 | ·234691 |
| 88 | 3·6278 | ·275649 | 4·67 | 1·11817 | 4·0565 | ·214358 | ·89432 | ·246518 |
| 89 | 3·4737 | ·287879 | 4·39 | 1·11254 | 3·8646 | ·227563 | ·89884 | ·258758 |
| 90 | 3·3277 | ·300512 | 4·15 | 1·10739 | 3·6850 | ·241022 | ·90302 | ·271369 |
| 91 | 3·1894 | ·313536 | 3·92 | 1·10242 | 3·5161 | ·255091 | ·90710 | ·284408 |
| 92 | 3·0586 | ·326942 | 3·71 | 1·09786 | 3·3580 | ·269561 | ·91086 | ·297799 |
| 93 | 2·9350 | ·340714 | 3·52 | 1 09372 | 3·2101 | ·284245 | ·91431 | ·311517 |
| 94 | 2·8181 | ·354844 | 3·34 | 1·08974 | 3·0710 | ·299149 | ·91765 | ·325622 |
| 95 | 2·7078 | ·369298 | 3·18 | 1·08566 | 2·9398 | ·314845 | ·92110 | ·340162 |
| 96 | 2·6036 | ·384081 | 3·02 | 1·08207 | 2·8173 | ·330994 | ·92415 | ·354949 |
| 97 | 2·5052 | ·399167 | 2·88 | 1·07899 | 2·7031 | ·346795 | ·92679 | ·369946 |
| 98 | 2·4123 | ·414540 | 2·74 | 1·07569 | 2·5949 | ·364871 | ·92964 | ·385372 |
| 99 | 2·3245 | ·430197 | 2·65 | 1·07575 | 2·5006 | ·377754 | ·92959 | ·399905 |
| 100 | 2·2415 | ·446129 | 2·51 | 1·07127 | 2·4013 | ·398030 | ·93347 | ·416448 |

## YEARLY TABLE:—FEMALES. Interest 3 per Cent.

**A Table** deduced from the **English Life Table, No. 3.,** for determining the **Value of Annuities, Assurances, &c.** on the whole of a stationary Population—or on the Part of the Population of the Age $x$ and upwards.

| **Age** ($x$) | $\frac{1}{100} . v^x . Q_x = Q'_x$ | $\Sigma Q'_x = Z_x$ | $\frac{Z_{x+1}}{Q'_x} = A'_x$ | $\lambda \left(\frac{1}{100} Q_x\right) + \lambda v^x = \lambda Q'_x$ | $\lambda Z_x$ | $\lambda Z_{x+1} - \lambda Q'_x = \lambda A'_x$ | **Age** ($x$) |
|---|---|---|---|---|---|---|---|
| 0 | 204,321 | 3,824,148 | 17·716 | 5·3103120 | 6·5825347 | 1·2483758 | 0 |
| 1 | 194,040 | 3,619,827 | 17·655 | 5·2878907 | 6·5586878 | 1·2468697 | 1 |
| 2 | 184,557 | 3,425,787 | 17·562 | 5·2661307 | 6·5347604 | 1·2445791 | 2 |
| 3 | 175,620 | 3,241,230 | 17·456 | 5·2445743 | 6·5107098 | 1·2419426 | 3 |
| 4 | 167,153 | 3,065,610 | 17·340 | 5·2231140 | 6·4865169 | 1·2390529 | 4 |
| 5 | 159,097 | 2,898,457 | 17·218 | 5·2016625 | 6·4621669 | 1·2359866 | 5 |
| 6 | 151,416 | 2,739,360 | 17·092 | 5·1801717 | 6·4376491 | 1·2327832 | 6 |
| 7 | 144,082 | 2,587,944 | 16·962 | 5·1586097 | 6·4129549 | 1·2294670 | 7 |
| 8 | 137,075 | 2,443,862 | 16·829 | 5·1369568 | 6·3880767 | 1·2260506 | 8 |
| 9 | 130,376 | 2,306,787 | 16·693 | 5·1151969 | 6·3630074 | 1·2225440 | 9 |
| 10 | 123,970 | 2,176,411 | 16·556 | 5·0933153 | 6·3377409 | 1·2189554 | 10 |
| 11 | 117,845 | 2,052,441 | 16·416 | 5·0713110 | 6·3122707 | 1·2152794 | 11 |
| 12 | 111,979 | 1,934,596 | 16·276 | 5·0491377 | 6·2865904 | 1·2115578 | 12 |
| 13 | 106,371 | 1,822,617 | 16·135 | 5·0268215 | 6·2606955 | 1·2077580 | 13 |
| 14 | 101,005 | 1,716,246 | 15·992 | 5·0043440 | 6·2345795 | 1·2038934 | 14 |
| 15 | 95,873 | 1,615,241 | 15·848 | 4·9816983 | 6·2082374 | 1·1999647 | 15 |
| 16 | 90,966 | 1,519,368 | 15·703 | 4·9588808 | 6·1816630 | 1·1959696 | 16 |
| 17 | 86,276 | 1,428,402 | 15·556 | 4·9358879 | 6·1548504 | 1·1919054 | 17 |
| 18 | 81,793 | 1,342,126 | 15·409 | 4·9127177 | 6·1277933 | 1·1877676 | 18 |
| 19 | 77,512 | 1,260,333 | 15·260 | 4·8893691 | 6·1004853 | 1·1835499 | 19 |
| 20 | 73,425 | 1,182,821 | 15·109 | 4·8658419 | 6·0729190 | 1·1792449 | 20 |
| 21 | 69,524 | 1,109,396 | 14·957 | 4·8421368 | 6·0450868 | 1·1748431 | 21 |
| 22 | 65,804 | 1,039,872 | 14·803 | 4·8182507 | 6·0169799 | 1·1703386 | 22 |
| 23 | 62,256 | 974,068 | 14·646 | 4·7941781 | 5·9885893 | 1·1657272 | 23 |
| 24 | 58,873 | 911,812 | 14·488 | 4·7699137 | 5·9599053 | 1·1610043 | 24 |
| 25 | 55,648 | 852,939 | 14·327 | 4·7454513 | 5·9309180 | 1·1561656 | 25 |
| 26 | 52,576 | 797,291 | 14·165 | 4·7207840 | 5·9016169 | 1·1512061 | 26 |
| 27 | 49,648 | 744,715 | 14·000 | 4·6959051 | 5·8719901 | 1·1461215 | 27 |
| 28 | 46,861 | 695,067 | 13·833 | 4·6708076 | 5·8420266 | 1·1409054 | 28 |
| 29 | 44,206 | 648,206 | 13·663 | 4·6454828 | 5·8117130 | 1·1355541 | 29 |
| 30 | 41,680 | 604,000 | 13·492 | 4·6199225 | 5·7810369 | 1·1300610 | 30 |
| 31 | 39,275 | 562,320 | 13·317 | 4·5941177 | 5·7499835 | 1·1244214 | 31 |
| 32 | 36,988 | 523,045 | 13·141 | 4·5680584 | 5·7185391 | 1·1186288 | 32 |
| 33 | 34,812 | 486,057 | 12·962 | 4·5417344 | 5·6866872 | 1·1126780 | 33 |
| 34 | 32,744 | 451,245 | 12·781 | 4·5151345 | 5·6544124 | 1·1065620 | 34 |
| 35 | 30,778 | 418,501 | 12·597 | 4·4882468 | 5·6216965 | 1·1002748 | 35 |
| 36 | 28,911 | 387,723 | 12·411 | 4·4610587 | 5·5885216 | 1·0938082 | 36 |
| 37 | 27,137 | 358,812 | 12·222 | 4·4335566 | 5·5548669 | 1·0871562 | 37 |
| 38 | 25,452 | 331,675 | 12·031 | 4·4057258 | 5·5207128 | 1·0803120 | 38 |
| 39 | 23,853 | 306,223 | 11·838 | 4·3775507 | 5·4860378 | 1·0732679 | 39 |
| 40 | 22,336 | 282,370 | 11·642 | 4·3490146 | 5·4508186 | 1·0660156 | 40 |
| 41 | 20,898 | 260,034 | 11·443 | 4·3200993 | 5·4150302 | 1·0585457 | 41 |
| 42 | 19,534 | 239,136 | 11·242 | 4·2907853 | 5·3786450 | 1·0508510 | 42 |
| 43 | 18,241 | 219,602 | 11·039 | 4·2610516 | 5·3416363 | 1·0429238 | 43 |
| 44 | 17,017 | 201,361 | 10·833 | 4·2308754 | 5·3039754 | 1·0347536 | 44 |
| 45 | 15,857 | 184,344 | 10·625 | 4·2002322 | 5·2656290 | 1·0263342 | 45 |
| 46 | 14,760 | 168,487 | 10·415 | 4·1690949 | 5·2265664 | 1·0176552 | 46 |
| 47 | 13,723 | 153,727 | 10·202 | 4·1374342 | 5·1867501 | 1·0087062 | 47 |
| 48 | 12,741 | 140,004 | 9·988 | 4·1052185 | 5·1461404 | 0·9994836 | 48 |
| 49 | 11,814 | 127,263 | 9·772 | 4·0724125 | 5·1047021 | 0·9899777 | 49 |
| 50 | 10,939 | 115,449 | 9·554 | 4·0389778 | 5·0623902 | 0·9801800 | 50 |
| 51 | 10,113 | 104,510 | 9·334 | 4·0048716 | 5·0191578 | 0·9700866 | 51 |
| 52 | 9,334 | 94,397 | 9·114 | 3·9700470 | 4·9749582 | 0·9596937 | 52 |
| 53 | 8,599 | 85,063 | 8·892 | 3·9344515 | 4·9297407 | 0·9490055 | 53 |
| 54 | 7,907 | 76,464 | 8·670 | 3·8980262 | 4·8834570 | 0·9380256 | 54 |

## YEARLY TABLE:—FEMALES. Interest 3 per Cent.

**A Table** deduced from the **English Life Table, No. 3.,** for determining the **Value of Annuities, Assurances, &c.** on the whole of a stationary Population—or on the Part of the Population of the Age $x$ and upwards.

| **Age** ($x$) | $\frac{1}{100} \cdot v^x \cdot Q_x = Q'_x$ | $\Sigma Q'_x = Z_x$ | $\frac{Z_{x+1}}{Q'_x} = A'_x$ | $\lambda \left(\frac{1}{100} Q_x\right) + \lambda v^x = \lambda Q'_x$ | $\lambda Z_x$ | $\lambda Z_{x+1} - \lambda Q'_x = \lambda A'_x$ | **Age** ($x$) |
|---|---|---|---|---|---|---|---|
| 55 | 7,256 | 68,557 | 8·448 | 3·8607223 | 4·8360518 | 0·9267453 | 55 |
| 56 | 6,645 | 61,301 | 8·225 | 3·8224999 | 4·7874676 | 0·9151379 | 56 |
| 57 | 6,072 | 54,656 | 8·002 | 3·7833029 | 4·7376378 | 0·9031904 | 57 |
| 58 | 5,534 | 48,584 | 7·779 | 3·7430699 | 4·6864933 | 0·8909033 | 58 |
| 59 | 5,032 | 43,050 | 7·555 | 3·7017335 | 4·6339732 | 0·8782558 | 59 |
| 60 | 4,563 | 38,018 | 7·332 | 3·6592205 | 4·5799893 | 0·8652405 | 60 |
| 61 | 4,125 | 33,455 | 7·110 | 3·6154518 | 4·5244610 | 0·8518603 | 61 |
| 62 | 3,718 | 29,330 | 6·888 | 3·5703413 | 4·4673121 | 0·8381022 | 62 |
| 63 | 3,340 | 25,612 | 6·667 | 3·5237964 | 4·4084435 | 0·8239628 | 63 |
| 64 | 2,990 | 22,272 | 6·448 | 3·4757177 | 4·3477592 | 0·8094344 | 64 |
| 65 | 2,667 | 19,282 | 6·230 | 3·4259984 | 4·2851521 | 0·7945019 | 65 |
| 66 | 2,369 | 16,615 | 6·014 | 3·3745235 | 4·2205003 | 0·7791694 | 66 |
| 67 | 2,095 | 14,246 | 5·800 | 3·3211708 | 4·1536929 | 0·7634412 | 67 |
| 68 | 1,844 | 12,151 | 5·589 | 3·2658096 | 4·0846120 | 0·7473227 | 68 |
| 69 | 1,615 | 10,307 | 5·380 | 3·2083007 | 4·0131323 | 0·7308190 | 69 |
| 70 | 1,408 | 8,692 | 5·175 | 3·1484959 | 3·9391197 | 0·7138740 | 70 |
| 71 | 1,220 | 7,284 | 4·972 | 3·0862378 | 3·8623699 | 0·6965214 | 71 |
| 72 | 1,050 | 6,064 | 4·773 | 3·0213602 | 3·7827592 | 0·6788241 | 72 |
| 73 | 899 | 5,014 | 4·578 | 2·9536863 | 3·7001843 | 0·6606835 | 73 |
| 74 | 764 | 4,115 | 4·387 | 2·8830293 | 3·6143698 | 0·6421451 | 74 |
| 75 | 644 | 3,351 | 4·200 | 2·8091922 | 3·5251744 | 0·6232961 | 75 |
| 76 | 539 | 2,707 | 4·019 | 2·7319683 | 3·4324883 | 0·6040910 | 76 |
| 77 | 448 | 2,168 | 3·841 | 2·6511387 | 3·3360593 | 0·5843897 | 77 |
| 78 | 369 | 1,720 | 3·666 | 2·5664743 | 3·2355284 | 0·5641810 | 78 |
| 79 | 300 | 1,351 | 3·498 | 2·4777333 | 3·1306553 | 0·5438694 | 79 |
| 80 | 242 | 1,051 | 3·336 | 2·3846653 | 3·0216027 | 0·5232832 | 80 |
| 81 | 194 | 809 | 3·176 | 2·2870059 | 2·9079485 | 0·5018692 | 81 |
| 82 | 153 | 615 | 3·021 | 2·1844790 | 2·7888751 | 0·4801630 | 82 |
| 83 | 119 | 462 | 2·874 | 2·0767965 | 2·6646420 | 0·4584976 | 83 |
| 84 | 92 | 343 | 2·729 | 1·9636616 | 2·5352941 | 0·4360121 | 84 |
| 85 | 70 | 251 | 2·588 | 1·8447611 | 2·3996737 | 0·4129175 | 85 |
| 86 | 52 | 181 | 2·459 | 1·7197728 | 2·2576786 | 0·3908169 | 86 |
| 87 | 39 | 129 | 2·3[illegible]2 | 1·5883579 | 2·1105897 | 0·3658846 | 87 |
| 88 | 28 | 90 | 2·199 | 1·4501649 | 1·9542425 | 0·3422268 | 88 |
| 89 | 20 | 62 | 2·082 | 1·3048466 | 1·7923917 | 0·3184027 | 89 |
| 90 | 14 | 42 | 1·973 | 1·1520175 | 1·6232493 | 0·2951405 | 90 |
| 91 | 10 | 28 | 1·836 | 0·9912896 | 1·4471580 | 0·2639829 | 91 |
| 92 | 7 | 18 | 1·656 | 0·8222635 | 1·2552725 | 0·2191292 | 92 |
| 93 | 4 | 11 | 1·587 | 0·6445464 | 1·0413927 | 0·2005516 | 93 |
| 94 | 3 | 7 | 1·394 | 0·4577548 | 0·8450980 | 0·1443052 | 94 |
| 95 | 2 | 4 | 1·096 | 0·2613326 | 0·6020600 | 0·0396974 | 95 |
| 96 | 1 | 2 | ·881 | 0·0549802 | 0·3010300 | $\bar{1}$·9450198 | 96 |
| 97 | 1 | 1 | ... | $\bar{1}$·8382918 | 0·0000000 | ... | 97 |
| 98 | ... | ... | ... | $\bar{1}$·6105964 | ... | ... | 98 |
| 99 | ... | ... | ... | $\bar{1}$·3715793 | ... | ... | 99 |
| 100 | ... | ... | ... | $\bar{1}$·1211112 | ... | ... | 100 |

**Note.**—The first and second columns in this Table correspond in the nature of their construction and relations with the columns D and N in the previous Tables for calculating Life Annuities. The numbers in the first column are obtained by multiplying the numbers in the column Q of the Life Table by the successive powers of $v = \frac{1}{1·03}$ (when the interest of money is 3 per cent.), and dividing by 100. The division by 100 is equivalent to cutting off 2 figures, which is done merely for the sake of convenience, as the Table in its present form is sufficiently extensive for all the purposes to which it can be applied. The $v$ varies with the interest of money.

## YEARLY TABLE:—FEMALES. Interest $3\frac{1}{4}$ per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda\ N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda\ N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 488,255 | 9,236,760 | 6·9655196 | 55 | 36,435 | 475,021 | 5·6767128 |
| 1 | 409,182 | 8,748,505 | 6·9419339 | 56 | 34,547 | 438,586 | 5·6420547 |
| 2 | 371,764 | 8,339,323 | 6·9211308 | 57 | 32,712 | 404,039 | 5·6064233 |
| 3 | 347,323 | 7,967,559 | 6·9013253 | 58 | 30,929 | 371,327 | 5·5697565 |
| 4 | 328,257 | 7,620,236 | 6·8819684 | 59 | 29,196 | 340,398 | 5·5319870 |
| 5 | 312,303 | 7,291,979 | 6·8628454 | 60 | 27,513 | 311,202 | 5·4930424 |
| 6 | 298,457 | 6,979,676 | 6·8438353 | 61 | 25,879 | 283,689 | 5·4528425 |
| 7 | 286,012 | 6,681,219 | 6·8248558 | 62 | 24,290 | 257,810 | 5·4112998 |
| 8 | 274,494 | 6,395,207 | 6·8058546 | 63 | 22,748 | 233,520 | 5·3683241 |
| 9 | 263,811 | 6,120,713 | 6·7868020 | 64 | 21,250 | 210,772 | 5·3238129 |
| 10 | 253,816 | 5,856,902 | 6·7676680 | 65 | 19,795 | 189,522 | 5·2776596 |
| 11 | 244,388 | 5,603,086 | 6·7484273 | 66 | 18,384 | 169,727 | 5·2297509 |
| 12 | 235,428 | 5,358,698 | 6·7290593 | 67 | 17,015 | 151,343 | 5·1799623 |
| 13 | 226,853 | 5,123,270 | 6·7095473 | 68 | 15,690 | 134,328 | 5·1281665 |
| 14 | 218,597 | 4,896,417 | 6·6898784 | 69 | 14,410 | 118,638 | 5·0742239 |
| 15 | 210,609 | 4,677,820 | 6·6700435 | 70 | 13,175 | 104,228 | 5·0179845 |
| 16 | 202,848 | 4,467,211 | 6·6500365 | 71 | 11,987 | 91,053 | 4·9592943 |
| 17 | 195,284 | 4,264,363 | 6·6298542 | 72 | 10,848 | 79,066 | 4·8979898 |
| 18 | 187,898 | 4,069,079 | 6·6094962 | 73 | 9,761·5 | 68,218·4 | 4·8339015 |
| 19 | 180,676 | 3,881,181 | 6·5889639 | 74 | 8,728·7 | 58,456·9 | 4·7668358 |
| 20 | 173,613 | 3,700,505 | 6·5682610 | 75 | 7,752·4 | 49,728·2 | 4·6966027 |
| 21 | 166,708 | 3,526,892 | 6·5473922 | 76 | 6,835·1 | 41,975·8 | 4·6229990 |
| 22 | 160,042 | 3,360,184 | 6·5263630 | 77 | 5,979·1 | 35,140·7 | 4·5458104 |
| 23 | 153,609 | 3,200,142 | 6·5051692 | 78 | 5,186·1 | 29,161·6 | 4·4648113 |
| 24 | 147,404 | 3,046,533 | 6·4838059 | 79 | 4,457·7 | 23,975·5 | 4·3797677 |
| 25 | 141,420 | 2,899,129 | 6·4622676 | 80 | 3,794·5 | 19,517·8 | 4·2904309 |
| 26 | 135,652 | 2,757,709 | 6·4405484 | 81 | 3,196·6 | 15,723·3 | 4·1965437 |
| 27 | 130,094 | 2,622,057 | 6·4186422 | 82 | 2,663·2 | 12,526·7 | 4·0978367 |
| 28 | 124,739 | 2,491,963 | 6·3965415 | 83 | 2,192·9 | 9,863·5 | 3·9940310 |
| 29 | 119,582 | 2,367,224 | 6·3742394 | 84 | 1,783·1 | 7,670·6 | 3·8848293 |
| 30 | 114,616 | 2,247,642 | 6·3517271 | 85 | 1,430·7 | 5,887·5 | 3·7699309 |
| 31 | 109,835 | 2,133,026 | 6·3289962 | 86 | 1,132·0 | 4,456·8 | 3·6490231 |
| 32 | 105,232 | 2,023,191 | 6·3060369 | 87 | 882·33 | 3,324·75 | 3·5217590 |
| 33 | 100,803 | 1,917,959 | 6·2828393 | 88 | 677·01 | 2,442·42 | 3·3878204 |
| 34 | 96,540 | 1,817,156 | 6·2593922 | 89 | 510·91 | 1,765·41 | 3·2468456 |
| 35 | 92,439 | 1,720,616 | 6·2356839 | 90 | 378·88 | 1,254·50 | 3·0984707 |
| 36 | 88,492 | 1,628,177 | 6·2117017 | 91 | 275·84 | 875·62 | 2·9423157 |
| 37 | 84,696 | 1,539,685 | 6·1874319 | 92 | 196·97 | 599·78 | 2·7779920 |
| 38 | 81,043 | 1,454,989 | 6·1628597 | 93 | 137·82 | 402·81 | 2·6051002 |
| 39 | 77,530 | 1,373,946 | 6·1379696 | 94 | 94·403 | 264·988 | 2·4232262 |
| 40 | 74,150 | 1,296,416 | 6·1127444 | 95 | 63·235 | 170·585 | 2·2319409 |
| 41 | 70,899 | 1,222,266 | 6·0871657 | 96 | 41·378 | 107·350 | 2·0308020 |
| 42 | 67,772 | 1,151,367 | 6·0612137 | 97 | 26·422 | 65·972 | 1·8193597 |
| 43 | 64,765 | 1,083,595 | 6·0348670 | 98 | 16·447 | 39·550 | 1·5971465 |
| 44 | 61,872 | 1,018,830 | 6·0081017 | 99 | 9·9684 | 23·1031 | 1·3636703 |
| 45 | 59,089 | 956,958 | 5·9808929 | 100 | 5·8762 | 13·1347 | 1·1184202 |
| 46 | 56,413 | 897,869 | 5·9532130 | 101 | 3·3650 | 7·2585 | 0·8608469 |
| 47 | 53,838 | 841,456 | 5·9250314 | 102 | 1·8697 | 3·8935 | 0·5903402 |
| 48 | 51,362 | 787,618 | 5·8963156 | 103 | 1·0068 | 2·0238 | 0·3061676 |
| 49 | 48,981 | 736,256 | 5·8670288 | 104 | ·5247 | 1·0170 | 0·0073210 |
| 50 | 46,691 | 687,275 | 5·8371306 | 105 | ·2644 | ·4923 | $\bar{1}$·6922298 |
| 51 | 44,488 | 640,584 | 5·8065761 | 106 | ·1286 | ·2279 | $\bar{1}$·3577443 |
| 52 | 42,369 | 596,096 | 5·7753162 | 107 | ·0603 | ·0993 | $\bar{2}$·9969492 |
| 53 | 40,332 | 553,727 | 5·7432957 | 108 | ·0272 | ·0390 | $\bar{2}$·5910646 |
| 54 | 38,374 | 513,395 | 5·7104517 | 109 | ·0118 | ·0118 | $\bar{2}$·0718820 |

## YEARLY TABLE:—FEMALES. Interest $3\frac{1}{2}$ per Cent.

| Age $(x)$ | $D_x$ | $N_x$ | $\lambda N_x$ | Age $(x)$ | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 488,255 | 9,093,617 | 6·9587366 | 55 | 34,853 | 451,118 | 5·6542902 |
| 1 | 408,852 | 8,605,362 | 6·9347692 | 56 | 33,021 | 416,265 | 5·6193699 |
| 2 | 371,165 | 8,196,510 | 6·9136289 | 57 | 31,242 | 383,244 | 5·5834754 |
| 3 | 346,483 | 7,825,345 | 6·8935035 | 58 | 29,515 | 352,002 | 5·5465452 |
| 4 | 327,199 | 7,478,862 | 6·8738355 | 59 | 27,839 | 322,487 | 5·5085123 |
| 5 | 311,046 | 7,151,663 | 6·8544071 | 60 | 26,213 | 294,648 | 5·4693035 |
| 6 | 297,015 | 6,840,617 | 6·8350952 | 61 | 24,636 | 268,435 | 5·4288392 |
| 7 | 284,401 | 6,543,602 | 6·8158168 | 62 | 23,105 | 243,799 | 5·3870319 |
| 8 | 272,728 | 6,259,201 | 6·7965189 | 63 | 21,621 | 220,694 | 5·3437905 |
| 9 | 261,902 | 5,986,473 | 6·7771710 | 64 | 20,180 | 199,073 | 5·2990123 |
| 10 | 251,776 | 5,724,571 | 6·7577430 | 65 | 18,784 | 178,893 | 5·2525934 |
| 11 | 242,229 | 5,472,795 | 6·7382092 | 66 | 17,430 | 160,109 | 5·2044158 |
| 12 | 233,159 | 5,230,566 | 6·7185487 | 67 | 16,120 | 142,679 | 5·1543601 |
| 13 | 224,486 | 4,997,407 | 6·6987447 | 68 | 14,853 | 126,559 | 5·1022931 |
| 14 | 216,142 | 4,772,921 | 6·6787842 | 69 | 13,629 | 111,706 | 5·0480765 |
| 15 | 208,076 | 4,556,779 | 6·6586580 | 70 | 12,451 | 98,077 | 4·9915672 |
| 16 | 200,246 | 4,348,703 | 6·6383597 | 71 | 11,320 | 85,626 | 4·9326057 |
| 17 | 192,624 | 4,148,457 | 6·6178866 | 72 | 10,236 | 74,306 | 4·8710239 |
| 18 | 185,189 | 3,955,833 | 6·5972379 | 73 | 9,203·2 | 64,069·7 | 4·8066527 |
| 19 | 177,928 | 3,770,644 | 6·5764156 | 74 | 8,222·8 | 54,866·5 | 4·7393073 |
| 20 | 170,834 | 3,592,716 | 6·5554229 | 75 | 7,297·2 | 46,643·7 | 4·6687930 |
| 21 | 163,907 | 3,421,882 | 6·5342651 | 76 | 6,428·6 | 39,346·5 | 4·5949061 |
| 22 | 157,226 | 3,257,975 | 6·5129478 | 77 | 5,618·9 | 32,917·9 | 4·5174321 |
| 23 | 150,785 | 3,100,749 | 6·4914666 | 78 | 4,869·8 | 27,299·0 | 4·4361467 |
| 24 | 144,577 | 2,949,964 | 6·4698167 | 79 | 4,182·4 | 22,429·2 | 4·3508138 |
| 25 | 138,596 | 2,805,387 | 6·4479928 | 80 | 3,557·3 | 18,246·8 | 4·2611867 |
| 26 | 132,836 | 2,666,791 | 6·4259890 | 81 | 2,994·4 | 14,689·5 | 4·1670070 |
| 27 | 127,291 | 2,533,955 | 6·4037990 | 82 | 2,492·7 | 11,695·1 | 4·0680039 |
| 28 | 121,953 | 2,406,664 | 6·3814155 | 83 | 2,050·8 | 9,202·4 | 3·9639011 |
| 29 | 116,817 | 2,284,711 | 6·3588313 | 84 | 1,666·3 | 7,151·6 | 3·8544032 |
| 30 | 111,875 | 2,167,894 | 6·3360380 | 85 | 1,335·9 | 5,485·3 | 3·7392004 |
| 31 | 107,122 | 2,056,019 | 6·3130271 | 86 | 1,056·1 | 4,149·4 | 3·6179853 |
| 32 | 102,550 | 1,948,897 | 6·2897890 | 87 | 822·52 | 3,093·34 | 3·4904276 |
| 33 | 98,154 | 1,846,347 | 6·2663134 | 88 | 630·61 | 2,270·82 | 3·3561827 |
| 34 | 93,928 | 1,748,193 | 6·2425893 | 89 | 475·51 | 1,640·21 | 3·2148995 |
| 35 | 89,865 | 1,654,265 | 6·2186051 | 90 | 352·34 | 1,164·70 | 3·0662141 |
| 36 | 85,959 | 1,564,400 | 6·1943478 | 91 | 256·31 | 812·36 | 2·9097485 |
| 37 | 82,205 | 1,478,441 | 6·1698040 | 92 | 182·88 | 556·05 | 2·7451138 |
| 38 | 78,596 | 1,396,236 | 6·1449588 | 93 | 127·86 | 373·17 | 2·5719067 |
| 39 | 75,128 | 1,317,640 | 6·1197968 | 94 | 87·509 | 245·312 | 2·3897188 |
| 40 | 71,796 | 1,242,512 | 6·0943006 | 95 | 58·569 | 157·803 | 2·1981153 |
| 41 | 68,593 | 1,170,716 | 6·0684515 | 96 | 38·294 | 99·234 | 1·9966605 |
| 42 | 65,515 | 1,102,123 | 6·0422301 | 97 | 24·434 | 60·940 | 1·7849024 |
| 43 | 62,557 | 1,036,608 | 6·0156146 | 98 | 15·197 | 36·506 | 1·5623642 |
| 44 | 59,714 | 974,051 | 5·9885817 | 99 | 9·2032 | 21·3087 | 1·3285570 |
| 45 | 56,982 | 914,337 | 5·9611063 | 100 | 5·4207 | 12·1055 | 1·0829828 |
| 46 | 54,358 | 857,355 | 5·9331607 | 101 | 3·1017 | 6·6848 | 0·8250884 |
| 47 | 51,835 | 802,997 | 5·9047139 | 102 | 1·7220 | 3·5831 | 0·5542589 |
| 48 | 49,411 | 751,162 | 5·8757336 | 103 | ·9265 | 1·8611 | 0·2697697 |
| 49 | 47,082 | 701,751 | 5·8461830 | 104 | ·4825 | ·9346 | $\bar{1}$·9706258 |
| 50 | 44,845 | 654,669 | 5·8160217 | 105 | ·2429 | ·4521 | $\bar{1}$·6552345 |
| 51 | 42,695 | 609,824 | 5·7852045 | 106 | ·1181 | ·2092 | $\bar{1}$·3205617 |
| 52 | 40,629 | 567,129 | 5·7536818 | 107 | ·0553 | ·0911 | $\bar{2}$·9595184 |
| 53 | 38,644 | 526,500 | 5·7213984 | 108 | ·0250 | ·0358 | $\bar{2}$·5538830 |
| 54 | 36,738 | 487,856 | 5·6882916 | 109 | ·0108 | ·0108 | $\bar{2}$·0334238 |

## YEARLY TABLE:—FEMALES. Interest $3\frac{1}{2}$ per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 488,255 | 8,819,292 | 6·9454337 | 55 | 31,897 | 406,957 | 5·6095485 |
| 1 | 408,194 | 8,331,037 | 6·9206991 | 56 | 30,172 | 375,060 | 5·5741007 |
| 2 | 369,971 | 7,922,843 | 6·8988811 | 57 | 28,500 | 344,888 | 5·5376781 |
| 3 | 344,812 | 7,552,872 | 6·8781121 | 58 | 26,881 | 316,388 | 5·5002200 |
| 4 | 325,097 | 7,208,060 | 6·8578184 | 59 | 25,314 | 289,507 | 5·4616591 |
| 5 | 308,549 | 6,882,963 | 6·8377755 | 60 | 23,797 | 264,193 | 5·4219213 |
| 6 | 294,157 | 6,574,414 | 6·8178571 | 61 | 22,329 | 240,396 | 5·3809273 |
| 7 | 281,211 | 6,280,257 | 6·7979775 | 62 | 20,908 | 218,067 | 5·3385899 |
| 8 | 269,235 | 5,999,046 | 6·7780822 | 63 | 19,533 | 197,159 | 5·2948166 |
| 9 | 258,131 | 5,729,811 | 6·7581404 | 64 | 18,203 | 177,626 | 5·2495065 |
| 10 | 247,751 | 5,471,680 | 6·7381207 | 65 | 16,916 | 159,423 | 5·2025510 |
| 11 | 237,972 | 5,223,929 | 6·7179974 | 66 | 15,672 | 142,507 | 5·1538362 |
| 12 | 228,694 | 4,985,957 | 6·6977486 | 67 | 14,470 | 126,835 | 5·1032391 |
| 13 | 219,831 | 4,757,263 | 6·6773572 | 68 | 13,311 | 112,365 | 5·0506311 |
| 14 | 211,320 | 4,537,432 | 6·6568102 | 69 | 12,195 | 99,054 | 4·9958720 |
| 15 | 203,106 | 4,326,112 | 6·6360978 | 70 | 11,123 | 86,859 | 4·9388148 |
| 16 | 195,149 | 4,123,006 | 6·6152139 | 71 | 10,096 | 75,736 | 4·8793024 |
| 17 | 187,419 | 3,927,857 | 6·5941557 | 72 | 9,114·8 | 65,640·2 | 4·8171699 |
| 18 | 179,894 | 3,740,438 | 6·5729224 | 73 | 8,181·8 | 56,525·4 | 4·7522437 |
| 19 | 172,562 | 3,560,544 | 6·5515164 | 74 | 7,298·4 | 48,343·6 | 4·6843390 |
| 20 | 165,416 | 3,387,982 | 6·5299411 | 75 | 6,466·4 | 41,045·2 | 4·6132624 |
| 21 | 158,453 | 3,222,566 | 6·5082018 | 76 | 5,687·5 | 34,578·8 | 4·5388099 |
| 22 | 151,750 | 3,064,113 | 6·4863047 | 77 | 4,963·2 | 28,891·3 | 4·4607671 |
| 23 | 145,298 | 2,912,363 | 6·4642455 | 78 | 4,294·6 | 23,928·1 | 4·3789082 |
| 24 | 139,092 | 2,767,065 | 6·4420194 | 79 | 3,682·4 | 19,633·5 | 4·2929978 |
| 25 | 133,123 | 2,627,973 | 6·4196209 | 80 | 3,127·0 | 15,951·1 | 4·2027906 |
| 26 | 127,385 | 2,494,850 | 6·3970444 | 81 | 2,627·9 | 12,824·1 | 4·1080269 |
| 27 | 121,871 | 2,367,465 | 6·3742835 | 82 | 2,184·2 | 10,196·2 | 4·0084383 |
| 28 | 116,572 | 2,245,594 | 6·3513313 | 83 | 1,794·1 | 8,012·0 | 3·9037409 |
| 29 | 111,483 | 2,129,022 | 6·3281802 | 84 | 1,455·3 | 6,217·9 | 3·7936437 |
| 30 | 106,595 | 2,017,539 | 6·3048219 | 85 | 1,164·9 | 4,762·6 | 3·6778441 |
| 31 | 101,901 | 1,910,944 | 6·2812480 | 86 | 919·41 | 3,597·66 | 3·5560201 |
| 32 | 97,396 | 1,809,043 | 6·2574489 | 87 | 714·92 | 2,678·25 | 3·4278511 |
| 33 | 93,071 | 1,711,647 | 6·2334143 | 88 | 547·23 | 1,963·33 | 3·2929933 |
| 34 | 88,920 | 1,618,576 | 6·2091331 | 89 | 411·97 | 1,416·10 | 3·1510939 |
| 35 | 84,936 | 1,529,656 | 6·1845938 | 90 | 304·77 | 1,004·13 | 3·0017900 |
| 36 | 81,114 | 1,444,720 | 6·1597837 | 91 | 221·35 | 699·36 | 2·8447008 |
| 37 | 77,446 | 1,363,606 | 6·1346889 | 92 | 157·68 | 478·01 | 2·6794370 |
| 38 | 73,928 | 1,286,160 | 6·1092950 | 93 | 110·06 | 320·33 | 2·5055976 |
| 39 | 70,552 | 1,212,232 | 6·0835858 | 94 | 75·207 | 210·273 | 2·3227835 |
| 40 | 67,313 | 1,141,680 | 6·0575445 | 95 | 50·255 | 135·066 | 2·1305460 |
| 41 | 64,207 | 1,074,367 | 6·0311527 | 96 | 32·805 | 84·811 | 1·9284522 |
| 42 | 61,227 | 1,010,160 | 6·0043903 | 97 | 20·898 | 52·006 | 1·7160535 |
| 43 | 58,368 | 948,933 | 5·9772356 | 98 | 12·977 | 31·108 | 1·4928721 |
| 44 | 55,626 | 890,565 | 5·9496657 | 99 | 7·8460 | 18·1308 | 1·2584170 |
| 45 | 52,996 | 834,939 | 5·9216548 | 100 | 4·6139 | 10·2848 | 1·0121959 |
| 46 | 50,474 | 781,943 | 5·8931751 | 101 | 2·6357 | 5·6709 | 0·7536520 |
| 47 | 48,054 | 731,469 | 5·8641959 | 102 | 1·4610 | 3·0352 | 0·4821873 |
| 48 | 45,733 | 683,415 | 5·8346845 | 103 | ·7848 | 1·5742 | 0·1970599 |
| 49 | 43,507 | 637,682 | 5·8046042 | 104 | ·4081 | ·7894 | $\bar{1}$·8972971 |
| 50 | 41,373 | 594,175 | 5·7739144 | 105 | ·2051 | ·3813 | $\bar{1}$·5812668 |
| 51 | 39,326 | 552,802 | 5·7425696 | 106 | ·0995 | ·1762 | $\bar{1}$·2460059 |
| 52 | 37,363 | 513,476 | 5·7105201 | 107 | ·0466 | ·0767 | $\bar{2}$·8847954 |
| 53 | 35,480 | 476,113 | 5·6777100 | 108 | ·0210 | ·0301 | $\bar{2}$·4785665 |
| 54 | 33,676 | 440,633 | 5·6440770 | 109 | ·0091 | ·0091 | $\bar{3}$·9590414 |

## YEARLY TABLE:—FEMALES. Interest $3\frac{3}{4}$ per Cent.

| Age $(x)$ | $D_x$ | $N_x$ | $\lambda\ N_x$ | Age $(x)$ | $D_x$ | $N_x$ | $\lambda\ N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 488,255 | 8,435,552 | 6·9261135 | 55 | 27,933 | 348,883 | 5·5426798 |
| 1 | 407,210 | 7,947,297 | 6·9002195 | 56 | 26,359 | 320,950 | 5·5064374 |
| 2 | 368,190 | 7,540,087 | 6·8773763 | 57 | 24,838 | 294,591 | 5·4692195 |
| 3 | 342,325 | 7,171,897 | 6·8556340 | 58 | 23,371 | 269,753 | 5·4309663 |
| 4 | 321,975 | 6,829,572 | 6·8343935 | 59 | 21,956 | 246,382 | 5·3916090 |
| 5 | 304,850 | 6,507,597 | 6·8134207 | 60 | 20,590 | 224,426 | 5·3510732 |
| 6 | 289,930 | 6,202,747 | 6·7925841 | 61 | 19,273 | 203,836 | 5·3092809 |
| 7 | 276,502 | 5,912,817 | 6·7717944 | 62 | 18,003 | 184,563 | 5·2661447 |
| 8 | 264,088 | 5,636,315 | 6·7509953 | 63 | 16,779 | 166,560 | 5·2215707 |
| 9 | 252,587 | 5,372,227 | 6·7301544 | 64 | 15,598 | 149,781 | 5·1754567 |
| 10 | 241,846 | 5,119,640 | 6·7092394 | 65 | 14,461 | 134,183 | 5·1276975 |
| 11 | 231,740 | 4,877,794 | 6·6882235 | 66 | 13,365 | 119,722 | 5·0781740 |
| 12 | 222,168 | 4,646,054 | 6·6670843 | 67 | 12,310 | 106,357 | 5·0267661 |
| 13 | 213,044 | 4,423,886 | 6·6458039 | 68 | 11,297 | 94,047 | 4·9733449 |
| 14 | 204,302 | 4,210,842 | 6·6243689 | 69 | 10,325 | 82,750 | 4·9177680 |
| 15 | 195,887 | 4,006,540 | 6·6027695 | 70 | 9,394·6 | 72,425·1 | 4 8598891 |
| 16 | 187,759 | 3,810,653 | 6·5809994 | 71 | 8,506·4 | 63,030·5 | 4·7995508 |
| 17 | 179,887 | 3,622,894 | 6·5590556 | 72 | 7,661·4 | 54,524·1 | 4·7365885 |
| 18 | 172,249 | 3,443,007 | 6·5369379 | 73 | 6,860·6 | 46,862·7 | 4·6708273 |
| 19 | 164,831 | 3,270,758 | 6·5146485 | 74 | 6,105·1 | 40,002·1 | 4·6020828 |
| 20 | 157,624 | 3,105,927 | 6·4921913 | 75 | 5,396·1 | 33,897·0 | 4·5301613 |
| 21 | 150,625 | 2,948,303 | 6·4695721 | 76 | 4,734·7 | 28,500·9 | 4·4548586 |
| 22 | 143,905 | 2,797,678 | 6·4467977 | 77 | 4,121·8 | 23,766·2 | 4·3759598 |
| 23 | 137,455 | 2,653,773 | 6·4238638 | 78 | 3,557·9 | 19,644·4 | 4·2932387 |
| 24 | 131,267 | 2,516,318 | 6·4007655 | 79 | 3,043·4 | 16,086·5 | 4·2064616 |
| 25 | 125,331 | 2,385,051 | 6·3774977 | 80 | 2,578·1 | 13,043·1 | 4·1153808 |
| 26 | 119,640 | 2,259,720 | 6·3540546 | 81 | 2,161·4 | 10,465·0 | 4·0197392 |
| 27 | 114,185 | 2,140,080 | 6·3304300 | 82 | 1,792·1 | 8,303·6 | 3·9192664 |
| 28 | 108,958 | 2,025,895 | 6·3066170 | 83 | 1,468·5 | 6,511·5 | 3·8136810 |
| 29 | 103,950 | 1,916,937 | 6·2826079 | 84 | 1,188·3 | 5,043·0 | 3·7026890 |
| 30 | 99,152 | 1,812,987 | 6·2583947 | 85 | 948·91 | 3,854·72 | 3·5859929 |
| 31 | 94,558 | 1,713,835 | 6·2339690 | 86 | 747·14 | 2,905·81 | 3·4632672 |
| 32 | 90,160 | 1,619,277 | 6·2093212 | 87 | 579·56 | 2,158·67 | 3·3341863 |
| 33 | 85,948 | 1,529,117 | 6·1844407 | 88 | 442·55 | 1,579·11 | 3·1984124 |
| 34 | 81,917 | 1,443,169 | 6·1593172 | 89 | 332·37 | 1,136·56 | 3·0555924 |
| 35 | 78,059 | 1,361,252 | 6·1339385 | 90 | 245·29 | 804·19 | 2·9053587 |
| 36 | 74,366 | 1,283,193 | 6·1082920 | 91 | 177·72 | 558·90 | 2·7473341 |
| 37 | 70,833 | 1,208,827 | 6·0823642 | 92 | 126·29 | 381·18 | 2·5811301 |
| 38 | 67,452 | 1,137,994 | 6·0561401 | 93 | 87·943 | 254·892 | 2·4063562 |
| 39 | 64,216 | 1,070,542 | 6·0296037 | 94 | 59·947 | 166·949 | 2·2225838 |
| 40 | 61,121 | 1,006,326 | 6·0027387 | 95 | 39·961 | 107·002 | 2·0293919 |
| 41 | 58,160 | 945,205 | 5·9755260 | 96 | 26·023 | 67·041 | 1·8263405 |
| 42 | 55,327 | 887,045 | 5·9479457 | 97 | 16·537 | 41·018 | 1·6129745 |
| 43 | 52,617 | 831,718 | 5·9199761 | 98 | 10·244 | 24·481 | 1·3888292 |
| 44 | 50,024 | 779,101 | 5·8915938 | 99 | 6·1790 | 14·2370 | 1·1534185 |
| 45 | 47,544 | 729,077 | 5·8627734 | 100 | 3·6248 | 8·0580 | 0·9062273 |
| 46 | 45,172 | 681,533 | 5·8334869 | 101 | 2·0658 | 4·4332 | 0·6467173 |
| 47 | 42,903 | 636,361 | 5·8037036 | 102 | 1·1423 | 2·3674 | 0·3742716 |
| 48 | 40,732 | 593,458 | 5·7733900 | 103 | ·6121 | 1·2251 | 0·0881715 |
| 49 | 38,657 | 552,726 | 5·7425099 | 104 | ·3175 | ·6130 | $\bar{1}$·7874605 |
| 50 | 36,671 | 514,069 | 5·7110215 | 105 | ·1592 | ·2955 | $\bar{1}$·4705575 |
| 51 | 34,773 | 477,398 | 5·6788806 | 106 | ·0771 | ·1363 | $\bar{1}$·1344959 |
| 52 | 32,958 | 442,625 | 5·6460359 | 107 | ·0360 | ·0592 | $\bar{2}$·7723217 |
| 53 | 31,222 | 409,667 | 5·6124310 | 108 | ·0162 | ·0232 | $\bar{2}$·3654880 |
| 54 | 29,562 | 378,445 | 5·5780028 | 109 | ·0070 | ·0070 | $\bar{3}$·8450980 |

### YEARLY TABLE:—Females. Interest 4 per Cent.

| Age $(x)$ | $D_x$ | $N_x$ | $S_x$ | $C_x$ | $M_x$ | $R_x$ | Age $(x)$ |
|---|---|---|---|---|---|---|---|
| 0 | 488,255 | 8,082,050 | 149,289,213 | 63,244·24 | 177,406·81 | 2,340,157·77 | 0 |
| 1 | 406,231 | 7,593,795 | 141,207,163 | 24,185·46 | 114,162·57 | 2,162,750·96 | 1 |
| 2 | 366,422 | 7,187,564 | 133,613,368 | 12,466·39 | 89,977·11 | 2,048,588·39 | 2 |
| 3 | 339,862 | 6,821,142 | 126,425,804 | 7,900·95 | 77,510·72 | 1,958,611·28 | 3 |
| 4 | 318,890 | 6,481,280 | 119,604,662 | 5,421·43 | 69,609·77 | 1,881,100·56 | 4 |
| 5 | 301,203 | 6,162,390 | 113,123,382 | 3,845·67 | 64,188·34 | 1,811,490·79 | 5 |
| 6 | 285,773 | 5,861,187 | 106,960,992 | 2,899·09 | 60,342·67 | 1,747,302·45 | 6 |
| 7 | 271,882 | 5,575,414 | 101,099,805 | 2,374·01 | 57,443·58 | 1,686,959·78 | 7 |
| 8 | 259,052 | 5,303,532 | 95,524,391 | 1,913·85 | 55,069·57 | 1,629,516·20 | 8 |
| 9 | 247,174 | 5,044,480 | 90,220,859 | 1,572·71 | 53,155·72 | 1,574,446·63 | 9 |
| 10 | 236,094 | 4,797,306 | 85,176,379 | 1,328·39 | 51,583·01 | 1,521,290·91 | 10 |
| 11 | 225,686 | 4,561,212 | 80,379,073 | 1,162·37 | 50,254·62 | 1,469,707·90 | 11 |
| 12 | 215,843 | 4,335,526 | 75,817,861 | 1,060·01 | 49,092·25 | 1,419,453·28 | 12 |
| 13 | 206,481 | 4,119,683 | 71,482,335 | 1,007·69 | 48,032·24 | 1,370,361·03 | 13 |
| 14 | 197,532 | 3,913,202 | 67,362,652 | 993·37 | 47,024·55 | 1,322,328·79 | 14 |
| 15 | 188,942 | 3,715,670 | 63,449,450 | 1,008·02 | 46,031·18 | 1,275,304·24 | 15 |
| 16 | 180,667 | 3,526,728 | 59,733,780 | 1,041·63 | 45,023·16 | 1,229,273·06 | 16 |
| 17 | 172,676 | 3,346,061 | 56,207,052 | 1,088·45 | 43,981·53 | 1,184,249·90 | 17 |
| 18 | 164,947 | 3,173,385 | 52,860,991 | 1,139·14 | 42,893·08 | 1,140,268·37 | 18 |
| 19 | 157,463 | 3,008,438 | 49,687,606 | 1,190·71 | 41,753·94 | 1,097,375·29 | 19 |
| 20 | 150,216 | 2,850,975 | 46,679,168 | 1,237·07 | 40,563·23 | 1,055,621·35 | 20 |
| 21 | 143,202 | 2,700,759 | 43,828,193 | 1,209·75 | 39,326·16 | 1,015,058·12 | 21 |
| 22 | 136,484 | 2,557,557 | 41,127,434 | 1,181·48 | 38,116·41 | 975,731·96 | 22 |
| 23 | 130,053 | 2,421,073 | 38,569,877 | 1,151·64 | 36,934·93 | 937,615·55 | 23 |
| 24 | 123,899 | 2,291,020 | 36,148,804 | 1,121·22 | 35,783·29 | 900,680·62 | 24 |
| 25 | 118,013 | 2,167,121 | 33,857,784 | 1,090·72 | 34,662·07 | 864,897·33 | 25 |
| 26 | 112,383 | 2,049,108 | 31,690,663 | 1,059·52 | 33,571·35 | 830,235·26 | 26 |
| 27 | 107,001 | 1,936,725 | 29,641,555 | 1,028·44 | 32,511·83 | 796,663·91 | 27 |
| 28 | 101,857 | 1,829,724 | 27,704,830 | 997·87 | 31,483·39 | 764,152·08 | 28 |
| 29 | 96,942 | 1,727,867 | 25,875,106 | 967·50 | 30,485·52 | 732,668·69 | 29 |
| 30 | 92,246 | 1,630,925 | 24,147,239 | 937·70 | 29,518·02 | 702,183·17 | 30 |
| 31 | 87,760 | 1,538,679 | 22,516,314 | 908·48 | 28,580·32 | 672,665·15 | 31 |
| 32 | 83,477 | 1,450,919 | 20,977,635 | 879·57 | 27,671·84 | 644,084·83 | 32 |
| 33 | 79,386 | 1,367,442 | 19,526,716 | 852·06 | 26,792·27 | 616,412·99 | 33 |
| 34 | 75,481 | 1,288,056 | 18,159,274 | 824·87 | 25,940·21 | 589,620·72 | 34 |
| 35 | 71,753 | 1,212,575 | 16,871,218 | 798·99 | 25,115·34 | 563,680·51 | 35 |
| 36 | 68,194 | 1,140,822 | 15,658,643 | 773·41 | 24,316·35 | 538,565·17 | 36 |
| 37 | 64,798 | 1,072,628 | 14,517,821 | 749·30 | 23,542·94 | 514,248·82 | 37 |
| 38 | 61,556 | 1,007,830 | 13,445,193 | 725·68 | 22,793·64 | 490,705·88 | 38 |
| 39 | 58,463 | 946,274 | 12,437,363 | 703·18 | 22,067·96 | 467,912·24 | 39 |
| 40 | 55,511 | 887,811 | 11,491,089 | 681·35 | 21,364·78 | 445,844·28 | 40 |
| 41 | 52,695 | 832,300 | 10,603,278 | 660·72 | 20,683·43 | 424,479·50 | 41 |
| 42 | 50,008 | 779,605 | 9,770,978 | 640·50 | 20,022·71 | 403,796·07 | 42 |
| 43 | 47,444 | 729,597 | 8,991,373 | 621·38 | 19,382·21 | 383,773·36 | 43 |
| 44 | 44,998 | 682,153 | 8,261,776 | 602·96 | 18,760·83 | 364,391·15 | 44 |
| 45 | 42,664 | 637,155 | 7,579,623 | 585·20 | 18,157·87 | 345,630·32 | 45 |
| 46 | 40,438 | 594,491 | 6,942,468 | 568·39 | 17,572·67 | 327,472·45 | 46 |
| 47 | 38,314 | 554,053 | 6,347,977 | 552·01 | 17,004·28 | 309,899·78 | 47 |
| 48 | 36,288 | 515,739 | 5,793,924 | 536·34 | 16,452·27 | 292,895·50 | 48 |
| 49 | 34,356 | 479,451 | 5,278,185 | 521·34 | 15,915·93 | 276,443·23 | 49 |
| 50 | 32,514 | 445,095 | 4,798,734 | 506·84 | 15,394·59 | 260,527·30 | 50 |
| 51 | 30,756 | 412,581 | 4,353,639 | 492·81 | 14,887·75 | 245,132·71 | 51 |
| 52 | 29,081 | 381,825 | 3,941,058 | 479·36 | 14,394·94 | 230,244·96 | 52 |
| 53 | 27,483 | 352,744 | 3,559,233 | 466·21 | 13,915·58 | 215,850·02 | 53 |
| 54 | 25,959 | 325,261 | 3,206,489 | 491·07 | 13,449·37 | 201,934·44 | 54 |

## YEARLY TABLE:—FEMALES. Interest 4 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $S_x$ | $C_x$ | $M_x$ | $R_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 55 | 24,470 | 299,302 | 2,881,228 | 493·65 | 12,958·30 | 188,485·07 | 55 |
| 56 | 23,035 | 274,832 | 2,581,926 | 494·87 | 12,464·65 | 175,526·77 | 56 |
| 57 | 21,654 | 251,797 | 2,307,094 | 495·27 | 11,969·78 | 163,062·12 | 57 |
| 58 | 20,326 | 230,143 | 2,055,297 | 495·20 | 11,474·51 | 151,092·34 | 58 |
| 59 | 19,049 | 209,817 | 1,825,154 | 494·88 | 10,979·31 | 139,617·83 | 59 |
| 60 | 17,822 | 190,768 | 1,615,337 | 494·41 | 10,484·43 | 128,638·52 | 60 |
| 61 | 16,642 | 172,946 | 1,424,569 | 493·85 | 9,990·02 | 118,154·09 | 61 |
| 62 | 15,508 | 156,304 | 1,251,623 | 493·11 | 9,496·17 | 108,164·07 | 62 |
| 63 | 14,418 | 140,796 | 1,095,319 | 492·18 | 9,003·06 | 98,667·90 | 63 |
| 64 | 13,372 | 126,378 | 954,523 | 490·83 | 8,510·88 | 89,664·84 | 64 |
| 65 | 12,366 | 113,006 | 828,145 | 489·01 | 8,020·05 | 81,153·96 | 65 |
| 66 | 11,402 | 100,640 | 715,139 | 486·23 | 7,531·04 | 73,133·91 | 66 |
| 67 | 10,477 | 89,238 | 614,499 | 482·54 | 7,044·81 | 65,602·87 | 67 |
| 68 | 9,591·5 | 78,761·2 | 525,261·2 | 477·47 | 6,562·27 | 58,558·06 | 68 |
| 69 | 8,745·2 | 69,169·7 | 446,500·0 | 470·86 | 6,084·80 | 51,995·79 | 69 |
| 70 | 7,938·0 | 60,424·5 | 377,330·3 | 462·44 | 5,613·94 | 45,910·99 | 70 |
| 71 | 7,170·2 | 52,486·5 | 316,905·8 | 452·02 | 5,151·50 | 40,297·05 | 71 |
| 72 | 6,442·4 | 45,316·3 | 264,419·3 | 439·49 | 4,699·48 | 35,145·55 | 72 |
| 73 | 5,755·2 | 38,873·9 | 219,103·0 | 424·67 | 4,259·99 | 50,446·07 | 73 |
| 74 | 5,109·1 | 33,118·7 | 180,229·1 | 407·70 | 3,835·32 | 26,186·08 | 74 |
| 75 | 4,504·9 | 28,009·6 | 147,110·4 | 388·42 | 3,427·62 | 22,350·76 | 75 |
| 76 | 3,943·3 | 23,504·7 | 119,100·8 | 367·04 | 3,039·20 | 18,923·14 | 76 |
| 77 | 3,424·5 | 19,561·4 | 95,596·1 | 343·91 | 2,672·16 | 15,883·94 | 77 |
| 78 | 2,948·9 | 16,136·9 | 76,034·7 | 319·04 | 2,328·25 | 13,211·78 | 78 |
| 79 | 2,516·5 | 13,188·0 | 59,897·8 | 293·06 | 2,009·21 | 10,883·53 | 79 |
| 80 | 2.126·6 | 10,671·5 | 46,709·8 | 266·23 | 1,716·15 | 8,874·32 | 80 |
| 81 | 1,778·6 | 8,544·9 | 36,038·3 | 239·02 | 1,449·92 | 7,158·17 | 81 |
| 82 | 1,471·2 | 6,766·3 | 27,493·4 | 211·97 | 1,210·90 | 5,708·25 | 82 |
| 83 | 1,202·6 | 5,295·1 | 20,727·1 | 185·54 | 998·93 | 4,497·35 | 83 |
| 84 | 970·82 | 4,092·49 | 15,432·04 | 160·11 | 813·39 | 3,498·42 | 84 |
| 85 | 773·36 | 3,121·67 | 11,339·55 | 136·19 | 653·28 | 2,685·03 | 85 |
| 86 | 607·45 | 2,348·31 | 8,217·88 | 114·01 | 517·09 | 2,031·75 | 86 |
| 87 | 470·07 | 1,740·86 | 5,869·57 | 93·90 | 403·08 | 1,514·66 | 87 |
| 88 | 358·08 | 1,270·79 | 4,128·71 | 76·02 | 309·18 | 1,111·58 | 88 |
| 89 | 268·28 | 912·71 | 2,857·92 | 60·46 | 233·16 | 802·40 | 89 |
| 90 | 197·52 | 644·43 | 1,945·21 | 47·15 | 172·70 | 569·24 | 90 |
| 91 | 142·76 | 446·91 | 1,300·78 | 36·07 | 125·55 | 396·54 | 91 |
| 92 | 101·21 | 304·15 | 853·87 | 27·02 | 89·48 | 270·99 | 92 |
| 93 | 70·307 | 202·938 | 549·718 | 19·79 | 62·46 | 181·51 | 93 |
| 94 | 47·810 | 132·631 | 346·780 | 14·16 | 42·67 | 119·05 | 94 |
| 95 | 31·794 | 84·821 | 214·149 | 9·91 | 28·51 | 76·38 | 95 |
| 96 | 20·655 | 53·027 | 129·328 | 6·77 | 18·60 | 47·87 | 96 |
| 97 | 13·094 | 32·372 | 76·301 | 4·50 | 11·83 | 29·27 | 97 |
| 98 | 8·0918 | 19·2778 | 43·9293 | 2·92 | 7·33 | 17·44 | 98 |
| 99 | 4·8690 | 11·1860 | 24·6515 | 1·82 | 4·41 | 10·11 | 99 |
| 100 | 2·8495 | 6·3170 | 13·4655 | 1·12 | 2·59 | 5·70 | 100 |
| 101 | 1·6200 | 3·4675 | 7·1485 | ·66 | 1·47 | 3·11 | 101 |
| 102 | ·8936 | 1·8475 | 3·6810 | ·39 | ·81 | 1·64 | 102 |
| 103 | ·4777 | ·9539 | 1·8335 | ·20 | ·42 | ·83 | 103 |
| 104 | ·2472 | ·4762 | ·8796 | ·11 | ·22 | ·41 | 104 |
| 105 | ·1236 | ·2290 | ·4034 | ·06 | ·11 | ·19 | 105 |
| 106 | ·0597 | ·1054 | ·1744 | ·03 | ·05 | ·08 | 106 |
| 107 | ·0278 | ·0457 | ·0690 | ·01 | ·02 | ·03 | 107 |
| 108 | ·0125 | ·0179 | ·0233 | ·01 | ·01 | ·01 | 108 |
| 109 | ·0054 | ·0054 | ·0054 | ... | ... | ... | 109 |

YEARLY TABLE:—FEMALES. Interest 4 per Cent.

| **Age** ($x$) | $\lambda\ D_x$ | $\lambda\ N_x$ | $\lambda\ M_x$ | $\lambda\left(\frac{N_x}{D_x}\right)=\lambda A_x$ | $\frac{N_x}{D_x}=A_x$ | $\frac{D_x}{N_x}=a_x$ | **Age** ($x$) |
|---|---|---|---|---|---|---|---|
| 0 | 5·6886465 | 6·9075215 | 5·2489703 | 1·2188750 | 16·5529 | ·060412 | 0 |
| 1 | 5·6087736 | 6·8804589 | 5·0575238 | 1·2716853 | 18·6933 | ·053495 | 1 |
| 2 | 5·5639812 | 6·8565817 | 4·9541321 | 1·2926005 | 19·6155 | ·050980 | 2 |
| 3 | 5·5313033 | 6·8338571 | 4·8893617 | 1·3025538 | 20·0703 | ·049825 | 3 |
| 4 | 5·5036409 | 6·8116608 | 4·8426701 | 1·3080199 | 20·3245 | ·049202 | 4 |
| 5 | 5·4788599 | 6·7897492 | 4·8074561 | 1·3108893 | 20·4592 | ·048878 | 5 |
| 6 | 5·4560216 | 6·7679855 | 4·7806245 | 1·3119639 | 20·5099 | ·048757 | 6 |
| 7 | 5·4343811 | 6·7462771 | 4·7592415 | 1·3118960 | 20·5067 | ·048765 | 7 |
| 8 | 5·4133869 | 6·7245653 | 4·7409118 | 1·3111784 | 20·4729 | ·048845 | 8 |
| 9 | 5·3930031 | 6·7028164 | 4·7255500 | 1·3098133 | 20·4086 | ·048999 | 9 |
| 10 | 5·3730859 | 6·6809974 | 4·7125067 | 1·3079115 | 20·3194 | ·049214 | 10 |
| 11 | 5·3535040 | 6·6590803 | 4·7011760 | 1·3055763 | 20·2105 | ·049479 | 11 |
| 12 | 5·3341380 | 6·6370418 | 4·6910130 | 1·3029038 | 20·0865 | ·049785 | 12 |
| 13 | 5·3148811 | 6·6148638 | 4·6815329 | 1·2999827 | 19·9518 | ·050121 | 13 |
| 14 | 5·2956384 | 6·5925322 | 4·6723247 | 1·2968938 | 19·8104 | ·050478 | 14 |
| 15 | 5·2763275 | 6·5700371 | 4·6630521 | 1·2937096 | 19·6657 | ·050850 | 15 |
| 16 | 5·2568780 | 6·5473720 | 4·6534360 | 1·2904940 | 19·5206 | ·051228 | 16 |
| 17 | 5·2372319 | 6·5245338 | 4·6432704 | 1·2873019 | 19·3777 | ·051606 | 17 |
| 18 | 5·2173433 | 6·5015228 | 4·6323872 | 1·2841795 | 19·2389 | ·051978 | 18 |
| 19 | 5·1971787 | 6·4783411 | 4·6206975 | 1·2811624 | 19·1057 | ·052340 | 19 |
| 20 | 5·1767166 | 6·4549934 | 4·6081325 | 1·2782768 | 18·9792 | ·052689 | 20 |
| 21 | 5·1559478 | 6·4314859 | 4·5946816 | 1·2755381 | 18·8598 | ·053023 | 21 |
| 22 | 5·1350816 | 6·4078253 | 4·5811120 | 1·2727437 | 18·7389 | ·053365 | 22 |
| 23 | 5·1141211 | 6·3840078 | 4·5674373 | 1·2698867 | 18·6160 | ·053717 | 23 |
| 24 | 5·0930695 | 6·3600289 | 4·5536802 | 1·2669594 | 18·4910 | ·054080 | 24 |
| 25 | 5·0719290 | 6·3358832 | 4·5398545 | 1·2639542 | 18·3634 | ·054456 | 25 |
| 26 | 5·0507016 | 6·3115649 | 4·5259689 | 1·2608633 | 18·2332 | ·054845 | 26 |
| 27 | 5·0293889 | 6·2870680 | 4·5120414 | 1·2576791 | 18·1000 | ·055249 | 27 |
| 28 | 5·0079918 | 6·2623856 | 4·4980814 | 1·2543938 | 17·9636 | ·055668 | 28 |
| 29 | 4·9865110 | 6·2375104 | 4·4840936 | 1·2509994 | 17·8238 | ·056105 | 29 |
| 30 | 4·9649464 | 6·2124339 | 4·4700872 | 1·2474875 | 17·6802 | ·056560 | 30 |
| 31 | 4·9432978 | 6·1871481 | 4·4560671 | 1·2438503 | 17·5328 | ·057036 | 31 |
| 32 | 4·9215642 | 6·1616432 | 4·4420380 | 1·2400790 | 17·3812 | ·057534 | 32 |
| 33 | 4·8997444 | 6·1359089 | 4·4280094 | 1·2361645 | 17·2252 | ·058054 | 33 |
| 34 | 4·8778366 | 6·1099348 | 4·4139735 | 1·2320982 | 17·0647 | ·058601 | 34 |
| 35 | 4·8558384 | 6·0837086 | 4·3999391 | 1·2278702 | 16·8994 | ·059174 | 35 |
| 36 | 4·8337473 | 6·0572179 | 4·3858984 | 1·2234706 | 16·7290 | ·059776 | 36 |
| 37 | 4·8115599 | 6·0304491 | 4·3718607 | 1·2188892 | 16·5535 | ·060410 | 37 |
| 38 | 4·7892727 | 6·0033873 | 4·3578137 | 1·2141146 | 16·3725 | ·061078 | 38 |
| 39 | 4·7668815 | 5·9760169 | 4·3437622 | 1·2091354 | 16·1858 | ·061782 | 39 |
| 40 | 4·7443817 | 5·9483205 | 4·3296984 | 1·2039388 | 15·9933 | ·062526 | 40 |
| 41 | 4·7217683 | 5·9202799 | 4·3156225 | 1·1985116 | 15·7947 | ·063312 | 41 |
| 42 | 4·6990356 | 5·8918746 | 4·3015228 | 1·1928390 | 15·5897 | ·064145 | 42 |
| 43 | 4·6761778 | 5·8630830 | 4·2874033 | 1·1869052 | 15·3782 | ·065027 | 43 |
| 44 | 4·6531884 | 5·8338818 | 4·2732521 | 1·1806934 | 15·1598 | ·065964 | 44 |
| 45 | 4·6300603 | 5·8042451 | 4·2590649 | 1·1741848 | 14·9343 | ·066960 | 45 |
| 46 | 4·6067863 | 5·7741453 | 4·2448377 | 1·1673590 | 14·7014 | ·068021 | 46 |
| 47 | 4·5833583 | 5·7435513 | 4·2305582 | 1·1601930 | 14·4608 | ·069152 | 47 |
| 48 | 4·5597682 | 5·7124300 | 4·2162259 | 1·1526618 | 14·2122 | ·070362 | 48 |
| 49 | 4·5360070 | 5·6807442 | 4·2018320 | 1·1447372 | 13·9552 | ·071658 | 49 |
| 50 | 4·5120655 | 5·6484527 | 4·1873681 | 1·1363872 | 13·6895 | ·073049 | 50 |
| 51 | 4·4879340 | 5·6155093 | 4·1728291 | 1·1275753 | 13·4145 | ·074546 | 51 |
| 52 | 4·4636022 | 5·5818644 | 4·1582099 | 1·1182622 | 13·1299 | ·076162 | 52 |
| 53 | 4·4390594 | 5·5474596 | 4·1435013 | 1·1084002 | 12·8351 | ·077911 | 53 |
| 54 | 4·4142945 | 5·5122320 | 4·1287020 | 1·0979375 | 12·5296 | ·079811 | 54 |

YEARLY TABLE:—Females. Interest 4 per Cent.

| Age $(x)$ | $\lambda\ D_x$ | $\lambda\ N_x$ | $\lambda\ M_x$ | $\lambda\left(\frac{N_x}{D_x}\right)=\lambda\ A_x$ | $\frac{N_x}{D_x}=A_x$ | $\frac{D_x}{N_x}=a_x$ | Age $(x)$ |
|---|---|---|---|---|---|---|---|
| 55 | 4·3886327 | 5·4761096 | 4·1125481 | 1·0874769 | 12·2314 | ·081757 | 55 |
| 56 | 4·3623913 | 5·4390673 | 4·0956801 | 1·0766760 | 11·9310 | ·083815 | 56 |
| 57 | 4·3355443 | 5·4010505 | 4·0780862 | 1·0655062 | 11·6280 | ·085999 | 57 |
| 58 | 4·3080550 | 5·3619978 | 4·0597342 | 1·0539428 | 11·3225 | ·088320 | 58 |
| 59 | 4·2798753 | 5·3218407 | 4·0405751 | 1·0419654 | 11·0145 | ·090789 | 59 |
| 60 | 4·2509466 | 5·2805055 | 4·0205449 | 1·0295589 | 10·7043 | ·093420 | 60 |
| 61 | 4·2211992 | 5·2379106 | 3·9995664 | 1·0167114 | 10·3923 | ·096225 | 61 |
| 62 | 4·1905524 | 5·1939701 | 3·9775485 | 1·0034177 | 10·0790 | ·099216 | 62 |
| 63 | 4·1589145 | 5·1485903 | 3·9543902 | 0·9896758 | 9·7651 | ·102406 | 63 |
| 64 | 4·1261831 | 5·1016715 | 3·9299745 | 0·9754884 | 9·4512 | ·105806 | 64 |
| 65 | 4·0922447 | 5·0531015 | 3·9041771 | 0·9608568 | 9·1381 | ·109432 | 65 |
| 66 | 4·0569749 | 5·0027706 | 3·8768549 | 0·9457957 | 8·8266 | ·113293 | 66 |
| 67 | 4·0202383 | 4·9505498 | 3·8478693 | 0·9303115 | 8·5175 | ·117405 | 67 |
| 68 | 3·9818886 | 4·8963123 | 3·8170541 | 0·9144237 | 8·2115 | ·121780 | 68 |
| 69 | 3·9417687 | 4·8399159 | 3·7842463 | 0·8981472 | 7·9095 | ·126431 | 69 |
| 70 | 3·8997102 | 4·7812131 | 3·7492678 | 0·8815029 | 7·6121 | ·131370 | 70 |
| 71 | 3·8555342 | 4·7200477 | 3·7119337 | 0·8645135 | 7·3200 | ·136611 | 71 |
| 72 | 3·8090505 | 4·6562545 | 3·6720498 | 0·8472040 | 7·0340 | ·142166 | 72 |
| 73 | 3·7600582 | 4·5896581 | 3·6294086 | 0·8295999 | 6·7546 | ·148047 | 73 |
| 74 | 3·7083453 | 4·5200733 | 3·5838016 | 0·8117280 | 6·4823 | ·154267 | 74 |
| 75 | 3·6536890 | 4·4473069 | 3·5349926 | 0·7936179 | 6·2175 | ·160836 | 75 |
| 76 | 3·5958554 | 4·3711548 | 3·4827593 | 0·7752994 | 5·9607 | ·167765 | 76 |
| 77 | 3·5345998 | 4·2914000 | 3·4268625 | 0·7568002 | 5·7122 | ·175065 | 77 |
| 78 | 3·4696665 | 4·2078201 | 3·3670296 | 0·7381536 | 5·4721 | ·182745 | 78 |
| 79 | 3·4007889 | 4·1201789 | 3·3030254 | 0·7193900 | 5·2407 | ·190814 | 79 |
| 80 | 3·3276894 | 4·0282255 | 3·2345553 | 0·7005361 | 5·0181 | ·199280 | 80 |
| 81 | 3·2500794 | 3·9317070 | 3·1613440 | 0·6816276 | 4·8043 | ·208148 | 81 |
| 82 | 3·1676596 | 3·8303512 | 3·0831083 | 0·6626916 | 4·5993 | ·217424 | 82 |
| 83 | 3·0801195 | 3·7238742 | 2·9995351 | 0·6437547 | 4·4031 | ·227115 | 83 |
| 84 | 2·9871379 | 3·6119876 | 2·9102988 | 0·6248497 | 4·2155 | ·237219 | 84 |
| 85 | 2·8883824 | 3·4943870 | 2·8150994 | 0·6060046 | 4·0365 | ·247740 | 85 |
| 86 | 2·7835098 | 3·3707555 | 2·7135661 | 0·5872457 | 3·8659 | ·258675 | 86 |
| 87 | 2·6721659 | 3·2407638 | 2·6053912 | 0·5685979 | 3·7034 | ·270024 | 87 |
| 88 | 2·5539858 | 3·1040738 | 2·4902114 | 0·5500880 | 3·5489 | ·281781 | 88 |
| 89 | 2·4285933 | 2·9603328 | 2·3676540 | 0·5317395 | 3·4020 | ·293941 | 89 |
| 90 | 2·2956015 | 2·8091757 | 2·2372923 | 0·5135742 | 3·2627 | ·306497 | 90 |
| 91 | 2·1546125 | 2·6502201 | 2·0988167 | 0·4956076 | 3·1305 | ·319442 | 91 |
| 92 | 2·0052173 | 2·4830878 | 1·9517260 | 0·4778705 | 3·0052 | ·332759 | 92 |
| 93 | 1·8469964 | 2·3073634 | 1·7956020 | 0·4603670 | 2·8865 | ·346414 | 93 |
| 94 | 1·6795188 | 2·1226451 | 1·6301226 | 0·4431263 | 2·7741 | ·360474 | 94 |
| 95 | 1·5023429 | 1·9285034 | 1·4549972 | 0·4261605 | 2·6678 | ·374835 | 95 |
| 96 | 1·3150161 | 1·7244971 | 1·2695129 | 0·4094810 | 2·5673 | ·389510 | 96 |
| 97 | 1·1170749 | 1·5101695 | 1·0729847 | 0·3930946 | 2·4723 | ·404488 | 97 |
| 98 | 0·9080448 | 1·2850575 | 0·8651040 | 0·3770127 | 2·3824 | ·419747 | 98 |
| 99 | 0·6874403 | 1·0486748 | 0·6444386 | 0·3612345 | 2·2974 | ·435277 | 99 |
| 100 | 0·4547651 | 0·8005109 | 0·4132998 | 0·3457458 | 2·2169 | ·451081 | 100 |
| 101 | 0·2095119 | 0·5400165 | 0·1673173 | 0·3305046 | 2·1404 | ·467192 | 101 |
| 102 | $\bar{1}$·9511624 | 0·2665844 | $\bar{1}$·9084850 | 0·3154220 | 2·0674 | ·483702 | 102 |
| 103 | $\bar{1}$·6791874 | $\bar{1}$·9795028 | $\bar{1}$·6232493 | 0·3003154 | 1·9967 | ·500823 | 103 |
| 104 | $\bar{1}$·3930468 | $\bar{1}$·6777894 | $\bar{1}$·3424227 | 0·2847426 | 1·9264 | ·519108 | 104 |
| 105 | $\bar{1}$·0921895 | $\bar{1}$·3598355 | $\bar{1}$·0413927 | 0·2676460 | 1·8520 | ·539951 | 105 |
| 106 | $\bar{2}$·7760535 | $\bar{1}$·0228406 | $\bar{2}$·6989700 | 0·2467871 | 1·7652 | ·566517 | 106 |
| 107 | $\bar{2}$·4440659 | $\bar{2}$·6599162 | $\bar{2}$·3010300 | 0·2158503 | 1·6438 | ·608345 | 107 |
| 108 | $\bar{2}$·0956428 | $\bar{2}$·2528530 | $\bar{2}$·0000000 | 0·1572102 | 1·4362 | ·696289 | 108 |
| 109 | $\bar{3}$·7301893 | $\bar{3}$·7323938 | ... | 0·0022045 | 1·0051 | ·994937 | 109 |

### YEARLY TABLE:—FEMALES. Interest 5 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $S_x$ | $C_x$ | $M_x$ | $R_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 0 | 488,255 | 6,914,060 | 112,161,292 | 62,641·91 | 159,013·89 | 1,573,044·71 | 0 |
| 1 | 402,363 | 6,425,805 | 105,247,232 | 23,726·98 | 96,371·98 | 1,414,030·82 | 1 |
| 2 | 359,475 | 6,023,442 | 98,821,427 | 12,113·59 | 72,645·00 | 1,317,658·84 | 2 |
| 3 | 330,244 | 5,663,967 | 92,797,985 | 7,604·24 | 60,531·41 | 1,245,013·84 | 3 |
| 4 | 306,914 | 5,333,723 | 87,134,018 | 5,168·14 | 52,927·17 | 1,184,482·43 | 4 |
| 5 | 287,131 | 5,026,809 | 81,800,295 | 3,631·08 | 47,759·03 | 1,131,555·26 | 5 |
| 6 | 269,827 | 4,739,678 | 76,773,486 | 2,711·25 | 44,127·95 | 1,083,796·23 | 6 |
| 7 | 254,267 | 4,469,851 | 72,033,808 | 2,199·05 | 41,416·70 | 1,039,668·28 | 7 |
| 8 | 239,960 | 4,215,584 | 67,563,957 | 1,755·91 | 39,217·65 | 998,251·58 | 8 |
| 9 | 226,777 | 3,975,624 | 63,348,373 | 1,429·19 | 37,461·74 | 959,033·93 | 9 |
| 10 | 214,549 | 3,748,847 | 59,372,749 | 1,195·67 | 36,032·55 | 921,572·19 | 10 |
| 11 | 203,137 | 3,534,298 | 55,623,902 | 1,036·27 | 34,836·88 | 885,539·64 | 11 |
| 12 | 192,427 | 3,331,161 | 52,089,604 | 936·02 | 33,800·61 | 850,702·76 | 12 |
| 13 | 182,328 | 3,138,734 | 48,758,443 | 881·34 | 32,864·59 | 816,902·15 | 13 |
| 14 | 172,765 | 2,956,406 | 45,619,709 | 860·54 | 31,983·25 | 784,037·56 | 14 |
| 15 | 163,677 | 2,783,641 | 42,663,303 | 864·91 | 31,122·71 | 752,054·31 | 15 |
| 16 | 155,018 | 2,619,964 | 39,879,662 | 885·25 | 30,257·80 | 720,931·60 | 16 |
| 17 | 146,751 | 2,464,946 | 37,259,698 | 916·22 | 29,372·55 | 690,673·80 | 17 |
| 18 | 138,847 | 2,318,195 | 34,794,752 | 949·76 | 28,456·33 | 661,301·25 | 18 |
| 19 | 131,285 | 2,179,348 | 32,476,557 | 983·30 | 27,506·57 | 632,844·92 | 19 |
| 20 | 124,050 | 2,048,063 | 30,297,209 | 1,011·86 | 26,523·27 | 605,338·35 | 20 |
| 21 | 117,131 | 1,924,013 | 28,249,146 | 980·08 | 25,511·41 | 578,815·08 | 21 |
| 22 | 110,573 | 1,806,882 | 26,325,133 | 948·06 | 24,531·33 | 553,303·67 | 22 |
| 23 | 104,360 | 1,696,309 | 24,518,251 | 915·32 | 23,583·27 | 528,772·34 | 23 |
| 24 | 98,475 | 1,591,949 | 22,821,942 | 882·66 | 22,667·95 | 505,189·07 | 24 |
| 25 | 92,903 | 1,493,474 | 21,229,993 | 850·47 | 21,785·29 | 482,521·12 | 25 |
| 26 | 87,629 | 1,400,571 | 19,736,519 | 818·28 | 20,934·82 | 460,735·83 | 26 |
| 27 | 82,638 | 1,312,942 | 18,335,948 | 786·71 | 20,116·54 | 439,801·01 | 27 |
| 28 | 77,916 | 1,230,304 | 17,023,006 | 756·05 | 19,329·83 | 419,684·47 | 28 |
| 29 | 73,449 | 1,152,388 | 15,792,702 | 726·06 | 18,573·78 | 400,354·64 | 29 |
| 30 | 69,226 | 1,078,939 | 14,640,314 | 697·00 | 17,847·72 | 381,780·86 | 30 |
| 31 | 65,232 | 1,009,713 | 13,561,375 | 668·84 | 17,150·72 | 363,933·14 | 31 |
| 32 | 61,457 | 944,481 | 12,551,662 | 641·39 | 16,481·88 | 346,782·42 | 32 |
| 33 | 57,889 | 883,024 | 11,607,181 | 615·42 | 15,840·49 | 330,300·54 | 33 |
| 34 | 54,517 | 825,135 | 10,724,157 | 590·10 | 15,225·07 | 314,460·05 | 34 |
| 35 | 51,331 | 770,618 | 9,899,022 | 566·14 | 14,634·97 | 299,234·98 | 35 |
| 36 | 48,321 | 719,287 | 9,128,404 | 542·80 | 14,068·83 | 284,600·01 | 36 |
| 37 | 45,477 | 670,966 | 8,409,117 | 520·87 | 13,526·03 | 270,531·18 | 37 |
| 38 | 42,790 | 625,489 | 7,738,151 | 499·65 | 13,005·16 | 257,005·15 | 38 |
| 39 | 40,253 | 582,699 | 7,112,662 | 479·55 | 12,505·51 | 243,999·99 | 39 |
| 40 | 37,857 | 542,446 | 6,529,963 | 460·23 | 12,025·96 | 231,494·48 | 40 |
| 41 | 35,594 | 504,589 | 5,987,517 | 442·05 | 11,565·73 | 219,468·52 | 41 |
| 42 | 33,457 | 468,995 | 5,482,928 | 424·43 | 11,123·68 | 207,902·79 | 42 |
| 43 | 31,439 | 435,538 | 5,013,933 | 407·85 | 10,699·25 | 196,779·11 | 43 |
| 44 | 29,534 | 404,099 | 4,578,395 | 391·99 | 10,291·40 | 186,079·86 | 44 |
| 45 | 27,736 | 374,565 | 4,174,296 | 376·82 | 9,899·41 | 175,788·46 | 45 |
| 46 | 26,038 | 346,829 | 3,799,731 | 362·51 | 9,522·59 | 165,889·05 | 46 |
| 47 | 24,436 | 320,791 | 3,452,902 | 348·71 | 9,160·08 | 156,366·46 | 47 |
| 48 | 22,924 | 296,355 | 3,132,111 | 335·58 | 8,811·37 | 147,206·38 | 48 |
| 49 | 21,496 | 273,431 | 2,835,756 | 323·09 | 8,475·79 | 138,395·01 | 49 |
| 50 | 20,150 | 251,935 | 2,562,325 | 311·11 | 8,152·70 | 129,919·22 | 50 |
| 51 | 18,879 | 231,785 | 2,310,390 | 299·62 | 7,841·59 | 121,766·52 | 51 |
| 52 | 17,680 | 212,906 | 2,078,605 | 288·66 | 7,541·97 | 113,924·93 | 52 |
| 53 | 16,550 | 195,226 | 1,865,699 | 278·07 | 7,253·31 | 106,382·96 | 53 |
| 54 | 15,484 | 178,676 | 1,670,473 | 290·11 | 6,975·24 | 99,129·65 | 54 |

## YEARLY TABLE:—Females. Interest 5 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $S_x$ | $C_x$ | $M_x$ | $R_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 55 | 14,456 | 163,192 | 1,491,797 | 288·86 | 6,685·13 | 92,154·41 | 55 |
| 56 | 13,479 | 148,736 | 1,328,605 | 286·82 | 6,396·27 | 85,469·28 | 56 |
| 57 | 12,550 | 135,257 | 1,179,869 | 284·31 | 6,109·45 | 79,073·01 | 57 |
| 58 | 11,668 | 122,707 | 1,044,612 | 281·57 | 5,825·14 | 72,963·56 | 58 |
| 59 | 10,831 | 111,039 | 921,905 | 278·71 | 5,543·57 | 67,138·42 | 59 |
| 60 | 10,037 | 100,208 | 810,866 | 275·78 | 5,264·86 | 61,594·85 | 60 |
| 61 | 9,282·9 | 90,170·9 | 710,658·1 | 272·85 | 4,989·08 | 56,329·99 | 61 |
| 62 | 8,568·1 | 80,888·0 | 620,487·2 | 269·85 | 4,716·23 | 51,340·91 | 62 |
| 63 | 7,890·2 | 72,319·9 | 539,599·2 | 266·77 | 4,446·38 | 46,624·68 | 63 |
| 64 | 7,247·7 | 64,429·7 | 467,279·3 | 263·51 | 4,179·61 | 42,178·30 | 64 |
| 65 | 6,639·1 | 57,182·0 | 402,849·6 | 260·03 | 3,916·10 | 37,998·69 | 65 |
| 66 | 6,062·9 | 50,542·9 | 345,667·6 | 256·09 | 3,656·07 | 34,082·59 | 66 |
| 67 | 5,518·1 | 44,480·0 | 295,124·7 | 251·72 | 3,399·98 | 30,426·52 | 67 |
| 68 | 5,003·6 | 38,961·9 | 250,644·7 | 246·71 | 3,148·26 | 27,026·54 | 68 |
| 69 | 4,518·6 | 33,958·3 | 211,682·8 | 240·97 | 2,901·55 | 23,878·28 | 69 |
| 70 | 4,062·5 | 29,439·7 | 177,724·5 | 234·41 | 2,660·58 | 20,976·73 | 70 |
| 71 | 3,634·6 | 25,377·2 | 148,284·8 | 226·95 | 2,426·17 | 18,316·15 | 71 |
| 72 | 3,234·6 | 21,742·6 | 122,907·6 | 218·55 | 2,199·22 | 15,889·98 | 72 |
| 73 | 2,862·0 | 18,508·0 | 101,165·0 | 209·17 | 1,980·67 | 13,690·76 | 73 |
| 74 | 2,516·5 | 15,646·0 | 82,657·0 | 198·90 | 1,771·50 | 11,710·09 | 74 |
| 75 | 2,197·8 | 13,129·5 | 67,011·0 | 187·69 | 1,572·60 | 9,938·59 | 75 |
| 76 | 1,905·5 | 10,931·7 | 53,881·5 | 175·67 | 1,384·91 | 8,365·99 | 76 |
| 77 | 1,639·0 | 9,026·2 | 42,949·8 | 163·03 | 1,209·24 | 6,981·08 | 77 |
| 78 | 1,398·0 | 7,387·2 | 33,923·6 | 149·80 | 1,046·21 | 5,771·84 | 78 |
| 79 | 1,181·6 | 5,989·2 | 26,536·4 | 136·30 | 896·41 | 4,725·63 | 79 |
| 80 | 989·04 | 4,807·61 | 20,547·22 | 122·64 | 760·11 | 3,829·22 | 80 |
| 81 | 819·31 | 3,818·57 | 15,739·61 | 109·06 | 637·47 | 3,069·11 | 81 |
| 82 | 671·23 | 2,999·26 | 11,921·04 | 95·79 | 528·41 | 2,431·64 | 82 |
| 83 | 543·47 | 2,328·03 | 8,921·78 | 83·05 | 432·62 | 1,903·23 | 83 |
| 84 | 434·55 | 1,784·56 | 6,593·75 | 70·98 | 349·57 | 1,470·61 | 84 |
| 85 | 342·87 | 1,350·01 | 4,809·19 | 59·80 | 278·59 | 1,121·04 | 85 |
| 86 | 266·75 | 1,007·14 | 3,459·18 | 49·59 | 218·79 | 842·45 | 86 |
| 87 | 204·45 | 740·39 | 2,452·04 | 40·45 | 169·20 | 623·66 | 87 |
| 88 | 154·26 | 535·94 | 1,711·65 | 32·44 | 128·75 | 454·46 | 88 |
| 89 | 114·48 | 381·68 | 1,175·71 | 25·55 | 96·31 | 325·71 | 89 |
| 90 | 83·477 | 267·204 | 794·033 | 19·74 | 70·76 | 229·40 | 90 |
| 91 | 59·761 | 183·727 | 526·829 | 14·95 | 51·02 | 158·64 | 91 |
| 92 | 41·963 | 123·966 | 343·102 | 11·10 | 36·07 | 107·62 | 92 |
| 93 | 28·873 | 82·003 | 219·136 | 8·05 | 24·97 | 71·55 | 93 |
| 94 | 19·447 | 53·130 | 137·133 | 5·71 | 16·92 | 46·58 | 94 |
| 95 | 12·809 | 33·683 | 84·003 | 3·96 | 11·21 | 29·66 | 95 |
| 96 | 8·2422 | 20·8738 | 50·3196 | 2·68 | 7·25 | 18·45 | 96 |
| 97 | 5·1754 | 12·6316 | 29·4458 | 1·76 | 4·57 | 11·20 | 97 |
| 98 | 3·1678 | 7·4562 | 16·8142 | 1·13 | 2·81 | 6·63 | 98 |
| 99 | 1·8880 | 4·2884 | 9·3580 | ·70 | 1·68 | 3·82 | 99 |
| 100 | 1·0944 | 2·4004 | 5·0696 | ·43 | ·98 | 2·14 | 100 |
| 101 | ·6163 | 1·3060 | 2·6692 | ·25 | ·55 | 1·16 | 101 |
| 102 | ·3367 | ·6897 | 1·3632 | ·14 | ·30 | ·61 | 102 |
| 103 | ·1783 | ·3530 | ·6735 | ·08 | ·16 | ·31 | 103 |
| 104 | ·0914 | ·1747 | ·3205 | ·04 | ·08 | ·15 | 104 |
| 105 | ·0453 | ·0833 | ·1458 | ·02 | ·04 | ·07 | 105 |
| 106 | ·0217 | ·0380 | ·0625 | ·01 | ·02 | ·03 | 106 |
| 107 | ·0100 | ·0163 | ·0245 | ·01 | ·01 | ·01 | 107 |
| 108 | ·0044 | ·0063 | ·0082 | ... | ... | ... | 108 |
| 109 | ·0019 | ·0019 | ·0019 | ... | ... | ... | 109 |

## YEARLY TABLE:—FEMALES. Interest 5 per Cent.

| Age ($x$) | $\lambda\ D_x$ | $\lambda\ N_x$ | $\lambda\ M_x$ | $\lambda\left(\frac{N_x}{D_x}\right)=\lambda\ A_x$ | $\frac{N_x}{D_x}=A_x$ | $\frac{D_x}{N_x}=a_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 0 | 5·6886465 | 6·8397332 | 5·2014350 | 1·1510867 | 14·1608 | ·070618 | 0 |
| 1 | 5·6046176 | 6·8079275 | 4·9839509 | 1·2033099 | 15·9702 | ·062617 | 1 |
| 2 | 5·5556693 | 6·7798447 | 4·8612057 | 1·2241754 | 16·7562 | ·059679 | 2 |
| 3 | 5·5188354 | 6·7531207 | 4·7819808 | 1·2342853 | 17·1508 | ·058306 | 3 |
| 4 | 5·4870171 | 6·7270304 | 4·7236787 | 1·2400133 | 17·3785 | ·057542 | 4 |
| 5 | 5·4580801 | 6·7012924 | 4·6790555 | 1·2432123 | 17·5070 | ·057120 | 5 |
| 6 | 5·4310858 | 6·6757488 | 4·6447137 | 1·2446630 | 17·5656 | ·056929 | 6 |
| 7 | 5·4052893 | 6·6502931 | 4·6171755 | 1·2450038 | 17·5794 | ·056885 | 7 |
| 8 | 5·3801392 | 6·6248577 | 4·5934816 | 1·2447185 | 17·5678 | ·056922 | 8 |
| 9 | 5·3555995 | 6·5994053 | 4·5735880 | 1·2438058 | 17·5310 | ·057042 | 9 |
| 10 | 5·3315263 | 6·5738977 | 4·5566950 | 1·2423714 | 17·4732 | ·057231 | 10 |
| 11 | 5·3077884 | 6·5483032 | 4·5420392 | 1·2405148 | 17·3986 | ·057476 | 11 |
| 12 | 5·2842665 | 6·5225956 | 4·5289245 | 1·2383291 | 17·3113 | ·057766 | 12 |
| 13 | 5·2608536 | 6·4967545 | 4·5167282 | 1·2359009 | 17·2148 | ·058090 | 13 |
| 14 | 5·2374549 | 6·4707641 | 4·5049226 | 1·2333092 | 17·1123 | ·058437 | 14 |
| 15 | 5·2139881 | 6·4446132 | 4·4930774 | 1·2306251 | 17·0069 | ·058800 | 15 |
| 16 | 5·1903826 | 6·4182954 | 4·4808373 | 1·2279128 | 16·9010 | ·059168 | 16 |
| 17 | 5·1665806 | 6·3918074 | 4·4679416 | 1·2252268 | 16·7968 | ·059535 | 17 |
| 18 | 5·1425360 | 6·3651499 | 4·4541790 | 1·2226139 | 16·6961 | ·059894 | 18 |
| 19 | 5·1182154 | 6·3383266 | 4·4394364 | 1·2201112 | 16·6001 | ·060241 | 19 |
| 20 | 5·0935974 | 6·3113433 | 4·4236271 | 1·2177459 | 16·5100 | ·060570 | 20 |
| 21 | 5·0686727 | 6·2842081 | 4·4067345 | 1·2155354 | 16·4261 | ·060879 | 21 |
| 22 | 5·0436504 | 6·2569298 | 4·3897211 | 1·2132794 | 16·3410 | ·061196 | 22 |
| 23 | 5·0185341 | 6·2295050 | 4·3726041 | 1·2109709 | 16·2544 | ·061522 | 23 |
| 24 | 4·9933264 | 6·2019292 | 4·3554123 | 1·2086028 | 16·1660 | ·061858 | 24 |
| 25 | 4·9680300 | 6·1741977 | 4·3381634 | 1·2061677 | 16·0756 | ·062206 | 25 |
| 26 | 4·9426467 | 6·1463051 | 4·3208692 | 1·2036584 | 15·9830 | ·062566 | 26 |
| 27 | 4·9171780 | 6·1182455 | 4·3035533 | 1·2010675 | 15·8879 | ·062941 | 27 |
| 28 | 4·8916250 | 6·0900124 | 4·2862281 | 1·1983874 | 15·7902 | ·063330 | 28 |
| 29 | 4·8659882 | 6·0615988 | 4·2689003 | 1·1956106 | 15·6896 | ·063737 | 29 |
| 30 | 4·8402676 | 6·0329969 | 4·2515828 | 1·1927293 | 15·5858 | ·064161 | 30 |
| 31 | 4·8144630 | 6·0041980 | 4·2342823 | 1·1897350 | 15·4787 | ·064605 | 31 |
| 32 | 4·7885735 | 5·9751933 | 4·2170067 | 1·1866198 | 15·3681 | ·065070 | 32 |
| 33 | 4·7625977 | 5·9459725 | 4·1997687 | 1·1833748 | 15·2537 | ·065558 | 33 |
| 34 | 4·7365339 | 5·9165250 | 4·1825593 | 1·1799911 | 15·1353 | ·066071 | 34 |
| 35 | 4·7103798 | 5·8868392 | 4·1653918 | 1·1764594 | 15·0127 | ·066610 | 35 |
| 36 | 4·6841327 | 5·8569022 | 4·1482579 | 1·1727695 | 14·8857 | ·067179 | 36 |
| 37 | 4·6577894 | 5·8267005 | 4·1311704 | 1·1689111 | 14·7540 | ·067778 | 37 |
| 38 | 4·6313462 | 5·7962197 | 4·1141157 | 1·1648735 | 14·6175 | ·068411 | 38 |
| 39 | 4·6047991 | 5·7654443 | 4·0971015 | 1·1606452 | 14·4759 | ·069080 | 39 |
| 40 | 4·5781433 | 5·7343565 | 4·0801198 | 1·1562132 | 14·3289 | ·069789 | 40 |
| 41 | 4·5513739 | 5·7029377 | 4·0631731 | 1·1515638 | 14·1763 | ·070540 | 41 |
| 42 | 4·5244853 | 5·6711682 | 4·0462485 | 1·1466829 | 14·0179 | ·071337 | 42 |
| 43 | 4·4974716 | 5·6390260 | 4·0293533 | 1·1415544 | 13·8533 | ·072185 | 43 |
| 44 | 4·4703261 | 5·6064878 | 4·0124745 | 1·1361617 | 13·6824 | ·073087 | 44 |
| 45 | 4·4430421 | 5·5735272 | 3·9956093 | 1·1304851 | 13·5047 | ·074048 | 45 |
| 46 | 4·4156121 | 5·5401154 | 3·9787551 | 1·1245033 | 13·3200 | ·075075 | 46 |
| 47 | 4·3880282 | 5·5062222 | 3·9618993 | 1·1181940 | 13·1279 | ·076174 | 47 |
| 48 | 4·3602821 | 5·4718123 | 3·9450434 | 1·1115302 | 12·9280 | ·077352 | 48 |
| 49 | 4·3323650 | 5·4368478 | 3·9281802 | 1·1044828 | 12·7199 | ·078617 | 49 |
| 50 | 4·3042676 | 5·4012885 | 3·9113015 | 1·0970209 | 12·5032 | ·079980 | 50 |
| 51 | 4·2759801 | 5·3650854 | 3·8944041 | 1·0891053 | 12·2774 | ·081451 | 51 |
| 52 | 4·2474923 | 5·3281879 | 3·8774848 | 1·0806956 | 12·0419 | ·083043 | 52 |
| 53 | 4·2187935 | 5·2905377 | 3·8605362 | 1·0717442 | 11·7963 | ·084773 | 53 |
| 54 | 4·1898727 | 5·2520662 | 3·8435592 | 1·0621935 | 11·5397 | ·086658 | 54 |

YEARLY TABLE:—FEMALES. Interest 5 per Cent.

| Age ($x$) | $\lambda D_x$ | $\lambda N_x$ | $\lambda M_x$ | $\lambda\left(\frac{N_x}{D_x}\right)=\lambda A_x$ | $\frac{N_x}{D_x}=A_x$ | $\frac{D_x}{N_x}=a_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 55 | 4·1600549 | 5·2126988 | 3·8251099 | 1·0526439 | 11·2887 | ·088584 | 55 |
| 56 | 4·1296575 | 5·1724161 | 3·8059268 | 1·0427586 | 11·0347 | ·090624 | 56 |
| 57 | 4·0986546 | 5·1311598 | 3·7860022 | 1·0325052 | 10·7772 | ·092789 | 57 |
| 58 | 4·0670093 | 5·0888695 | 3·7653064 | 1·0218602 | 10·5162 | ·095091 | 58 |
| 59 | 4·0346737 | 5·0454757 | 3·7437896 | 1·0108020 | 10·2518 | ·097543 | 59 |
| 60 | 4·0015891 | 5·0009023 | 3·7213868 | 0·9993132 | 9·9842 | ·100158 | 60 |
| 61 | 3·9676857 | 4·9550664 | 3·6980205 | 0·9873807 | 9·7136 | ·102948 | 61 |
| 62 | 3·9328829 | 4·9078841 | 3·6735950 | 0·9750012 | 9·4406 | ·105925 | 62 |
| 63 | 3·8970890 | 4·8592578 | 3·6480066 | 0·9621688 | 9·1658 | ·109102 | 63 |
| 64 | 3·8602017 | 4·8090861 | 3·6211357 | 0·9488844 | 8·8896 | ·112490 | 64 |
| 65 | 3·8221073 | 4·7572593 | 3·5928538 | 0·9351520 | 8·6130 | ·116104 | 65 |
| 66 | 3·7826816 | 4·7036601 | 3·5630145 | 0·9209785 | 8·3364 | ·119956 | 66 |
| 67 | 3·7417890 | 4·6481648 | 3·5314763 | 0·9063758 | 8·0608 | ·124058 | 67 |
| 68 | 3·6992834 | 4·5906401 | 3·4980706 | 0·8913567 | 7·7868 | ·128423 | 68 |
| 69 | 3·6550074 | 4·5309459 | 3·4626301 | 0·8759385 | 7·5152 | ·133064 | 69 |
| 70 | 3·6087930 | 4·4689334 | 3·4249763 | 0·8601404 | 7·2467 | ·137994 | 70 |
| 71 | 3·5604610 | 4·4044437 | 3·3849212 | 0·8439827 | 6·9820 | ·143224 | 71 |
| 72 | 3·5098214 | 4·3373115 | 3·3422687 | 0·8274901 | 6·7219 | ·148768 | 72 |
| 73 | 3·4566731 | 4·2673595 | 3·2968121 | 0·8106864 | 6·4668 | ·154637 | 73 |
| 74 | 3·4008043 | 4·1944033 | 3·2483412 | 0·7935990 | 6·2173 | ·160843 | 74 |
| 75 | 3·3419920 | 4·1182482 | 3·1966183 | 0·7762562 | 5·9739 | ·167396 | 75 |
| 76 | 3·2800024 | 4·0386877 | 3·1414215 | 0·7586853 | 5·7370 | ·174307 | 76 |
| 77 | 3·2145909 | 3·9555050 | 3·0825125 | 0·7409141 | 5·5070 | ·181588 | 77 |
| 78 | 3·1455016 | 3·8684799 | 3·0196189 | 0·7229783 | 5·2842 | ·189244 | 78 |
| 79 | 3·0724681 | 3·7773688 | 2·9525067 | 0·7049007 | 5·0687 | ·197287 | 79 |
| 80 | 2·9952126 | 3·6819292 | 2·8808764 | 0·6867166 | 4·8609 | ·205723 | 80 |
| 81 | 2·9134467 | 3·5819008 | 2·8044598 | 0·6684541 | 4·6607 | ·214559 | 81 |
| 82 | 2·8268709 | 3·4770141 | 2·7229710 | 0·6501432 | 4·4683 | ·223798 | 82 |
| 83 | 2·7351749 | 3·3669886 | 2·6361066 | 0·6318137 | 4·2836 | ·233446 | 83 |
| 84 | 2·6380373 | 3·2515312 | 2·5435342 | 0·6134939 | 4·1067 | ·243504 | 84 |
| 85 | 2·5351258 | 3·1303370 | 2·4449655 | 0·5952112 | 3·9374 | ·253974 | 85 |
| 86 | 2·4260972 | 3·0030898 | 2·3400275 | 0·5769926 | 3·7757 | ·264854 | 86 |
| 87 | 2·3105974 | 2·8694605 | 2·2284004 | 0·5588631 | 3·6213 | ·276145 | 87 |
| 88 | 2·1882613 | 2·7291162 | 2·1097472 | 0·5408549 | 3·4742 | ·287836 | 88 |
| 89 | 2·0587129 | 2·5816994 | 1·9836714 | 0·5229865 | 3·3342 | ·299926 | 89 |
| 90 | 1·9215651 | 2·4268430 | 1·8497878 | 0·5052779 | 3·2009 | ·312408 | 90 |
| 91 | 1·7764201 | 2·2641730 | 1·7077405 | 0·4877529 | 3·0743 | ·325272 | 91 |
| 92 | 1·6228690 | 2·0933027 | 1·5571461 | 0·4704337 | 2·9542 | ·338506 | 92 |
| 93 | 1·4604921 | 1·9138297 | 1·3974185 | 0·4533376 | 2·8401 | ·352097 | 93 |
| 94 | 1·2888585 | 1·7253398 | 1·2284004 | 0·4364813 | 2·7320 | ·366032 | 94 |
| 95 | 1·1075267 | 1·5274108 | 1·0496056 | 0·4198841 | 2·6296 | ·380291 | 95 |
| 96 | 0·9160440 | 1·3196015 | 0·8603380 | 0·4035575 | 2·5325 | ·394859 | 96 |
| 97 | 0·7139468 | 1·1014583 | 0·6599162 | 0·3875115 | 2·4407 | ·409721 | 97 |
| 98 | 0·5007608 | 0·8725175 | 0·4487063 | 0·3717567 | 2·3537 | ·424858 | 98 |
| 99 | 0·2760003 | 0·6322953 | 0·2253093 | 0·3562950 | 2·2714 | ·440256 | 99 |
| 100 | 0·0391692 | 0·3802836 | $\bar{1}$·9912261 | 0·3411144 | 2·1934 | ·455917 | 100 |
| 101 | $\bar{1}$·7897600 | 0·1159432 | $\bar{1}$·7403627 | 0·3261832 | 2·1193 | ·471864 | 101 |
| 102 | $\bar{1}$·5272545 | $\bar{1}$·8386602 | $\bar{1}$·4771213 | 0·3114057 | 2·0484 | ·488196 | 102 |
| 103 | $\bar{1}$·2511235 | $\bar{1}$·5477747 | $\bar{1}$·2041200 | 0·2966512 | 1·9799 | ·505067 | 103 |
| 104 | $\bar{2}$·9608269 | $\bar{1}$·2422929 | $\bar{2}$·9030900 | 0·2814660 | 1·9119 | ·523039 | 104 |
| 105 | $\bar{2}$·6558137 | $\bar{2}$·9206450 | $\bar{2}$·6020600 | 0·2648313 | 1·8401 | ·543461 | 105 |
| 106 | $\bar{2}$·3355218 | $\bar{2}$·5797836 | $\bar{2}$·3010300 | 0·2442618 | 1·7549 | ·569821 | 106 |
| 107 | $\bar{3}$·9993782 | $\bar{2}$·2121876 | $\bar{2}$·0000000 | 0·2128094 | 1·6323 | ·612619 | 107 |
| 108 | $\bar{3}$·6467991 | $\bar{3}$·7993405 | ... | 0·1525414 | 1·4208 | ·703815 | 108 |
| 109 | $\bar{3}$·2771897 | $\bar{3}$·2787536 | ... | 0·0015639 | 1·0036 | ·996405 | 109 |

## YEARLY TABLE:—FEMALES. Interest 5 per Cent.

**A Table** deduced from the **English Life Table, No. 3.**, for determining the **Value of Annuities, Assurances, &c.** on the whole of a stationary Population—or on the Part of the Population of the Age $x$ and upwards.

| Age ($x$) | $\frac{1}{100} \cdot v^x . Q_x = Q'_x$ | $\Sigma Q'_x = Z_x$ | $\frac{Z_{x+1}}{Q'_x} = A'_x$ | $\lambda\left(\frac{1}{100} Q_x\right) + \lambda v^x = \lambda Q'_x$ | $\lambda Z_x$ | $\lambda Z_{x+1} - \lambda Q'_x = \lambda A'_x$ | Age ($x$) |
|---|---|---|---|---|---|---|---|
| 0 | 204,321 | 2,927,260 | 13·327 | 5·3103120 | 6·4664613 | 1·1247259 | 0 |
| 1 | 190,344 | 2,722,939 | 13·305 | 5·2795386 | 6·4350379 | 1·1240272 | 1 |
| 2 | 177,593 | 2,532,595 | 13·261 | 5·2494265 | 6·4035658 | 1·1225648 | 2 |
| 3 | 165,775 | 2,355,002 | 13·206 | 5·2195181 | 6·3719913 | 1·1207727 | 3 |
| 4 | 154,777 | 2,189,227 | 13·144 | 5·1897057 | 6·3402908 | 1·1187413 | 4 |
| 5 | 144,511 | 2,034,450 | 13·078 | 5·1599021 | 6·3084470 | 1·1165457 | 5 |
| 6 | 134,915 | 1,889,939 | 13·008 | 5·1300592 | 6·2764478 | 1·1142239 | 6 |
| 7 | 125,935 | 1,755,024 | 12·936 | 5·1001452 | 6·2442831 | 1·1117996 | 7 |
| 8 | 117,528 | 1,629,089 | 12·861 | 5·0701402 | 6·2119448 | 1·1092855 | 8 |
| 9 | 109,655 | 1,511,561 | 12·785 | 5·0400282 | 6·1794257 | 1·1066907 | 9 |
| 10 | 102,281 | 1,401,906 | 12·706 | 5·0097945 | 6·1467189 | 1·1040236 | 10 |
| 11 | 95,376 | 1,299,625 | 12·626 | 4·9794382 | 6·1138181 | 1·1012781 | 11 |
| 12 | 88,902 | 1,204,249 | 12·546 | 4·9489128 | 6·0807163 | 1·0984972 | 12 |
| 13 | 82,841 | 1,115,347 | 12·464 | 4·9182445 | 6·0474100 | 1·0956481 | 13 |
| 14 | 77,164 | 1,032,506 | 12·381 | 4·8874149 | 6·0138926 | 1·0927440 | 14 |
| 15 | 71,848 | 955,342 | 12·297 | 4·8564172 | 5·9801589 | 1·0897864 | 15 |
| 16 | 66,873 | 883,494 | 12·212 | 4·8252476 | 5·9462036 | 1·0867729 | 16 |
| 17 | 62,216 | 816,621 | 12·126 | 4·7939026 | 5·9120205 | 1·0837020 | 17 |
| 18 | 57,860 | 754,405 | 12·038 | 4·7623803 | 5·8776046 | 1·0805689 | 18 |
| 19 | 53,787 | 696,545 | 11·950 | 4·7306797 | 5·8429492 | 1·0773678 | 19 |
| 20 | 49,980 | 642,758 | 11·860 | 4·6988004 | 5·8080475 | 1·0740916 | 20 |
| 21 | 46,424 | 592,778 | 11·769 | 4·6667432 | 5·7728920 | 1·0707309 | 21 |
| 22 | 43,103 | 546,354 | 11·676 | 4·6345050 | 5·7374741 | 1·0672797 | 22 |
| 23 | 40,002 | 503,251 | 11·581 | 4·6020804 | 5·7017847 | 1·0637341 | 23 |
| 24 | 37,108 | 463,249 | 11·484 | 4·5694639 | 5·6658145 | 1·0600894 | 24 |
| 25 | 34,407 | 426,141 | 11·385 | 4·5366494 | 5·6295533 | 1·0563418 | 25 |
| 26 | 31,888 | 391,734 | 11·285 | 4·5036300 | 5·5929912 | 1·0524867 | 26 |
| 27 | 29,539 | 359,846 | 11·182 | 4·4703991 | 5·5561167 | 1·0485187 | 27 |
| 28 | 27,350 | 330,307 | 11·077 | 4·4369495 | 5·5189178 | 1·0444315 | 28 |
| 29 | 25,309 | 302,957 | 10·970 | 4·4032726 | 5·4813810 | 1·0402220 | 29 |
| 30 | 23,408 | 277,648 | 10·861 | 4·3693602 | 5·4434946 | 1·0358837 | 30 |
| 31 | 21,637 | 254,240 | 10·750 | 4·3352034 | 5·4052439 | 1·0314119 | 31 |
| 32 | 19,989 | 232,603 | 10·637 | 4·3007920 | 5·3666153 | 1·0267999 | 32 |
| 33 | 18,455 | 212,614 | 10·521 | 4·2661159 | 5·3275919 | 1·0220417 | 33 |
| 34 | 17,028 | 194,159 | 10·402 | 4·2311639 | 5·2881576 | 1·0171307 | 34 |
| 35 | 15,701 | 177,131 | 10·282 | 4·1959242 | 5·2482946 | 1·0120600 | 35 |
| 36 | 14,467 | 161,430 | 10·158 | 4·1603840 | 5·2079842 | 1·0068240 | 36 |
| 37 | 13,321 | 146,963 | 10·033 | 4·1245298 | 5·1672080 | 1·0014132 | 37 |
| 38 | 12,256 | 133,642 | 9·904 | 4·0883469 | 5·1259430 | 0·9958217 | 38 |
| 39 | 11,267 | 121,386 | 9·773 | 4·0518198 | 5·0841686 | 0·9900426 | 39 |
| 40 | 10,350 | 110,119 | 9·640 | 4·0149316 | 5·0418624 | 0·9840640 | 40 |
| 41 | 9,499 | 99,769 | 9·503 | 3·9776642 | 4·9989956 | 0·9778792 | 41 |
| 42 | 8,710 | 90,270 | 9·364 | 3·9399981 | 4·9555434 | 0·9714791 | 42 |
| 43 | 7,978 | 81,560 | 9·223 | 3·9019124 | 4·9114772 | 0·9648592 | 43 |
| 44 | 7,301 | 73,582 | 9·078 | 3·8633841 | 4·8667716 | 0·9580050 | 44 |
| 45 | 6,674 | 66,281 | 8·931 | 3·8243888 | 4·8213891 | 0·9509085 | 45 |
| 46 | 6,094 | 59,607 | 8·781 | 3·7848994 | 4·7752973 | 0·9435599 | 46 |
| 47 | 5,558 | 53,513 | 8·629 | 3·7448867 | 4·7284593 | 0·9359472 | 47 |
| 48 | 5,062 | 47,955 | 8·474 | 3·7043189 | 4·6808339 | 0·9280675 | 48 |
| 49 | 4,604 | 42,893 | 8·316 | 3·6631608 | 4·6323864 | 0·9199132 | 49 |
| 50 | 4,182 | 38,289 | 8·156 | 3·6213740 | 4·5830740 | 0·9114695 | 50 |
| 51 | 3,792 | 34,107 | 7·994 | 3·5789158 | 4·5328435 | 0·9027418 | 51 |
| 52 | 3,434 | 30,315 | 7·829 | 3·5357391 | 4·4816576 | 0·8937063 | 52 |
| 53 | 3,103 | 26,881 | 7·663 | 3·4917915 | 4·4294454 | 0·8843838 | 53 |
| 54 | 2,799 | 23,778 | 7·495 | 3·4470142 | 4·3761753 | 0·8747706 | 54 |

## YEARLY TABLE:—FEMALES. Interest 5 per Cent.

**A Table** deduced from the **English Life Table, No. 3.,** for determining the **Value of Annuities, Assurances &c.** on the whole of a stationary Population—or on the Part of the Population of the Age $x$ and upwards.

| **Age** ($x$) | $\frac{1}{100} \cdot v^x . Q_x = Q'_x$ | $\Sigma Q'_x = Z_x$ | $\frac{Z_{x+1}}{Q'_x} = A'_x$ | $\lambda\left(\frac{1}{100} Q_x\right) + \lambda v^x = \lambda Q'_x$ | $\lambda Z_x$ | $\lambda Z_{x+1} - \lambda Q'_x = \lambda A'_x$ | **Age** ($x$) |
|---|---|---|---|---|---|---|---|
| 55 | 2,520 | 20,979 | 7·326 | 3·4013583 | 4·3217848 | 0·8648499 | 55 |
| 56 | 2,264 | 18,459 | 7·155 | 3·3547838 | 4·2662082 | 0·8545972 | 56 |
| 57 | 2,029 | 16,195 | 6·983 | 3·3072347 | 4·2093810 | 0·8440125 | 57 |
| 58 | 1,814 | 14,166 | 6·809 | 3·2586496 | 4·1512472 | 0·8330877 | 58 |
| 59 | 1,618 | 12,352 | 6·634 | 3·2089612 | 4·0917373 | 0·8218004 | 59 |
| 60 | 1,439 | 10,734 | 6·459 | 3·1580961 | 4·0307616 | 0·8101533 | 60 |
| 61 | 1,276 | 9,295 | 6·283 | 3·1059753 | 3·9682494 | 0·7981449 | 61 |
| 62 | 1,129 | 8,019 | 6·105 | 3·0525127 | 3·9041202 | 0·7857065 | 62 |
| 63 | 995 | 6,890 | 5·927 | 2·9976158 | 3·8382192 | 0·7728680 | 63 |
| 64 | 873 | 5,895 | 5·750 | 2·9411850 | 3·7704838 | 0·7596917 | 64 |
| 65 | 764 | 5,022 | 5·573 | 2·8831136 | 3·7008767 | 0·7460921 | 65 |
| 66 | 666 | 4,258 | 5·396 | 2·8232866 | 3·6292057 | 0·7320497 | 66 |
| 67 | 578 | 3,592 | 5·219 | 2·7615819 | 3·5553363 | 0·7175613 | 67 |
| 68 | 499 | 3,014 | 5·043 | 2·6978686 | 3·4791432 | 0·7026694 | 68 |
| 69 | 429 | 2,515 | 4·868 | 2·6320076 | 3·4005380 | 0·6873067 | 69 |
| 70 | 366 | 2,086 | 4·695 | 2·5638507 | 3·3193143 | 0·6716777 | 70 |
| 71 | 311 | 1,720 | 4·526 | 2·4932406 | 3·2355284 | 0·6556704 | 71 |
| 72 | 263 | 1,409 | 4·357 | 2·4200109 | 3·1489110 | 0·6391737 | 72 |
| 73 | 221 | 1,146 | 4·189 | 2·3439849 | 3·0591846 | 0·6221568 | 73 |
| 74 | 184 | 925 | 4·026 | 2·2649758 | 2·9661417 | 0·6048424 | 74 |
| 75 | 152 | 741 | 3·867 | 2·1827867 | 2·8698182 | 0·5873286 | 75 |
| 76 | 125 | 589 | 3·709 | 2·0972107 | 2·7701153 | 0·5693073 | 76 |
| 77 | 102 | 464 | 3·554 | 2·0080290 | 2·6665180 | 0·5506796 | 77 |
| 78 | 82 | 362 | 3·405 | 1·9150125 | 2·5587086 | 0·5321455 | 78 |
| 79 | 66 | 280 | 3·255 | 1·8179195 | 2·4471580 | 0·5124943 | 79 |
| 80 | 52 | 214 | 3·112 | 1·7164994 | 2·3304138 | 0·4930156 | 80 |
| 81 | 41 | 162 | 2·967 | 1·6104879 | 2·2095150 | 0·4722975 | 81 |
| 82 | 32 | 121 | 2·817 | 1·4996089 | 2·0827854 | 0·4497811 | 82 |
| 83 | 24 | 89 | 2·687 | 1·3835744 | 1·9493900 | 0·4293390 | 83 |
| 84 | 18 | 65 | 2·570 | 1·2620874 | 1·8129134 | 0·4100105 | 84 |
| 85 | 14 | 47 | 2·419 | 1·1348348 | 1·6720979 | 0·3836791 | 85 |
| 86 | 10 | 33 | 2·292 | 1·0014944 | 1·5185139 | 0·3602334 | 86 |
| 87 | 7 | 23 | 2·200 | 0·8617274 | 1·3617278 | 0·3423926 | 87 |
| 88 | 5 | 16 | 2·119 | 0·7151824 | 1·2041200 | 0·3262103 | 88 |
| 89 | 4 | 11 | 1·921 | 0·5615120 | 1·0413927 | 0·2835860 | 89 |
| 90 | 3 | 7 | 1·591 | 0·4003308 | 0·8450980 | 0·2017292 | 90 |
| 91 | 2 | 4 | 1·174 | 0·2312508 | 0·6020600 | 0·0697792 | 91 |
| 92 | 1 | 2 | ·883 | 0·0538727 | 0·3010300 | $\bar{1}$·9461273 | 92 |
| 93 | 1 | 1 | ... | $\bar{1}$·8678035 | 0·0000000 | ... | 93 |
| 94 | ... | ... | ... | $\bar{1}$·6726598 | ... | ... | 94 |
| 95 | ... | ... | ... | $\bar{1}$·4678855 | ... | ... | 95 |
| 96 | ... | ... | ... | $\bar{1}$·2531811 | ... | ... | 96 |
| 97 | ... | ... | ... | $\bar{1}$·0281406 | ... | ... | 97 |
| 98 | ... | ... | ... | $\bar{2}$·7920931 | ... | ... | 98 |
| 99 | ... | ... | ... | $\bar{2}$·5447239 | ... | ... | 99 |
| 100 | ... | ... | ... | $\bar{2}$·2859038 | ... | ... | 100 |

**Note.**—The first and second columns in this Table correspond in the nature of their construction and relations with the columns D and N in the previous Tables for calculating Life Annuities. The numbers in the first column are obtained by multiplying the numbers in the column Q of the Life Table by the successive powers of $v = \frac{1}{1·05}$ (when the interest of money is 5 per cent.), and dividing by 100. The division by 100 is equivalent to cutting off 2 figures, which is done merely for the sake of convenience, as the Table in its present form is sufficiently extensive for all the purposes to which it can be applied. The $v$ varies with the interest of money.

## YEARLY TABLE:—FEMALES. Interest 6 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 488,255 | 6,039,161 | 6·7809766 | 55 | 8,583·1 | 89,889·4 | 4·9537085 |
| 1 | 398,567 | 5,550,906 | 6·7443639 | 56 | 7,927·4 | 81,306·3 | 4·9101242 |
| 2 | 352,725 | 5,152,339 | 6·7120045 | 57 | 7,311·6 | 73,378·9 | 4·8655712 |
| 3 | 320,986 | 4,799,614 | 6·6812063 | 58 | 6,733·6 | 66,067·3 | 4·8199866 |
| 4 | 295,495 | 4,478,628 | 6·6511450 | 59 | 6,191·5 | 59,333·7 | 4·7733014 |
| 5 | 273,840 | 4,183,133 | 6·6215016 | 60 | 5,683·2 | 53,142·2 | 4·7254395 |
| 6 | 254,910 | 3,909,293 | 6·5920982 | 61 | 5,206·9 | 47,459·0 | 4·6763186 |
| 7 | 237,943 | 3,654,383 | 6·5628141 | 62 | 4,760·5 | 42,252·1 | 4·6258483 |
| 8 | 222,437 | 3,416,440 | 6·5335738 | 63 | 4,342·6 | 37,491·6 | 4·5739340 |
| 9 | 208,233 | 3,194,003 | 6·5043353 | 64 | 3,951·3 | 33,149·0 | 4·5204704 |
| 10 | 195,146 | 2,985,770 | 6·4750564 | 65 | 3,585·3 | 29,197·7 | 4·4653486 |
| 11 | 183,023 | 2,790,624 | 6·4457013 | 66 | 3,243·3 | 25,612·4 | 4·4084503 |
| 12 | 171,739 | 2,607,601 | 6·4162412 | 67 | 2,924·0 | 22,369·1 | 4·3496485 |
| 13 | 161,190 | 2,435,862 | 6·3866527 | 68 | 2,626·4 | 19,445·1 | 4·2888101 |
| 14 | 151,294 | 2,274,672 | 6·3569188 | 69 | 2,349·4 | 16,818·7 | 4·2257924 |
| 15 | 141,984 | 2,123,378 | 6·3270273 | 70 | 2,092·3 | 14,469·3 | 4·1604475 |
| 16 | 133,204 | 1,981,394 | 6·2969709 | 71 | 1,854·3 | 12,377·0 | 4·0926154 |
| 17 | 124,910 | 1,848,190 | 6·2667467 | 72 | 1,634·7 | 10,522·7 | 4·0221272 |
| 18 | 117,068 | 1,723,280 | 6·2363559 | 73 | 1,432·7 | 8,888·0 | 3·9488040 |
| 19 | 109,648 | 1,606,212 | 6·2058028 | 74 | 1,247·9 | 7,455·3 | 3·8724651 |
| 20 | 102,628 | 1,496,564 | 6·1750953 | 75 | 1,079·6 | 6,207·4 | 3·7929097 |
| 21 | 95,990 | 1,393,936 | 6·1442429 | 76 | 927·14 | 5,127·75 | 3·7099269 |
| 22 | 89,761 | 1,297,946 | 6·1132566 | 77 | 789·98 | 4,200·61 | 3·6233123 |
| 23 | 83,918 | 1,208,185 | 6·0821334 | 78 | 667·44 | 3,410·63 | 3·5328346 |
| 24 | 78,438 | 1,124,267 | 6·0508695 | 79 | 558·80 | 2,743·19 | 3·4382559 |
| 25 | 73,302 | 1,045,829 | 6·0194607 | 80 | 463·33 | 2,184·39 | 3·3393302 |
| 26 | 68,488 | 972,527 | 5·9879017 | 81 | 380·19 | 1,721·06 | 3·2357960 |
| 27 | 63,978 | 904,039 | 5·9561871 | 82 | 308·54 | 1,340·87 | 3·1273867 |
| 28 | 59,753 | 840,061 | 5·9243108 | 83 | 247·46 | 1,032·33 | 3·0138185 |
| 29 | 55,797 | 780,308 | 5·8922661 | 84 | 196·00 | 784·87 | 2·8947977 |
| 30 | 52,092 | 724,511 | 5·8600450 | 85 | 153·19 | 588·87 | 2·7700194 |
| 31 | 48,624 | 672,419 | 5·8276400 | 86 | 118·05 | 435·68 | 2·6391676 |
| 32 | 45,378 | 623,795 | 5·7950419 | 87 | 89·631 | 317·633 | 2·5019256 |
| 33 | 42,340 | 578,417 | 5·7622411 | 88 | 66·989 | 228·002 | 2·3579386 |
| 34 | 39,498 | 536,077 | 5·7292272 | 89 | 49·242 | 161·013 | 2·2068610 |
| 35 | 36,838 | 496,579 | 5·6959883 | 90 | 35·569 | 111·771 | 2·0483292 |
| 36 | 34,351 | 459,741 | 5·6625132 | 91 | 25·224 | 76·202 | 1·8819664 |
| 37 | 32,024 | 425,390 | 5·6287873 | 92 | 17·545 | 50·978 | 1·7073828 |
| 38 | 29,848 | 393,366 | 5·5947968 | 93 | 11·958 | 33·433 | 1·5241753 |
| 39 | 27,813 | 363,518 | 5·5605259 | 94 | 7·9781 | 21·4754 | 1·3319413 |
| 40 | 25,911 | 335,705 | 5·5259578 | 95 | 5·2054 | 13·4973 | 1·1302469 |
| 41 | 24,132 | 309,794 | 5·4910730 | 96 | 3·3178 | 8·2919 | 0·9186541 |
| 42 | 22,469 | 285,662 | 5·4558524 | 97 | 2·0637 | 4·9741 | 0·6967145 |
| 43 | 20,915 | 263,193 | 5·4202744 | 98 | 1·2512 | 2·9104 | 0·4639527 |
| 44 | 19,462 | 242,278 | 5·3843140 | 99 | ·7387 | 1·6592 | 0·2198987 |
| 45 | 18,105 | 222,816 | 5·3479464 | 100 | ·4241 | ·9205 | $\bar{1}$·9640238 |
| 46 | 16,836 | 204,711 | 5·3111412 | 101 | ·2366 | ·4964 | $\bar{1}$·6958318 |
| 47 | 15,651 | 187,875 | 5·2738690 | 102 | ·1280 | ·2598 | $\bar{1}$·4146391 |
| 48 | 14,544 | 172,224 | 5·2360937 | 103 | ·0672 | ·1318 | $\bar{1}$·1199154 |
| 49 | 13,510 | 157,680 | 5·1977766 | 104 | ·0341 | ·0646 | $\bar{2}$·8102325 |
| 50 | 12,544 | 144,170 | 5·1588749 | 105 | ·0167 | ·0305 | $\bar{2}$·4842998 |
| 51 | 11,642 | 131,626 | 5·1193417 | 106 | ·0079 | ·0138 | $\bar{2}$·1398791 |
| 52 | 10,800 | 119,984 | 5·0791234 | 107 | ·0036 | ·0059 | $\bar{3}$·7708520 |
| 53 | 10,014 | 109,184 | 5·0381591 | 108 | ·0016 | ·0023 | $\bar{3}$·3617278 |
| 54 | 9,280·6 | 99,170·0 | 4·9963803 | 109 | ·0007 | ·0007 | $\bar{4}$·8450980 |

## YEARLY TABLE:—FEMALES. Interest 7 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 488,255 | 5,365,042 | 6·7295731 | 55 | 5,121·0 | 49,992·2 | 4·6989022 |
| 1 | 394,842 | 4,876,787 | 6·6881337 | 56 | 4,685·6 | 44,871·2 | 4·6519676 |
| 2 | 346,163 | 4,481,945 | 6·6514666 | 57 | 4,281·2 | 40,185·6 | 4·6040705 |
| 3 | 312,070 | 4,135,782 | 6·6165576 | 58 | 3,906·0 | 35,904·4 | 4·5551476 |
| 4 | 284,603 | 3,823,712 | 6·5824851 | 59 | 3,557·9 | 31,998·4 | 4·5051282 |
| 5 | 261,281 | 3,539,109 | 6·5488939 | 60 | 3,235·3 | 28,440·5 | 4·4539373 |
| 6 | 240,946 | 3,277,828 | 6·5155862 | 61 | 2,936·4 | 25,205·2 | 4·4014901 |
| 7 | 222,807 | 3,036,882 | 6·4824279 | 62 | 2,659·7 | 22,268·8 | 4·3476968 |
| 8 | 206,340 | 2,814,075 | 6·4493357 | 63 | 2,403·5 | 19,609·1 | 4·2924576 |
| 9 | 191,359 | 2,607,735 | 6·4162634 | 64 | 2,166·5 | 17,205·6 | 4·2356698 |
| 10 | 177,657 | 2,416,376 | 6·3831645 | 65 | 1,947·4 | 15,039·1 | 4·1772219 |
| 11 | 165,063 | 2,238,719 | 6·3499996 | 66 | 1,745·2 | 13,091·7 | 4·1169960 |
| 12 | 153,438 | 2,073,656 | 6·3167368 | 67 | 1,558·7 | 11,346·5 | 4·0548620 |
| 13 | 142,668 | 1,920,218 | 6·2833506 | 68 | 1,386·9 | 9,787·8 | 3·9906851 |
| 14 | 132,658 | 1,777,550 | 6·2498218 | 69 | 1,229·1 | 8,400·9 | 3·9243258 |
| 15 | 123,331 | 1,644,892 | 6·2161374 | 70 | 1,084·4 | 7,171·8 | 3·8556282 |
| 16 | 114,623 | 1,521,561 | 6·1822894 | 71 | 952·04 | 6,087·40 | 3·7844318 |
| 17 | 106,482 | 1,406,938 | 6·1482750 | 72 | 831·42 | 5,135·36 | 3·7105709 |
| 18 | 98,863 | 1,300,456 | 6·1140957 | 73 | 721·90 | 4,303·94 | 3·6338662 |
| 19 | 91,732 | 1,201,593 | 6·0797574 | 74 | 622·89 | 3,582·04 | 3·5541304 |
| 20 | 85,057 | 1,109,861 | 6·0452687 | 75 | 533·83 | 2,959·15 | 3·4711670 |
| 21 | 78,811 | 1,024,804 | 6·0106408 | 76 | 454·17 | 2,425·32 | 3·3847691 |
| 22 | 73,008 | 945,993 | 5·9758879 | 77 | 383·37 | 1,971·15 | 3·2947197 |
| 23 | 67,618 | 872,985 | 5·9410068 | 78 | 320·87 | 1,587·78 | 3·2007903 |
| 24 | 62,612 | 805,367 | 5·9059938 | 79 | 266·14 | 1,266·91 | 3·1027457 |
| 25 | 57,965 | 742,755 | 5·8708456 | 80 | 218·60 | 1,000·77 | 3·0003342 |
| 26 | 53,653 | 684,790 | 5·8355574 | 81 | 177·70 | 782·17 | 2·8933012 |
| 27 | 49,651 | 631,137 | 5·8001236 | 82 | 142·86 | 604·47 | 2·7813748 |
| 28 | 45,939 | 581,486 | 5·7645393 | 83 | 113·51 | 461·61 | 2·6642752 |
| 29 | 42,496 | 535,547 | 5·7287976 | 84 | 89·064 | 348·095 | 2·5416978 |
| 30 | 39,304 | 493,051 | 5·6928919 | 85 | 68·960 | 259·031 | 2·4133518 |
| 31 | 36,344 | 453,747 | 5·6568138 | 86 | 52·647 | 190·071 | 2·2789159 |
| 32 | 33,601 | 417,403 | 5·6205555 | 87 | 39·598 | 137·424 | 2·1380625 |
| 33 | 31,058 | 383,802 | 5·5841073 | 88 | 29·319 | 97·826 | 1·9904543 |
| 34 | 28,703 | 352,744 | 5·5474596 | 89 | 21·350 | 68·507 | 1·8357349 |
| 35 | 26,520 | 324,041 | 5·5105999 | 90 | 15·278 | 47·157 | 1·6735462 |
| 36 | 24,498 | 297,521 | 5·4735177 | 91 | 10·733 | 31·879 | 1·5035047 |
| 37 | 22,625 | 273,023 | 5·4361993 | 92 | 7·3957 | 21·1462 | 1·3252323 |
| 38 | 20,891 | 250,398 | 5·3986308 | 93 | 4·9935 | 13·7505 | 1·1383185 |
| 39 | 19,285 | 229,507 | 5·3607959 | 94 | 3·3005 | 8·7570 | 0·9423553 |
| 40 | 17,798 | 210,222 | 5·3226781 | 95 | 2·1333 | 5·4565 | 0·7369142 |
| 41 | 16,421 | 192,424 | 5·2842592 | 96 | 1·3470 | 3·3232 | 0·5215565 |
| 42 | 15,147 | 176,003 | 5·2455201 | 97 | ·8300 | 1·9762 | 0·2958309 |
| 43 | 13,967 | 160,856 | 5·2064373 | 98 | ·4985 | 1·1462 | 0·0592604 |
| 44 | 12,876 | 146,889 | 5·1669893 | 99 | ·2916 | ·6477 | $\bar{1}$·8113739 |
| 45 | 11,866 | 134,013 | 5·1271469 | 100 | ·1659 | ·3561 | $\bar{1}$·5515720 |
| 46 | 10,931 | 122,147 | 5·0868829 | 101 | ·0916 | ·1902 | $\bar{1}$·2792105 |
| 47 | 10,067 | 111,216 | 5·0461673 | 102 | ·0491 | ·0986 | $\bar{2}$·9938769 |
| 48 | 9,267·2 | 101,149·1 | 5·0049621 | 103 | ·0255 | ·0495 | $\bar{2}$·6946052 |
| 49 | 8,527·8 | 91,881·9 | 4·9632299 | 104 | ·0128 | ·0240 | $\bar{2}$·3802112 |
| 50 | 7,844·1 | 83,354·1 | 4·9209269 | 105 | ·0062 | ·0112 | $\bar{2}$·0492180 |
| 51 | 7,212·1 | 75,510·0 | 4·8780045 | 106 | ·0029 | ·0050 | $\bar{3}$·6989700 |
| 52 | 6,628·0 | 68,297·9 | 4·8344074 | 107 | ·0013 | ·0021 | $\bar{3}$·3222193 |
| 53 | 6,088·2 | 61,669·9 | 4·7900732 | 108 | ·0006 | ·0008 | $\bar{4}$·9030900 |
| 54 | 5,589·5 | 55,581·7 | 4·7449319 | 109 | ·0002 | ·0002 | $\bar{4}$·3010300 |

### YEARLY TABLE:—FEMALES. Interest 8 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | λ $N_x$ | Age ($x$) | $D_x$ | $N_x$ | λ $N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 488,255 | 4,832,628 | 6·6841833 | 55 | 3,070·2 | 28,059·3 | 4·4480769 |
| 1 | 391,186 | 4,344,373 | 6·6379271 | 56 | 2,783·1 | 24,989·1 | 4·3977506 |
| 2 | 339,782 | 3,953,187 | 6·5969474 | 57 | 2,519·4 | 22,206·0 | 4·3464703 |
| 3 | 303,481 | 3,613,405 | 6·5579166 | 58 | 2,277·3 | 19,686·6 | 4·2941707 |
| 4 | 274,207 | 3,309,924 | 6·5198180 | 59 | 2,055·1 | 17,409·3 | 4·2407813 |
| 5 | 249,407 | 3,035,717 | 6·4822613 | 60 | 1,851·5 | 15,354·2 | 4·1862272 |
| 6 | 227,866 | 2,786,310 | 6·4450295 | 61 | 1,664·9 | 13,502·7 | 4·1304206 |
| 7 | 208,760 | 2,558,444 | 6·4079759 | 62 | 1,494·0 | 11,837·8 | 4·0732710 |
| 8 | 191,542 | 2,349,684 | 6·3710094 | 63 | 1,337·6 | 10,343·8 | 4·0146802 |
| 9 | 175,991 | 2,158,142 | 6·3340800 | 64 | 1,194·5 | 9,006·2 | 3·9545416 |
| 10 | 161,876 | 1,982,151 | 6·2971368 | 65 | 1,063·8 | 7,811·7 | 3·8927456 |
| 11 | 149,008 | 1,820,275 | 6·2601370 | 66 | 944·51 | 6,747·90 | 3·8291686 |
| 12 | 137,231 | 1,671,267 | 6·2230458 | 67 | 835·76 | 5,803·39 | 3·7636818 |
| 13 | 126,417 | 1,534,036 | 6·1858356 | 68 | 736·78 | 4,967·63 | 3·6961492 |
| 14 | 116,459 | 1,407,619 | 6·1484852 | 69 | 646·89 | 4,230·85 | 3·6264277 |
| 15 | 107,268 | 1,291,160 | 6·1109801 | 70 | 565·43 | 3,583·96 | 3·5543632 |
| 16 | 98,771 | 1,183,892 | 6·0733120 | 71 | 491·83 | 3,018·53 | 3·4797955 |
| 17 | 90,906 | 1,085,121 | 6·0354782 | 72 | 425·54 | 2,526·70 | 3·4025537 |
| 18 | 83,621 | 994,215 | 5·9974803 | 73 | 366·06 | 2,101·16 | 3·3224591 |
| 19 | 76,871 | 910,594 | 5·9593248 | 74 | 312·94 | 1,735·10 | 3·2393245 |
| 20 | 70,617 | 833,723 | 5·9210218 | 75 | 265·71 | 1,422·16 | 3·1529485 |
| 21 | 64,826 | 763,106 | 5·8825849 | 76 | 223·97 | 1,156·45 | 3·0631269 |
| 22 | 59,497 | 698,280 | 5·8440296 | 77 | 187·30 | 932·48 | 2·9696395 |
| 23 | 54,594 | 638,783 | 5·8053533 | 78 | 155·32 | 745·18 | 2·8722612 |
| 24 | 50,084 | 584,189 | 5·7665534 | 79 | 127·63 | 589·86 | 2·7707489 |
| 25 | 45,938 | 534,105 | 5·7276267 | 80 | 103·86 | 462·23 | 2·6648581 |
| 26 | 42,126 | 488,167 | 5·6885684 | 81 | 83·648 | 358·374 | 2·5543365 |
| 27 | 38,623 | 446,041 | 5·6493748 | 82 | 66·626 | 274·726 | 2·4388998 |
| 28 | 35,405 | 407,418 | 5·6100402 | 83 | 52·446 | 208·100 | 2·3182721 |
| 29 | 32,448 | 372,013 | 5·5705581 | 84 | 40·770 | 155·654 | 2·1921603 |
| 30 | 29,733 | 339,565 | 5·5309229 | 85 | 31·275 | 114·884 | 2·0602596 |
| 31 | 27,239 | 309,832 | 5·4911263 | 86 | 23·656 | 83·609 | 1·9222530 |
| 32 | 24,950 | 282,593 | 5·4511614 | 87 | 17·628 | 59·953 | 1·7778109 |
| 33 | 22,849 | 257,643 | 5·4110183 | 88 | 12·931 | 42·325 | 1·6265970 |
| 34 | 20,920 | 234,794 | 5·3706870 | 89 | 9·3292 | 29·3937 | 1·4682543 |
| 35 | 19,150 | 213,874 | 5·3301580 | 90 | 6·6140 | 20·0645 | 1·3024284 |
| 36 | 17,526 | 194,724 | 5·2894195 | 91 | 4·6035 | 13·4505 | 1·1287385 |
| 37 | 16,037 | 177,198 | 5·2484588 | 92 | 3·1427 | 8·8470 | 0·9467960 |
| 38 | 14,670 | 161,161 | 5·2072600 | 93 | 2·1023 | 5·7043 | 0·7562024 |
| 39 | 13,417 | 146,491 | 5·1658110 | 94 | 1·3766 | 3·6020 | 0·5565437 |
| 40 | 12,268 | 133,074 | 5·1240932 | 95 | ·8816 | 2·2254 | 0·3474081 |
| 41 | 11,214 | 120,806 | 5·0820886 | 96 | ·5515 | 1·3438 | 0·1283346 |
| 42 | 10,248 | 109,592 | 5·0397788 | 97 | ·3367 | ·7923 | $\bar{1}$·8988897 |
| 43 | 9,362·5 | 99,343·6 | 4·9971399 | 98 | ·2003 | ·4556 | $\bar{1}$·6585837 |
| 44 | 8,550·9 | 89,981·1 | 4·9541513 | 99 | ·1161 | ·2553 | $\bar{1}$·4070508 |
| 45 | 7,807·1 | 81,430·2 | 4·9107855 | 100 | ·0654 | ·1392 | $\bar{1}$·1436392 |
| 46 | 7,125·7 | 73,623·1 | 4·8670141 | 101 | ·0358 | ·0738 | $\bar{2}$·8680564 |
| 47 | 6,501·4 | 66,497·4 | 4·8228047 | 102 | ·0190 | ·0380 | $\bar{2}$·5797836 |
| 48 | 5,929·6 | 59,996·0 | 4·7781223 | 103 | ·0098 | ·0190 | $\bar{2}$·2787536 |
| 49 | 5,406·0 | 54,066·4 | 4·7329274 | 104 | ·0049 | ·0092 | $\bar{3}$·9637878 |
| 50 | 4,926·6 | 48,660·4 | 4·6871757 | 105 | ·0024 | ·0043 | $\bar{3}$·6334685 |
| 51 | 4,487·7 | 43,733·8 | 4·6408172 | 106 | ·0011 | ·0019 | $\bar{3}$·2787536 |
| 52 | 4,086·0 | 39,246·1 | 4·5937965 | 107 | ·0005 | ·0008 | $\bar{4}$·9030900 |
| 53 | 3,718·5 | 35,160·1 | 4·5460501 | 108 | ·0002 | ·0003 | $\bar{4}$·4771213 |
| 54 | 3,382·3 | 31,441·6 | 4·4975047 | 109 | ·0001 | ·0001 | $\bar{4}$·0000000 |

## YEARLY TABLE:—FEMALES. Interest 9 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 488,255 | 4,403,034 | 6·6437520 | 55 | 1,849·3 | 15,886·4 | 4·2010255 |
| 1 | 387,597 | 3,914,779 | 6·5927073 | 56 | 1,661·0 | 14,037·1 | 4·1472774 |
| 2 | 333,576 | 3,527,182 | 6·5474279 | 57 | 1,489·8 | 12,376·1 | 4·0925838 |
| 3 | 295,205 | 3,193,606 | 6·5042813 | 58 | 1,334·3 | 10,886·3 | 4·0368803 |
| 4 | 264,282 | 2,898,401 | 6·4621585 | 59 | 1,193·1 | 9,552·0 | 3·9800943 |
| 5 | 238,174 | 2,634,119 | 6·4206354 | 60 | 1,065·0 | 8,358·9 | 3·9221491 |
| 6 | 215,607 | 2,395,945 | 6·3794768 | 61 | 948·89 | 7,293·86 | 3·8629574 |
| 7 | 195,717 | 2,180,338 | 6·3385239 | 62 | 843·68 | 6,344·97 | 3·8024296 |
| 8 | 177,927 | 1,984,621 | 6·2976776 | 63 | 748·42 | 5,501·29 | 3·7404645 |
| 9 | 161,981 | 1,806,694 | 6·2568846 | 64 | 662·25 | 4,752·87 | 3·6769559 |
| 10 | 147,623 | 1,644,713 | 6·2160901 | 65 | 584·37 | 4,090·62 | 3·6117891 |
| 11 | 134,642 | 1,497,090 | 6·1752479 | 66 | 514·08 | 3,506·25 | 3·5448429 |
| 12 | 122,863 | 1,362,448 | 6·1343200 | 67 | 450·71 | 2,992·17 | 3·4759863 |
| 13 | 112,142 | 1,239,585 | 6·0932764 | 68 | 393·69 | 2,541·46 | 3·4050833 |
| 14 | 102,361 | 1,127,443 | 6·0520947 | 69 | 342·48 | 2,147·77 | 3·3319877 |
| 15 | 93,418 | 1,025,082 | 6·0107586 | 70 | 296·61 | 1,805·29 | 3·2565470 |
| 16 | 85,229 | 931,664 | 5·9692593 | 71 | 255·63 | 1,508·68 | 3·1785971 |
| 17 | 77,723 | 846,435 | 5·9275936 | 72 | 219·15 | 1,253·05 | 3·0979685 |
| 18 | 70,838 | 768,712 | 5·8857636 | 73 | 186·79 | 1,033·90 | 3·0144785 |
| 19 | 64,522 | 697,874 | 5·8437770 | 74 | 158·22 | 847·11 | 2·9279398 |
| 20 | 58,729 | 633,352 | 5·8016452 | 75 | 133·11 | 688·89 | 2·8381499 |
| 21 | 53,418 | 574,623 | 5·7593830 | 76 | 111·17 | 555·78 | 2·7449029 |
| 22 | 48,577 | 521,205 | 5·7170086 | 77 | 92·114 | 444·611 | 2·6479802 |
| 23 | 44,165 | 472,628 | 5·6745195 | 78 | 75·683 | 352·497 | 2·5471554 |
| 24 | 40,145 | 428,463 | 5·6319133 | 79 | 61·621 | 276·814 | 2·4421881 |
| 25 | 36,484 | 388,318 | 5·5891876 | 80 | 49·686 | 215·193 | 2·3328282 |
| 26 | 33,150 | 351,834 | 5·5463378 | 81 | 39·649 | 165·507 | 2·2188163 |
| 27 | 30,114 | 318,684 | 5·5033602 | 82 | 31·291 | 125·858 | 2·0998808 |
| 28 | 27,352 | 288,570 | 5·4602512 | 83 | 24·405 | 94·567 | 1·9757396 |
| 29 | 24,838 | 261,218 | 5·4170031 | 84 | 18·798 | 70·162 | 1·8461020 |
| 30 | 22,550 | 236,380 | 5·3736107 | 85 | 14·288 | 51·364 | 1·7106588 |
| 31 | 20,470 | 213,830 | 5·3300686 | 86 | 10·708 | 37·076 | 1·5690929 |
| 32 | 18,577 | 193,360 | 5·2863666 | 87 | 7·9061 | 26·3677 | 1·4210723 |
| 33 | 16,857 | 174,783 | 5·2424992 | 88 | 5·7463 | 18·4616 | 1·2662693 |
| 34 | 15,292 | 157,926 | 5·1984536 | 89 | 4·1077 | 12·7153 | 1·1043266 |
| 35 | 13,870 | 142,634 | 5·1542231 | 90 | 2·8855 | 8·6076 | 0·9348821 |
| 36 | 12,577 | 128,764 | 5·1097945 | 91 | 1·9899 | 5·7221 | 0·7575554 |
| 37 | 11,403 | 116,187 | 5·0651577 | 92 | 1·3460 | 3·7322 | 0·5719649 |
| 38 | 10,336 | 104,784 | 5·0202950 | 93 | ·8921 | 2·3862 | 0·3777068 |
| 39 | 9,365·9 | 94,447·6 | 4·9751910 | 94 | ·5788 | 1·4941 | 0·1743797 |
| 40 | 8,485·1 | 85,081·7 | 4·9298362 | 95 | ·3673 | ·9153 | $\bar{1}$·9615635 |
| 41 | 7,685·1 | 76,596·6 | 4·8842095 | 96 | ·2277 | ·5480 | $\bar{1}$·7387806 |
| 42 | 6,958·6 | 68,911·5 | 4·8382918 | 97 | ·1377 | ·3203 | $\bar{1}$·5055569 |
| 43 | 6,299·0 | 61,952·9 | 4·7920616 | 98 | ·0812 | ·1826 | $\bar{1}$·2615008 |
| 44 | 5,700·2 | 55,653·9 | 4·7454956 | 99 | ·0466 | ·1014 | $\bar{1}$·0060380 |
| 45 | 5,156·7 | 49,953·7 | 4·6985677 | 100 | ·0260 | ·0548 | $\bar{2}$·7387806 |
| 46 | 4,663·4 | 44,797·0 | 4·6512489 | 101 | ·0141 | ·0288 | $\bar{2}$·4593925 |
| 47 | 4,215·8 | 40,133·6 | 4·6035081 | 102 | ·0074 | ·0147 | $\bar{2}$·1673173 |
| 48 | 3,809·8 | 35,917·8 | 4·5553097 | 103 | ·0038 | ·0073 | $\bar{3}$·8633229 |
| 49 | 3,441·5 | 32,108·0 | 4·5066133 | 104 | ·0019 | ·0035 | $\bar{3}$·5440680 |
| 50 | 3,107·5 | 28,666·5 | 4·4573747 | 105 | ·0009 | ·0016 | $\bar{3}$·2041200 |
| 51 | 2,804·7 | 25,559·0 | 4·4075439 | 106 | ·0004 | ·0007 | $\bar{4}$·8450980 |
| 52 | 2,530·2 | 22,754·3 | 4·3570635 | 107 | ·0002 | ·0003 | $\bar{4}$·4771213 |
| 53 | 2,281·5 | 20,224·1 | 4·3058692 | 108 | ·0001 | ·0001 | $\bar{4}$·0000000 |
| 54 | 2,056·2 | 17,942·6 | 4·2538854 | 109 | ... | ... | ... |

## YEARLY TABLE:—FEMALES. Interest 10 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 488,255 | 4,049,914 | 6·6074458 | 55 | 1,119·1 | 9,069·4 | 3·9575786 |
| 1 | 384,073 | 3,561,659 | 6·5516523 | 56 | 996·02 | 7,950·26 | 3·9003813 |
| 2 | 327,539 | 3,177,586 | 6·5020973 | 57 | 885·24 | 6,954·24 | 3·8422497 |
| 3 | 287,227 | 2,850,047 | 6·4548521 | 58 | 785·62 | 6,069·00 | 3·7831171 |
| 4 | 254,802 | 2,562,820 | 6·4087181 | 59 | 696·10 | 5,283·38 | 3·7229119 |
| 5 | 227,543 | 2,308,018 | 6·3632392 | 60 | 615·72 | 4,587·28 | 3·6615552 |
| 6 | 204,111 | 2,080,475 | 6·3181625 | 61 | 543·60 | 3,971·56 | 3·5989611 |
| 7 | 183,597 | 1,876,364 | 6·2733171 | 62 | 478·93 | 3,427·96 | 3·5350357 |
| 8 | 165,391 | 1,692,767 | 6·2285972 | 63 | 420·99 | 2,949·03 | 3·4696792 |
| 9 | 149,200 | 1,527,376 | 6·1839460 | 64 | 369·13 | 2,528·04 | 3·4027839 |
| 10 | 134,739 | 1,378,176 | 6·1393047 | 65 | 322·77 | 2,158·91 | 3·3342345 |
| 11 | 121,773 | 1,243,437 | 6·0946238 | 66 | 281·36 | 1,836·14 | 3·2639058 |
| 12 | 110,110 | 1,121,664 | 6·0498628 | 67 | 244·43 | 1,554·78 | 3·1916689 |
| 13 | 99,589 | 1,011,554 | 6·0049891 | 68 | 211·57 | 1,310·35 | 3·1173873 |
| 14 | 90,076 | 911,965 | 5·9599782 | 69 | 182·38 | 1,098·78 | 3·0409109 |
| 15 | 81,459 | 821,889 | 5·9148132 | 70 | 156·52 | 916·40 | 2·9620851 |
| 16 | 73,642 | 740,430 | 5·8694840 | 71 | 133·67 | 759·88 | 2·8807450 |
| 17 | 66,546 | 666,788 | 5·8239878 | 72 | 113·55 | 626·21 | 2·7967200 |
| 18 | 60,100 | 600,242 | 5·7783264 | 73 | 95·902 | 512·658 | 2·7098277 |
| 19 | 54,244 | 540,142 | 5·7325079 | 74 | 80·492 | 416·756 | 2·6198818 |
| 20 | 48,925 | 485,898 | 5·6865451 | 75 | 67·102 | 336·264 | 2·5266804 |
| 21 | 44,096 | 436,973 | 5·6404546 | 76 | 55·532 | 269·162 | 2·4300137 |
| 22 | 39,735 | 392,877 | 5·5942566 | 77 | 45·596 | 213·630 | 2·3296622 |
| 23 | 35,798 | 353,142 | 5·5479494 | 78 | 37·123 | 168·034 | 2·2253972 |
| 24 | 32,244 | 317,344 | 5·5015303 | 79 | 29·950 | 130·911 | 2·1169761 |
| 25 | 29,037 | 285,100 | 5·4549972 | 80 | 23·930 | 100·961 | 2·0041536 |
| 26 | 26,143 | 256,063 | 5·4083468 | 81 | 18·922 | 77·031 | 1·8866655 |
| 27 | 23,534 | 229,920 | 5·3615768 | 82 | 14·798 | 58·109 | 1·7642434 |
| 28 | 21,180 | 206,386 | 5·3146803 | 83 | 11·437 | 43·311 | 1·6365982 |
| 29 | 19,059 | 185,206 | 5·2676550 | 84 | 8·7288 | 31·8743 | 1·5034407 |
| 30 | 17,146 | 166,147 | 5·2204925 | 85 | 6·5741 | 23·1455 | 1·3644666 |
| 31 | 15,423 | 149,001 | 5·1731892 | 86 | 4·8821 | 16·5714 | 1·2193592 |
| 32 | 13,870 | 133,578 | 5·1257349 | 87 | 3·5719 | 11·6893 | 1·0677885 |
| 33 | 12,471 | 119,708 | 5·0781232 | 88 | 2·5725 | 8·1174 | 0·9094169 |
| 34 | 11,210 | 107,237 | 5·0303447 | 89 | 1·8223 | 5·5449 | 0·7438937 |
| 35 | 10,075 | 96,027 | 4·9823934 | 90 | 1·2684 | 3·7226 | 0·5708464 |
| 36 | 9,053·4 | 85,951·8 | 4·9342550 | 91 | ·8668 | 2·4542 | 0·3899100 |
| 37 | 8,133·2 | 76,898·4 | 4·8859173 | 92 | ·5810 | 1·5874 | 0·2006864 |
| 38 | 7,305·0 | 68,765·2 | 4·8373687 | 93 | ·3816 | 1·0064 | 0·0027706 |
| 39 | 6,559·4 | 61,460·2 | 4·7885940 | 94 | ·2453 | ·6248 | $\bar{1}$·7957410 |
| 40 | 5,888·5 | 54,900·8 | 4·7395787 | 95 | ·1542 | ·3795 | $\bar{1}$·5792118 |
| 41 | 5,284·9 | 49,012·3 | 4·6903051 | 96 | ·0947 | ·2253 | $\bar{1}$·3527612 |
| 42 | 4,741·8 | 43,727·4 | 4·6407537 | 97 | ·0568 | ·1306 | $\bar{1}$·1159432 |
| 43 | 4,253·3 | 38,985·6 | 4·5909042 | 98 | ·0332 | ·0738 | $\bar{2}$·8680564 |
| 44 | 3,814·0 | 34,732·3 | 4·5407336 | 99 | ·0189 | ·0406 | $\bar{2}$·6085260 |
| 45 | 3,418·9 | 30,918·3 | 4·4902156 | 100 | ·0104 | ·0217 | $\bar{2}$·3364597 |
| 46 | 3,063·8 | 27,499·4 | 4·4393232 | 101 | ·0056 | ·0113 | $\bar{2}$·0530784 |
| 47 | 2,744·5 | 24,435·6 | 4·3880230 | 102 | ·0029 | ·0057 | $\bar{3}$·7558749 |
| 48 | 2,457·6 | 21,691·1 | 4·3362816 | 103 | ·0015 | ·0028 | $\bar{3}$·4471580 |
| 49 | 2,199·9 | 19,233·5 | 4·2840583 | 104 | ·0007 | ·0013 | $\bar{3}$·1139434 |
| 50 | 1,968·3 | 17,033·6 | 4·2313064 | 105 | ·0003 | ·0006 | $\bar{4}$·7781513 |
| 51 | 1,760·4 | 15,065·3 | 4·1779778 | 106 | ·0002 | ·0003 | $\bar{4}$·4771213 |
| 52 | 1,573·7 | 13,304·9 | 4·1240116 | 107 | ·0001 | ·0001 | $\bar{4}$·0000000 |
| 53 | 1,406·1 | 11,731·2 | 4·0693424 | 108 | ... | ... | ... |
| 54 | 1,255·7 | 10,325·1 | 4·0138943 | 109 | ... | ... | ... |

# SINGLE LIVES.

## HALF-YEARLY TABLE.

### MALES and FEMALES.

For Note as to Interest see page 128.)

## HALF-YEARLY TABLE:—MALES. Interest 3 per Cent.

### Logarithms of the Series $p_x = \lambda$ probability of living *half a year* after Age $x$.

| Age ($x$) | $\lambda\, p_x$ | Age ($x$) | $\lambda\, p_x$ | Age ($x$) | $\lambda\, p_x$ | Age ($x$) | $\lambda\, p_x$ |
|---|---|---|---|---|---|---|---|
| 0 | $\bar{1}$·9466587 | 28 | $\bar{1}$·9978960 | 56 | $\bar{1}$·9943906 | 84 | $\bar{1}$·9563335 |
| 0½ | $\bar{1}$·9757577 | 28½ | $\bar{1}$·9978758 | 56½ | $\bar{1}$·9942400 | 84½ | $\bar{1}$·9547622 |
| 1 | $\bar{1}$·9834257 | 29 | $\bar{1}$·9978551 | 57 | $\bar{1}$·9940818 | 85 | $\bar{1}$·9531474 |
| 1½ | $\bar{1}$·9877120 | 29½ | $\bar{1}$·9978341 | 57½ | $\bar{1}$·9939153 | 85½ | $\bar{1}$·9514879 |
| 2 | $\bar{1}$·9910040 | 30 | $\bar{1}$·9978124 | 58 | $\bar{1}$·9937400 | 86 | $\bar{1}$·9497835 |
| 2½ | $\bar{1}$·9933013 | 30½ | $\bar{1}$·9977902 | 58½ | $\bar{1}$·9935550 | 86½ | $\bar{1}$·9480333 |
| 3 | $\bar{1}$·9943674 | 31 | $\bar{1}$·9977673 | 59 | $\bar{1}$·9933599 | 87 | $\bar{1}$·9462369 |
| 3½ | $\bar{1}$·9951495 | 31½ | $\bar{1}$·9977438 | 59½ | $\bar{1}$·9931539 | 87½ | $\bar{1}$·9443933 |
| 4 | $\bar{1}$·9958156 | 32 | $\bar{1}$·9977195 | 60 | $\bar{1}$·9929365 | 88 | $\bar{1}$·9425023 |
| 4½ | $\bar{1}$·9963757 | 32½ | $\bar{1}$·9976944 | 60½ | $\bar{1}$·9927068 | 88½ | $\bar{1}$·9405629 |
| 5 | $\bar{1}$·9968397 | 33 | $\bar{1}$·9976685 | 61 | $\bar{1}$·9924645 | 89 | $\bar{1}$·9385745 |
| 5½ | $\bar{1}$·9972177 | 33½ | $\bar{1}$·9976417 | 61½ | $\bar{1}$·9922086 | 89½ | $\bar{1}$·9365367 |
| 6 | $\bar{1}$·9975196 | 34 | $\bar{1}$·9976139 | 62 | $\bar{1}$·9919388 | 90 | $\bar{1}$·9344485 |
| 6½ | $\bar{1}$·9977554 | 34½ | $\bar{1}$·9975852 | 62½ | $\bar{1}$·9916541 | 90½ | $\bar{1}$·9323096 |
| 7 | $\bar{1}$·9979087 | 35 | $\bar{1}$·9975554 | 63 | $\bar{1}$·9913542 | 91 | $\bar{1}$·9301191 |
| 7½ | $\bar{1}$·9980957 | 35½ | $\bar{1}$·9975244 | 63½ | $\bar{1}$·9910382 | 91½ | $\bar{1}$·9278764 |
| 8 | $\bar{1}$·9982623 | 36 | $\bar{1}$·9974923 | 64 | $\bar{1}$·9907056 | 92 | $\bar{1}$·9255810 |
| 8½ | $\bar{1}$·9984090 | 36½ | $\bar{1}$·9974591 | 64½ | $\bar{1}$·9903556 | 92½ | $\bar{1}$·9232321 |
| 9 | $\bar{1}$·9985368 | 37 | $\bar{1}$·9974245 | 65 | $\bar{1}$·9899878 | 93 | $\bar{1}$·9208291 |
| 9½ | $\bar{1}$·9986466 | 37½ | $\bar{1}$·9973887 | 65½ | $\bar{1}$·9896013 | 93½ | $\bar{1}$·9183714 |
| 10 | $\bar{1}$·9987390 | 38 | $\bar{1}$·9973515 | 66 | $\bar{1}$·9891955 | 94 | $\bar{1}$·9158583 |
| 10½ | $\bar{1}$·9988151 | 38½ | $\bar{1}$·9973128 | 66½ | $\bar{1}$·9887700 | 94½ | $\bar{1}$·9132892 |
| 11 | $\bar{1}$·9988755 | 39 | $\bar{1}$·9972727 | 67 | $\bar{1}$·9883239 | 95 | $\bar{1}$·9106634 |
| 11½ | $\bar{1}$·9989211 | 39½ | $\bar{1}$·9972310 | 67½ | $\bar{1}$·9878566 | 95½ | $\bar{1}$·9079803 |
| 12 | $\bar{1}$·9989528 | 40 | $\bar{1}$·9971879 | 68 | $\bar{1}$·9873674 | 96 | $\bar{1}$·9052392 |
| 12½ | $\bar{1}$·9989713 | 40½ | $\bar{1}$·9971430 | 68½ | $\bar{1}$·9868559 | 96½ | $\bar{1}$·9024396 |
| 13 | $\bar{1}$·9989776 | 41 | $\bar{1}$·9970966 | 69 | $\bar{1}$·9863212 | 97 | $\bar{1}$·8995805 |
| 13½ | $\bar{1}$·9989722 | 41½ | $\bar{1}$·9970483 | 69½ | $\bar{1}$·9857628 | 97½ | $\bar{1}$·8966618 |
| 14 | $\bar{1}$·9989563 | 42 | $\bar{1}$·9969982 | 70 | $\bar{1}$·9851800 | 98 | $\bar{1}$·8936823 |
| 14½ | $\bar{1}$·9989304 | 42½ | $\bar{1}$·9969464 | 70½ | $\bar{1}$·9845720 | 98½ | $\bar{1}$·8906418 |
| 15 | $\bar{1}$·9988957 | 43 | $\bar{1}$·9968927 | 71 | $\bar{1}$·9839385 | 99 | $\bar{1}$·8875394 |
| 15½ | $\bar{1}$·9988527 | 43½ | $\bar{1}$·9968370 | 71½ | $\bar{1}$·9832786 | 99½ | $\bar{1}$·8843744 |
| 16 | $\bar{1}$·9988024 | 44 | $\bar{1}$·9967793 | 72 | $\bar{1}$·9825917 | 100 | $\bar{1}$·8811465 |
| 16½ | $\bar{1}$·9987454 | 44½ | $\bar{1}$·9967196 | 72½ | $\bar{1}$·9818771 | 100½ | $\bar{1}$·8778546 |
| 17 | $\bar{1}$·9986828 | 45 | $\bar{1}$·9966578 | 73 | $\bar{1}$·9811344 | 101 | $\bar{1}$·8744985 |
| 17½ | $\bar{1}$·9986154 | 45½ | $\bar{1}$·9965938 | 73½ | $\bar{1}$·9803626 | 101½ | $\bar{1}$·8710771 |
| 18 | $\bar{1}$·9985437 | 46 | $\bar{1}$·9965277 | 74 | $\bar{1}$·9795614 | 102 | $\bar{1}$·8675902 |
| 18½ | $\bar{1}$·9984690 | 46½ | $\bar{1}$·9964592 | 74½ | $\bar{1}$·9787299 | 102½ | $\bar{1}$·8640368 |
| 19 | $\bar{1}$·9983918 | 47 | $\bar{1}$·9963886 | 75 | $\bar{1}$·9778676 | 103 | $\bar{1}$·8604165 |
| 19½ | $\bar{1}$·9983130 | 47½ | $\bar{1}$·9963155 | 75½ | $\bar{1}$·9769737 | 103½ | $\bar{1}$·8567286 |
| 20 | $\bar{1}$·9982040 | 48 | $\bar{1}$·9962400 | 76 | $\bar{1}$·9760478 | 104 | $\bar{1}$·8529722 |
| 20½ | $\bar{1}$·9981834 | 48½ | $\bar{1}$·9961620 | 76½ | $\bar{1}$·9750889 | 104½ | $\bar{1}$·8491470 |
| 21 | $\bar{1}$·9981634 | 49 | $\bar{1}$·9960816 | 77 | $\bar{1}$·9740968 | 105 | $\bar{1}$·8452522 |
| 21½ | $\bar{1}$·9981437 | 49½ | $\bar{1}$·9959986 | 77½ | $\bar{1}$·9730704 | 105½ | $\bar{1}$·8412872 |
| 22 | $\bar{1}$·9981242 | 50 | $\bar{1}$·9959130 | 78 | $\bar{1}$·9720095 | 106 | $\bar{1}$·8372514 |
| 22½ | $\bar{1}$·9981051 | 50½ | $\bar{1}$·9958246 | 78½ | $\bar{1}$·9709130 | 106½ | $\bar{1}$·8331438 |
| 23 | $\bar{1}$·9980861 | 51 | $\bar{1}$·9956194 | 79 | $\bar{1}$·9697806 | 107 | $\bar{1}$·8289644 |
| 23½ | $\bar{1}$·9980673 | 51½ | $\bar{1}$·9955095 | 79½ | $\bar{1}$·9686116 | 107½ | $\bar{1}$·8247119 |
| 24 | $\bar{1}$·9980486 | 52 | $\bar{1}$·9953985 | 80 | $\bar{1}$·9674052 | 108 | $\bar{1}$·8203861 |
| 24½ | $\bar{1}$·9980299 | 52½ | $\bar{1}$·9952856 | 80½ | $\bar{1}$·9661608 | 108½ | $\bar{1}$·8159862 |
| 25 | $\bar{1}$·9980112 | 53 | $\bar{1}$·9951702 | 81 | $\bar{1}$·9648779 | 109 | ... |
| 25½ | $\bar{1}$·9979925 | 53½ | $\bar{1}$·9950518 | 81½ | $\bar{1}$·9635557 | | |
| 26 | $\bar{1}$·9979736 | 54 | $\bar{1}$·9949297 | 82 | $\bar{1}$·9621936 | | |
| 26½ | $\bar{1}$·9979546 | 54½ | $\bar{1}$·9948031 | 82½ | $\bar{1}$·9607910 | | |
| 27 | $\bar{1}$·9979353 | 55 | $\bar{1}$·9946715 | 83 | $\bar{1}$·9593473 | | |
| 27½ | $\bar{1}$·9979159 | 55½ | $\bar{1}$·9945342 | 83½ | $\bar{1}$·9578616 | | |

**Note.**—$\lambda\, p_x = \lambda\, l_{x+\frac{1}{2}} - \lambda\, l_x$.

## HALF-YEARLY TABLE :—FEMALES. Interest 3 per Cent.

Logarithms of the Series $p_x = \lambda$ probability of living *half a year* after Age $x$.

| Age ($x$) | $\lambda\, p_x$ | Age ($x$) | $\lambda\, p_x$ | Age ($x$) | $\lambda\, p_x$ | Age ($x$) | $\lambda\, p_x$ |
|---|---|---|---|---|---|---|---|
| 0 | $\bar{1}\cdot9576030$ | 28 | $\bar{1}\cdot9977867$ | 56 | $\bar{1}\cdot9951709$ | 84 | $\bar{1}\cdot9598818$ |
| 0½ | $\bar{1}\cdot9795574$ | 28½ | $\bar{1}\cdot9977658$ | 56½ | $\bar{1}\cdot9950155$ | 84½ | $\bar{1}\cdot9583960$ |
| 1 | $\bar{1}\cdot9831708$ | 29 | $\bar{1}\cdot9977449$ | 57 | $\bar{1}\cdot9948550$ | 85 | $\bar{1}\cdot9568669$ |
| 1½ | $\bar{1}\cdot9890702$ | 29½ | $\bar{1}\cdot9977239$ | 57½ | $\bar{1}\cdot9946889$ | 85½ | $\bar{1}\cdot9552939$ |
| 2 | $\bar{1}\cdot9920988$ | 30 | $\bar{1}\cdot9977029$ | 58 | $\bar{1}\cdot9945166$ | 86 | $\bar{1}\cdot9536762$ |
| 2½ | $\bar{1}\cdot9922566$ | 30½ | $\bar{1}\cdot9976818$ | 58½ | $\bar{1}\cdot9943371$ | 86½ | $\bar{1}\cdot9520133$ |
| 3 | $\bar{1}\cdot9942591$ | 31 | $\bar{1}\cdot9976606$ | 59 | $\bar{1}\cdot9941501$ | 87 | $\bar{1}\cdot9503044$ |
| 3½ | $\bar{1}\cdot9951119$ | 31½ | $\bar{1}\cdot9976392$ | 59½ | $\bar{1}\cdot9939546$ | 87½ | $\bar{1}\cdot9485488$ |
| 4 | $\bar{1}\cdot9958292$ | 32 | $\bar{1}\cdot9976176$ | 60 | $\bar{1}\cdot9937500$ | 88 | $\bar{1}\cdot9467459$ |
| 4½ | $\bar{1}\cdot9964231$ | 32½ | $\bar{1}\cdot9975959$ | 60½ | $\bar{1}\cdot9935359$ | 88½ | $\bar{1}\cdot9448949$ |
| 5 | $\bar{1}\cdot9969058$ | 33 | $\bar{1}\cdot9975739$ | 61 | $\bar{1}\cdot9933111$ | 89 | $\bar{1}\cdot9429953$ |
| 5½ | $\bar{1}\cdot9972892$ | 33½ | $\bar{1}\cdot9975516$ | 61½ | $\bar{1}\cdot9930754$ | 89½ | $\bar{1}\cdot9410463$ |
| 6 | $\bar{1}\cdot9975857$ | 34 | $\bar{1}\cdot9975290$ | 62 | $\bar{1}\cdot9928277$ | 90 | $\bar{1}\cdot9390471$ |
| 6½ | $\bar{1}\cdot9978071$ | 34½ | $\bar{1}\cdot9975062$ | 62½ | $\bar{1}\cdot9925677$ | 90½ | $\bar{1}\cdot9369972$ |
| 7 | $\bar{1}\cdot9979339$ | 35 | $\bar{1}\cdot9974829$ | 63 | $\bar{1}\cdot9922946$ | 91 | $\bar{1}\cdot9348959$ |
| 7½ | $\bar{1}\cdot9981053$ | 35½ | $\bar{1}\cdot9974593$ | 63½ | $\bar{1}\cdot9920074$ | 91½ | $\bar{1}\cdot9327423$ |
| 8 | $\bar{1}\cdot9982578$ | 36 | $\bar{1}\cdot9974352$ | 64 | $\bar{1}\cdot9917059$ | 92 | $\bar{1}\cdot9305361$ |
| 8½ | $\bar{1}\cdot9983918$ | 36½ | $\bar{1}\cdot9974108$ | 64½ | $\bar{1}\cdot9913890$ | 92½ | $\bar{1}\cdot9282763$ |
| 9 | $\bar{1}\cdot9985082$ | 37 | $\bar{1}\cdot9973858$ | 65 | $\bar{1}\cdot9910564$ | 93 | $\bar{1}\cdot9259623$ |
| 9½ | $\bar{1}\cdot9986079$ | 37½ | $\bar{1}\cdot9973603$ | 65½ | $\bar{1}\cdot9907072$ | 93½ | $\bar{1}\cdot9235934$ |
| 10 | $\bar{1}\cdot9986915$ | 38 | $\bar{1}\cdot9973343$ | 66 | $\bar{1}\cdot9903406$ | 94 | $\bar{1}\cdot9211691$ |
| 10½ | $\bar{1}\cdot9987599$ | 38½ | $\bar{1}\cdot9973078$ | 66½ | $\bar{1}\cdot9899561$ | 94½ | $\bar{1}\cdot9186884$ |
| 11 | $\bar{1}\cdot9988136$ | 39 | $\bar{1}\cdot9972807$ | 67 | $\bar{1}\cdot9895530$ | 95 | $\bar{1}\cdot9161509$ |
| 11½ | $\bar{1}\cdot9988538$ | 39½ | $\bar{1}\cdot9972529$ | 67½ | $\bar{1}\cdot9891307$ | 95½ | $\bar{1}\cdot9135557$ |
| 12 | $\bar{1}\cdot9988807$ | 40 | $\bar{1}\cdot9972245$ | 68 | $\bar{1}\cdot9886882$ | 96 | $\bar{1}\cdot9109023$ |
| 12½ | $\bar{1}\cdot9988957$ | 40½ | $\bar{1}\cdot9971954$ | 68½ | $\bar{1}\cdot9882251$ | 96½ | $\bar{1}\cdot9081899$ |
| 13 | $\bar{1}\cdot9988990$ | 41 | $\bar{1}\cdot9971656$ | 69 | $\bar{1}\cdot9877407$ | 97 | $\bar{1}\cdot9054178$ |
| 13½ | $\bar{1}\cdot9988916$ | 41½ | $\bar{1}\cdot9971351$ | 69½ | $\bar{1}\cdot9872342$ | 97½ | $\bar{1}\cdot9025854$ |
| 14 | $\bar{1}\cdot9988745$ | 42 | $\bar{1}\cdot9971038$ | 70 | $\bar{1}\cdot9867050$ | 98 | $\bar{1}\cdot8996920$ |
| 14½ | $\bar{1}\cdot9988479$ | 42½ | $\bar{1}\cdot9970717$ | 70½ | $\bar{1}\cdot9861523$ | 98½ | $\bar{1}\cdot8967369$ |
| 15 | $\bar{1}\cdot9988132$ | 43 | $\bar{1}\cdot9970388$ | 71 | $\bar{1}\cdot9855756$ | 99 | $\bar{1}\cdot8937193$ |
| 15½ | $\bar{1}\cdot9987707$ | 43½ | $\bar{1}\cdot9970051$ | 71½ | $\bar{1}\cdot9849741$ | 99½ | $\bar{1}\cdot8906388$ |
| 16 | $\bar{1}\cdot9987214$ | 44 | $\bar{1}\cdot9969704$ | 72 | $\bar{1}\cdot9843471$ | 100 | $\bar{1}\cdot8874945$ |
| 16½ | $\bar{1}\cdot9986658$ | 44½ | $\bar{1}\cdot9969349$ | 72½ | $\bar{1}\cdot9836939$ | 100½ | $\bar{1}\cdot8842857$ |
| 17 | $\bar{1}\cdot9986051$ | 45 | $\bar{1}\cdot9968984$ | 73 | $\bar{1}\cdot9830140$ | 101 | $\bar{1}\cdot8810117$ |
| 17½ | $\bar{1}\cdot9985397$ | 45½ | $\bar{1}\cdot9968609$ | 73½ | $\bar{1}\cdot9823065$ | 101½ | $\bar{1}\cdot8776721$ |
| 18 | $\bar{1}\cdot9984705$ | 46 | $\bar{1}\cdot9968224$ | 74 | $\bar{1}\cdot9815708$ | 102 | $\bar{1}\cdot8742658$ |
| 18½ | $\bar{1}\cdot9983982$ | 46½ | $\bar{1}\cdot9967830$ | 74½ | $\bar{1}\cdot9808062$ | 102½ | $\bar{1}\cdot8707925$ |
| 19 | $\bar{1}\cdot9983237$ | 47 | $\bar{1}\cdot9967424$ | 75 | $\bar{1}\cdot9800121$ | 103 | $\bar{1}\cdot8672513$ |
| 19½ | $\bar{1}\cdot9982475$ | 47½ | $\bar{1}\cdot9967008$ | 75½ | $\bar{1}\cdot9791876$ | 103½ | $\bar{1}\cdot8636415$ |
| 20 | $\bar{1}\cdot9981448$ | 48 | $\bar{1}\cdot9966580$ | 76 | $\bar{1}\cdot9783324$ | 104 | $\bar{1}\cdot8599625$ |
| 20½ | $\bar{1}\cdot9981198$ | 48½ | $\bar{1}\cdot9966141$ | 76½ | $\bar{1}\cdot9774454$ | 104½ | $\bar{1}\cdot8562136$ |
| 21 | $\bar{1}\cdot9980955$ | 49 | $\bar{1}\cdot9965691$ | 77 | $\bar{1}\cdot9765261$ | 105 | $\bar{1}\cdot8523941$ |
| 21½ | $\bar{1}\cdot9980716$ | 49½ | $\bar{1}\cdot9965228$ | 77½ | $\bar{1}\cdot9755739$ | 105½ | $\bar{1}\cdot8485033$ |
| 22 | $\bar{1}\cdot9980481$ | 50 | $\bar{1}\cdot9964753$ | 78 | $\bar{1}\cdot9745880$ | 106 | $\bar{1}\cdot8445405$ |
| 22½ | $\bar{1}\cdot9980248$ | 50½ | $\bar{1}\cdot9964265$ | 78½ | $\bar{1}\cdot9735678$ | 106½ | $\bar{1}\cdot8405052$ |
| 23 | $\bar{1}\cdot9980021$ | 51 | $\bar{1}\cdot9963764$ | 79 | $\bar{1}\cdot9725124$ | 107 | $\bar{1}\cdot8363965$ |
| 23½ | $\bar{1}\cdot9979796$ | 51½ | $\bar{1}\cdot9963251$ | 79½ | $\bar{1}\cdot9714214$ | 107½ | $\bar{1}\cdot8322138$ |
| 24 | $\bar{1}\cdot9979574$ | 52 | $\bar{1}\cdot9962723$ | 80 | $\bar{1}\cdot9702939$ | 108 | $\bar{1}\cdot8279563$ |
| 24½ | $\bar{1}\cdot9979355$ | 52½ | $\bar{1}\cdot9962183$ | 80½ | $\bar{1}\cdot9691295$ | 108½ | $\bar{1}\cdot8236235$ |
| 25 | $\bar{1}\cdot9979137$ | 53 | $\bar{1}\cdot9961627$ | 81 | $\bar{1}\cdot9679271$ | 109 | ... |
| 25½ | $\bar{1}\cdot9978923$ | 53½ | $\bar{1}\cdot9961057$ | 81½ | $\bar{1}\cdot9666864$ | | |
| 26 | $\bar{1}\cdot9978709$ | 54 | $\bar{1}\cdot9957570$ | 82 | $\bar{1}\cdot9654065$ | | |
| 26½ | $\bar{1}\cdot9978497$ | 54½ | $\bar{1}\cdot9956145$ | 82½ | $\bar{1}\cdot9640868$ | | |
| 27 | $\bar{1}\cdot9978286$ | 55 | $\bar{1}\cdot9954698$ | 83 | $\bar{1}\cdot9627266$ | | |
| 27½ | $\bar{1}\cdot9978076$ | 55½ | $\bar{1}\cdot9953222$ | 83½ | $\bar{1}\cdot9613251$ | | |

## HALF-YEARLY TABLE:—MALES. Interest 3 per Cent.

### Logarithms of the Series $vp_x = \lambda\left(\frac{1}{1+\frac{i}{2}}\cdot\frac{l_{x+\frac{1}{2}}}{l_x}\right)$

| Age ($x$) | $\lambda\ vp_x$ | Age ($x$) | $\lambda\ vp_x$ | Age ($x$) | $\lambda\ vp_x$ | Age ($x$) | $\lambda\ vp_x$ |
|---|---|---|---|---|---|---|---|
| 0 | $\bar{1}\cdot9401927$ | 28 | $\bar{1}\cdot9914300$ | 56 | $\bar{1}\cdot9879246$ | 84 | $\bar{1}\cdot9498675$ |
| 0½ | $\bar{1}\cdot9692917$ | 28½ | $\bar{1}\cdot9914098$ | 56½ | $\bar{1}\cdot9877740$ | 84½ | $\bar{1}\cdot9482962$ |
| 1 | $\bar{1}\cdot9769597$ | 29 | $\bar{1}\cdot9913891$ | 57 | $\bar{1}\cdot9876158$ | 85 | $\bar{1}\cdot9466814$ |
| 1½ | $\bar{1}\cdot9812460$ | 29½ | $\bar{1}\cdot9913681$ | 57½ | $\bar{1}\cdot9874493$ | 85½ | $\bar{1}\cdot9450219$ |
| 2 | $\bar{1}\cdot9845380$ | 30 | $\bar{1}\cdot9913464$ | 58 | $\bar{1}\cdot9872740$ | 86 | $\bar{1}\cdot9433175$ |
| 2½ | $\bar{1}\cdot9868353$ | 30½ | $\bar{1}\cdot9913242$ | 58½ | $\bar{1}\cdot9870890$ | 86½ | $\bar{1}\cdot9415673$ |
| 3 | $\bar{1}\cdot9879014$ | 31 | $\bar{1}\cdot9913013$ | 59 | $\bar{1}\cdot9868939$ | 87 | $\bar{1}\cdot9397709$ |
| 3½ | $\bar{1}\cdot9886835$ | 31½ | $\bar{1}\cdot9912778$ | 59½ | $\bar{1}\cdot9866879$ | 87½ | $\bar{1}\cdot9379273$ |
| 4 | $\bar{1}\cdot9893496$ | 32 | $\bar{1}\cdot9912535$ | 60 | $\bar{1}\cdot9864705$ | 88 | $\bar{1}\cdot9360363$ |
| 4½ | $\bar{1}\cdot9899097$ | 32½ | $\bar{1}\cdot9912284$ | 60½ | $\bar{1}\cdot9862408$ | 88½ | $\bar{1}\cdot9340969$ |
| 5 | $\bar{1}\cdot9903737$ | 33 | $\bar{1}\cdot9912025$ | 61 | $\bar{1}\cdot9859985$ | 89 | $\bar{1}\cdot9321085$ |
| 5½ | $\bar{1}\cdot9907517$ | 33½ | $\bar{1}\cdot9911757$ | 61½ | $\bar{1}\cdot9857426$ | 89½ | $\bar{1}\cdot9300707$ |
| 6 | $\bar{1}\cdot9910536$ | 34 | $\bar{1}\cdot9911479$ | 62 | $\bar{1}\cdot9854728$ | 90 | $\bar{1}\cdot9279825$ |
| 6½ | $\bar{1}\cdot9912894$ | 34½ | $\bar{1}\cdot9911192$ | 62½ | $\bar{1}\cdot9851881$ | 90½ | $\bar{1}\cdot9258436$ |
| 7 | $\bar{1}\cdot9914427$ | 35 | $\bar{1}\cdot9910894$ | 63 | $\bar{1}\cdot9848882$ | 91 | $\bar{1}\cdot9236531$ |
| 7½ | $\bar{1}\cdot9916297$ | 35½ | $\bar{1}\cdot9910584$ | 63½ | $\bar{1}\cdot9845722$ | 91½ | $\bar{1}\cdot9214104$ |
| 8 | $\bar{1}\cdot9917963$ | 36 | $\bar{1}\cdot9910263$ | 64 | $\bar{1}\cdot9842396$ | 92 | $\bar{1}\cdot9191150$ |
| 8½ | $\bar{1}\cdot9919430$ | 36½ | $\bar{1}\cdot9909931$ | 64½ | $\bar{1}\cdot9838896$ | 92½ | $\bar{1}\cdot9167661$ |
| 9 | $\bar{1}\cdot9920708$ | 37 | $\bar{1}\cdot9909585$ | 65 | $\bar{1}\cdot9835218$ | 93 | $\bar{1}\cdot9143631$ |
| 9½ | $\bar{1}\cdot9921806$ | 37½ | $\bar{1}\cdot9909227$ | 65½ | $\bar{1}\cdot9831353$ | 93½ | $\bar{1}\cdot9119054$ |
| 10 | $\bar{1}\cdot9922730$ | 38 | $\bar{1}\cdot9908855$ | 66 | $\bar{1}\cdot9827295$ | 94 | $\bar{1}\cdot9093923$ |
| 10½ | $\bar{1}\cdot9923491$ | 38½ | $\bar{1}\cdot9908468$ | 66½ | $\bar{1}\cdot9823040$ | 94½ | $\bar{1}\cdot9068232$ |
| 11 | $\bar{1}\cdot9924095$ | 39 | $\bar{1}\cdot9908067$ | 67 | $\bar{1}\cdot9818579$ | 95 | $\bar{1}\cdot9041974$ |
| 11½ | $\bar{1}\cdot9924551$ | 39½ | $\bar{1}\cdot9907650$ | 67½ | $\bar{1}\cdot9813906$ | 95½ | $\bar{1}\cdot9015143$ |
| 12 | $\bar{1}\cdot9924868$ | 40 | $\bar{1}\cdot9907219$ | 68 | $\bar{1}\cdot9809014$ | 96 | $\bar{1}\cdot8987732$ |
| 12½ | $\bar{1}\cdot9925053$ | 40½ | $\bar{1}\cdot9906770$ | 68½ | $\bar{1}\cdot9803899$ | 96½ | $\bar{1}\cdot8959736$ |
| 13 | $\bar{1}\cdot9925116$ | 41 | $\bar{1}\cdot9906306$ | 69 | $\bar{1}\cdot9798552$ | 97 | $\bar{1}\cdot8931145$ |
| 13½ | $\bar{1}\cdot9925062$ | 41½ | $\bar{1}\cdot9905823$ | 69½ | $\bar{1}\cdot9792968$ | 97½ | $\bar{1}\cdot8901958$ |
| 14 | $\bar{1}\cdot9924903$ | 42 | $\bar{1}\cdot9905322$ | 70 | $\bar{1}\cdot9787140$ | 98 | $\bar{1}\cdot8872163$ |
| 14½ | $\bar{1}\cdot9924644$ | 42½ | $\bar{1}\cdot9904804$ | 70½ | $\bar{1}\cdot9781060$ | 98½ | $\bar{1}\cdot8841758$ |
| 15 | $\bar{1}\cdot9924297$ | 43 | $\bar{1}\cdot9904267$ | 71 | $\bar{1}\cdot9774725$ | 99 | $\bar{1}\cdot8810734$ |
| 15½ | $\bar{1}\cdot9923867$ | 43½ | $\bar{1}\cdot9903710$ | 71½ | $\bar{1}\cdot9768126$ | 99½ | $\bar{1}\cdot8779084$ |
| 16 | $\bar{1}\cdot9923364$ | 44 | $\bar{1}\cdot9903133$ | 72 | $\bar{1}\cdot9761257$ | 100 | $\bar{1}\cdot8746805$ |
| 16½ | $\bar{1}\cdot9922794$ | 44½ | $\bar{1}\cdot9902536$ | 72½ | $\bar{1}\cdot9754111$ | 100½ | $\bar{1}\cdot8713886$ |
| 17 | $\bar{1}\cdot9922168$ | 45 | $\bar{1}\cdot9901918$ | 73 | $\bar{1}\cdot9746684$ | 101 | $\bar{1}\cdot8680325$ |
| 17½ | $\bar{1}\cdot9921494$ | 45½ | $\bar{1}\cdot9901278$ | 73½ | $\bar{1}\cdot9738966$ | 101½ | $\bar{1}\cdot8646111$ |
| 18 | $\bar{1}\cdot9920777$ | 46 | $\bar{1}\cdot9900617$ | 74 | $\bar{1}\cdot9730954$ | 102 | $\bar{1}\cdot8611242$ |
| 18½ | $\bar{1}\cdot9920030$ | 46½ | $\bar{1}\cdot9899932$ | 74½ | $\bar{1}\cdot9722639$ | 102½ | $\bar{1}\cdot8575708$ |
| 19 | $\bar{1}\cdot9919258$ | 47 | $\bar{1}\cdot9899226$ | 75 | $\bar{1}\cdot9714016$ | 103 | $\bar{1}\cdot8539505$ |
| 19½ | $\bar{1}\cdot9918470$ | 47½ | $\bar{1}\cdot9898495$ | 75½ | $\bar{1}\cdot9705077$ | 103½ | $\bar{1}\cdot8502626$ |
| 20 | $\bar{1}\cdot9917380$ | 48 | $\bar{1}\cdot9897740$ | 76 | $\bar{1}\cdot9695818$ | 104 | $\bar{1}\cdot8465062$ |
| 20½ | $\bar{1}\cdot9917174$ | 48½ | $\bar{1}\cdot9896960$ | 76½ | $\bar{1}\cdot9686229$ | 104½ | $\bar{1}\cdot8426810$ |
| 21 | $\bar{1}\cdot9916974$ | 49 | $\bar{1}\cdot9896156$ | 77 | $\bar{1}\cdot9676308$ | 105 | $\bar{1}\cdot8387862$ |
| 21½ | $\bar{1}\cdot9916777$ | 49½ | $\bar{1}\cdot9895326$ | 77½ | $\bar{1}\cdot9666044$ | 105½ | $\bar{1}\cdot8348212$ |
| 22 | $\bar{1}\cdot9916582$ | 50 | $\bar{1}\cdot9894470$ | 78 | $\bar{1}\cdot9655435$ | 106 | $\bar{1}\cdot8307854$ |
| 22½ | $\bar{1}\cdot9916391$ | 50½ | $\bar{1}\cdot9893586$ | 78½ | $\bar{1}\cdot9644470$ | 106½ | $\bar{1}\cdot8266778$ |
| 23 | $\bar{1}\cdot9916201$ | 51 | $\bar{1}\cdot9891534$ | 79 | $\bar{1}\cdot9633146$ | 107 | $\bar{1}\cdot8224984$ |
| 23½ | $\bar{1}\cdot9916013$ | 51½ | $\bar{1}\cdot9890435$ | 79½ | $\bar{1}\cdot9621456$ | 107½ | $\bar{1}\cdot8182459$ |
| 24 | $\bar{1}\cdot9915826$ | 52 | $\bar{1}\cdot9889325$ | 80 | $\bar{1}\cdot9609392$ | 108 | $\bar{1}\cdot8139201$ |
| 24½ | $\bar{1}\cdot9915639$ | 52½ | $\bar{1}\cdot9888196$ | 80½ | $\bar{1}\cdot9596948$ | 108½ | $\bar{1}\cdot8095202$ |
| 25 | $\bar{1}\cdot9915452$ | 53 | $\bar{1}\cdot9887042$ | 81 | $\bar{1}\cdot9584119$ | 109 | ... |
| 25½ | $\bar{1}\cdot9915265$ | 53½ | $\bar{1}\cdot9885858$ | 81½ | $\bar{1}\cdot9570897$ | | |
| 26 | $\bar{1}\cdot9915076$ | 54 | $\bar{1}\cdot9884637$ | 82 | $\bar{1}\cdot9557276$ | | |
| 26½ | $\bar{1}\cdot9914886$ | 54½ | $\bar{1}\cdot9883371$ | 82½ | $\bar{1}\cdot9543250$ | | |
| 27 | $\bar{1}\cdot9914693$ | 55 | $\bar{1}\cdot9882055$ | 83 | $\bar{1}\cdot9528813$ | | |
| 27½ | $\bar{1}\cdot9914499$ | 55½ | $\bar{1}\cdot9880682$ | 83½ | $\bar{1}\cdot9513956$ | | |

## HALF-YEARLY TABLE:—FEMALES. Interest 3 per Cent.

### Logarithms of the Series $vp_x = \lambda\left(\frac{1}{1+\frac{i}{2}}\cdot\frac{l_{x+\frac{1}{2}}}{l_x}\right)$

| Age ($x$) | $\lambda\ vp_x$ | Age ($x$) | $\lambda\ vp_x$ | Age ($x$) | $\lambda\ vp_x$ | Age ($x$) | $\lambda\ vp_x$ |
|---|---|---|---|---|---|---|---|
| 0 | $\bar{1}$·9511370 | 28 | $\bar{1}$·9913207 | 56 | $\bar{1}$·9887049 | 84 | $\bar{1}$·9534158 |
| 0½ | $\bar{1}$·9730914 | 28½ | $\bar{1}$·9912998 | 56½ | $\bar{1}$·9885495 | 84½ | $\bar{1}$·9519300 |
| 1 | $\bar{1}$·9767048 | 29 | $\bar{1}$·9912789 | 57 | $\bar{1}$·9883890 | 85 | $\bar{1}$·9504009 |
| 1½ | $\bar{1}$·9826042 | 29½ | $\bar{1}$·9912579 | 57½ | $\bar{1}$·9882229 | 85½ | $\bar{1}$·9488279 |
| 2 | $\bar{1}$·9856328 | 30 | $\bar{1}$·9912369 | 58 | $\bar{1}$·9880506 | 86 | $\bar{1}$·9472102 |
| 2½ | $\bar{1}$·9857906 | 30½ | $\bar{1}$·9912158 | 58½ | $\bar{1}$·9878711 | 86½ | $\bar{1}$·9455473 |
| 3 | $\bar{1}$·9877931 | 31 | $\bar{1}$·9911946 | 59 | $\bar{1}$·9876841 | 87 | $\bar{1}$·9438384 |
| 3½ | $\bar{1}$·9886459 | 31½ | $\bar{1}$·9911732 | 59½ | $\bar{1}$·9874886 | 87½ | $\bar{1}$·9420828 |
| 4 | $\bar{1}$·9893632 | 32 | $\bar{1}$·9911516 | 60 | $\bar{1}$·9872840 | 88 | $\bar{1}$·9402799 |
| 4½ | $\bar{1}$·9899571 | 32½ | $\bar{1}$·9911299 | 60½ | $\bar{1}$·9870699 | 88½ | $\bar{1}$·9384289 |
| 5 | $\bar{1}$·9904398 | 33 | $\bar{1}$·9911079 | 61 | $\bar{1}$·9868451 | 89 | $\bar{1}$·9365293 |
| 5½ | $\bar{1}$·9908232 | 33½ | $\bar{1}$·9910856 | 61½ | $\bar{1}$·9866094 | 89½ | $\bar{1}$·9345803 |
| 6 | $\bar{1}$·9911197 | 34 | $\bar{1}$·9910630 | 62 | $\bar{1}$·9863617 | 90 | $\bar{1}$·9325811 |
| 6½ | $\bar{1}$·9913411 | 34½ | $\bar{1}$·9910402 | 62½ | $\bar{1}$·9861017 | 90½ | $\bar{1}$·9305312 |
| 7 | $\bar{1}$·9914679 | 35 | $\bar{1}$·9910169 | 63 | $\bar{1}$·9858286 | 91 | $\bar{1}$·9284299 |
| 7½ | $\bar{1}$·9916393 | 35½ | $\bar{1}$·9909933 | 63½ | $\bar{1}$·9855414 | 91½ | $\bar{1}$·9262763 |
| 8 | $\bar{1}$·9917918 | 36 | $\bar{1}$·9909692 | 64 | $\bar{1}$·9852399 | 92 | $\bar{1}$·9240701 |
| 8½ | $\bar{1}$·9919258 | 36½ | $\bar{1}$·9909448 | 64½ | $\bar{1}$·9849230 | 92½ | $\bar{1}$·9218103 |
| 9 | $\bar{1}$·9920422 | 37 | $\bar{1}$·9909198 | 65 | $\bar{1}$·9845904 | 93 | $\bar{1}$·9194963 |
| 9½ | $\bar{1}$·9921419 | 37½ | $\bar{1}$·9908943 | 65½ | $\bar{1}$·9842412 | 93½ | $\bar{1}$·9171274 |
| 10 | $\bar{1}$·9922255 | 38 | $\bar{1}$·9908683 | 66 | $\bar{1}$·9838746 | 94 | $\bar{1}$·9147031 |
| 10½ | $\bar{1}$·9922939 | 38½ | $\bar{1}$·9908418 | 66½ | $\bar{1}$·9834901 | 94½ | $\bar{1}$·9122224 |
| 11 | $\bar{1}$·9923476 | 39 | $\bar{1}$·9908147 | 67 | $\bar{1}$·9830870 | 95 | $\bar{1}$·9096849 |
| 11½ | $\bar{1}$·9923878 | 39½ | $\bar{1}$·9907869 | 67½ | $\bar{1}$·9826647 | 95½ | $\bar{1}$·9070897 |
| 12 | $\bar{1}$·9924147 | 40 | $\bar{1}$·9907585 | 68 | $\bar{1}$·9822222 | 96 | $\bar{1}$·9044363 |
| 12½ | $\bar{1}$·9924297 | 40½ | $\bar{1}$·9907294 | 68½ | $\bar{1}$·9817591 | 96½ | $\bar{1}$·9017239 |
| 13 | $\bar{1}$·9924330 | 41 | $\bar{1}$·9906996 | 69 | $\bar{1}$·9812747 | 97 | $\bar{1}$·8989518 |
| 13½ | $\bar{1}$·9924256 | 41½ | $\bar{1}$·9906691 | 69½ | $\bar{1}$·9807682 | 97½ | $\bar{1}$·8961194 |
| 14 | $\bar{1}$·9924085 | 42 | $\bar{1}$·9906378 | 70 | $\bar{1}$·9802390 | 98 | $\bar{1}$·8932260 |
| 14½ | $\bar{1}$·9923819 | 42½ | $\bar{1}$·9906057 | 70½ | $\bar{1}$·9796863 | 98½ | $\bar{1}$·8902709 |
| 15 | $\bar{1}$·9923472 | 43 | $\bar{1}$·9905728 | 71 | $\bar{1}$·9791096 | 99 | $\bar{1}$·8872533 |
| 15½ | $\bar{1}$·9923047 | 43½ | $\bar{1}$·9905391 | 71½ | $\bar{1}$·9785081 | 99½ | $\bar{1}$·8841728 |
| 16 | $\bar{1}$·9922554 | 44 | $\bar{1}$·9905044 | 72 | $\bar{1}$·9778811 | 100 | $\bar{1}$·8810285 |
| 16½ | $\bar{1}$·9921998 | 44½ | $\bar{1}$·9904689 | 72½ | $\bar{1}$·9772279 | 100½ | $\bar{1}$·8778197 |
| 17 | $\bar{1}$·9921391 | 45 | $\bar{1}$·9904324 | 73 | $\bar{1}$·9765480 | 101 | $\bar{1}$·8745457 |
| 17½ | $\bar{1}$·9920737 | 45½ | $\bar{1}$·9903949 | 73½ | $\bar{1}$·9758405 | 101½ | $\bar{1}$·8712061 |
| 18 | $\bar{1}$·9920045 | 46 | $\bar{1}$·9903564 | 74 | $\bar{1}$·9751048 | 102 | $\bar{1}$·8677998 |
| 18½ | $\bar{1}$·9919322 | 46½ | $\bar{1}$·9903170 | 74½ | $\bar{1}$·9743402 | 102½ | $\bar{1}$·8643265 |
| 19 | $\bar{1}$·9918577 | 47 | $\bar{1}$·9902764 | 75 | $\bar{1}$·9735461 | 103 | $\bar{1}$·8607853 |
| 19½ | $\bar{1}$·9917815 | 47½ | $\bar{1}$·9902348 | 75½ | $\bar{1}$·9727216 | 103½ | $\bar{1}$·8571755 |
| 20 | $\bar{1}$·9916788 | 48 | $\bar{1}$·9901920 | 76 | $\bar{1}$·9718664 | 104 | $\bar{1}$·8534965 |
| 20½ | $\bar{1}$·9916538 | 48½ | $\bar{1}$·9901481 | 76½ | $\bar{1}$·9709794 | 104½ | $\bar{1}$·8497476 |
| 21 | $\bar{1}$·9916295 | 49 | $\bar{1}$·9901031 | 77 | $\bar{1}$·9700601 | 105 | $\bar{1}$·8459281 |
| 21½ | $\bar{1}$·9916056 | 49½ | $\bar{1}$·9900568 | 77½ | $\bar{1}$·9691079 | 105½ | $\bar{1}$·8420373 |
| 22 | $\bar{1}$·9915821 | 50 | $\bar{1}$·9900093 | 78 | $\bar{1}$·9681220 | 106 | $\bar{1}$·8380745 |
| 22½ | $\bar{1}$·9915588 | 50½ | $\bar{1}$·9899605 | 78½ | $\bar{1}$·9671018 | 106½ | $\bar{1}$·8340392 |
| 23 | $\bar{1}$·9915361 | 51 | $\bar{1}$·9899104 | 79 | $\bar{1}$·9660464 | 107 | $\bar{1}$·8299305 |
| 23½ | $\bar{1}$·9915136 | 51½ | $\bar{1}$·9898591 | 79½ | $\bar{1}$·9649554 | 107½ | $\bar{1}$·8257478 |
| 24 | $\bar{1}$·9914914 | 52 | $\bar{1}$·9898063 | 80 | $\bar{1}$·9638279 | 108 | $\bar{1}$·8214903 |
| 24½ | $\bar{1}$·9914695 | 52½ | $\bar{1}$·9897523 | 80½ | $\bar{1}$·9626635 | 108½ | $\bar{1}$·8171575 |
| 25 | $\bar{1}$·9914477 | 53 | $\bar{1}$·9896967 | 81 | $\bar{1}$·9614611 | 109 | ... |
| 25½ | $\bar{1}$·9914263 | 53½ | $\bar{1}$·9896397 | 81½ | $\bar{1}$·9602204 | | |
| 26 | $\bar{1}$·9914049 | 54 | $\bar{1}$·9892910 | 82 | $\bar{1}$·9589405 | | |
| 26½ | $\bar{1}$·9913837 | 54½ | $\bar{1}$·9891485 | 82½ | $\bar{1}$·9576208 | | |
| 27 | $\bar{1}$·9913626 | 55 | $\bar{1}$·9890038 | 83 | $\bar{1}$·9562606 | | |
| 27½ | $\bar{1}$·9913416 | 55½ | $\bar{1}$·9888562 | 83½ | $\bar{1}$·9548591 | | |

## HALF-YEARLY TABLE:—Males.

### Logarithms of the Series $D_x$; Rate of Interest 3 per Cent.

MALES.

| Age ($x$) Half Years. | λ $D_x$ | Age ($x$) Half Years. | λ $D_x$ | Age ($x$) Half Years. | λ $D_x$ | Age ($x$) Half Years. | λ $D_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 5·7090538 | 55 | 5·1386267 | 110 | 4·6099998 | 165 | 3·3712943 |
| 1 | 5·6492465 | 56 | 5·1300765 | 111 | 4·5982052 | 166 | 3·3256193 |
| 2 | 5·6185381 | 57 | 5·1215065 | 112 | 4·5862734 | 167 | 3·2785005 |
| 3 | 5·5954977 | 58 | 5·1129162 | 113 | 4·5741979 | 168 | 3·2298960 |
| 4 | 5·5767437 | 59 | 5·1043053 | 114 | 4·5619719 | 169 | 3·1797635 |
| 5 | 5·5612816 | 60 | 5·0956734 | 115 | 4·5495877 | 170 | 3·1280597 |
| 6 | 5·5481169 | 61 | 5·0870197 | 116 | 4·5370370 | 171 | 3·0747410 |
| 7 | 5·5360183 | 62 | 5·0783439 | 117 | 4·5243109 | 172 | 3·0197629 |
| 8 | 5·5247018 | 63 | 5·0696452 | 118 | 4·5113999 | 173 | 2·9630803 |
| 9 | 5·5140513 | 64 | 5·0609229 | 119 | 4·4982937 | 174 | 2·9046476 |
| 10 | 5·5039610 | 65 | 5·0521764 | 120 | 4·4849816 | 175 | 2·8444185 |
| 11 | 5·4943346 | 66 | 5·0434047 | 121 | 4·4714520 | 176 | 2·7823458 |
| 12 | 5·4850863 | 67 | 5·0346072 | 122 | 4·4576928 | 177 | 2·7183820 |
| 13 | 5·4761398 | 68 | 5·0257828 | 123 | 4·4436912 | 178 | 2·6524788 |
| 14 | 5·4674293 | 69 | 5·0169307 | 124 | 4·4294338 | 179 | 2·5845874 |
| 15 | 5·4588719 | 70 | 5·0080499 | 125 | 4·4149066 | 180 | 2·5146580 |
| 16 | 5·4505016 | 71 | 4·9991392 | 126 | 4·4000947 | 181 | 2·4426405 |
| 17 | 5·4422978 | 72 | 4·9901976 | 127 | 4·3849828 | 182 | 2·3684840 |
| 18 | 5·4342407 | 73 | 4·9812239 | 128 | 4·3695550 | 183 | 2·2921370 |
| 19 | 5·4263115 | 74 | 4·9722169 | 129 | 4·3537945 | 184 | 2·2135474 |
| 20 | 5·4184920 | 75 | 4·9631754 | 130 | 4·3376841 | 185 | 2·1326623 |
| 21 | 5·4107650 | 76 | 4·9540980 | 131 | 4·3212058 | 186 | 2·0494284 |
| 22 | 5·4031141 | 77 | 4·9449834 | 132 | 4·3043410 | 187 | 1·9637915 |
| 23 | 5·3955235 | 78 | 4·9358302 | 133 | 4·2870706 | 188 | 1·8756969 |
| 24 | 5·3879786 | 79 | 4·9266368 | 134 | 4·2693745 | 189 | 1·7850891 |
| 25 | 5·3804654 | 80 | 4·9174019 | 135 | 4·2512323 | 190 | 1·6919123 |
| 26 | 5·3729706 | 81 | 4·9081237 | 136 | 4·2326229 | 191 | 1·5961097 |
| 27 | 5·3654821 | 82 | 4·8988007 | 137 | 4·2135243 | 192 | 1·4976239 |
| 28 | 5·3579883 | 83 | 4·8894312 | 138 | 4·1939142 | 193 | 1·3963971 |
| 29 | 5·3504785 | 84 | 4·8800134 | 139 | 4·1737693 | 194 | 1·2923706 |
| 30 | 5·3429430 | 85 | 4·8705456 | 140 | 4·1530661 | 195 | 1·1854851 |
| 31 | 5·3353726 | 86 | 4·8610260 | 141 | 4·1317800 | 196 | 1·0756808 |
| 32 | 5·3277593 | 87 | 4·8514526 | 142 | 4·1098860 | 197 | 0·9628971 |
| 33 | 5·3200956 | 88 | 4·8418236 | 143 | 4·0873584 | 198 | 0·8470728 |
| 34 | 5·3123750 | 89 | 4·8321369 | 144 | 4·0641710 | 199 | 0·7281462 |
| 35 | 5·3045917 | 90 | 4·8223904 | 145 | 4·0402966 | 200 | 0·6060546 |
| 36 | 5·2967410 | 91 | 4·8125822 | 146 | 4·0157077 | 201 | 0·4807350 |
| 37 | 5·2888188 | 92 | 4·8027100 | 147 | 3·9903761 | 202 | 0·3521236 |
| 38 | 5·2808217 | 93 | 4·7927716 | 148 | 3·9642727 | 203 | 0·2201560 |
| 39 | 5·2727475 | 94 | 4·7827648 | 149 | 3·9373680 | 204 | 0·0847671 |
| 40 | 5·2645944 | 95 | 4·7726873 | 150 | 3·9096319 | 205 | 9·9458913 |
| 41 | 5·2563323 | 96 | 4·7625367 | 151 | 3·8810334 | 206 | 9·8034621 |
| 42 | 5·2480497 | 97 | 4·7523107 | 152 | 3·8515411 | 207 | 9·6574125 |
| 43 | 5·2397471 | 98 | 4·7420067 | 153 | 3·8211228 | 208 | 9·5076750 |
| 44 | 5·2314247 | 99 | 4·7316223 | 154 | 3·7897457 | 209 | 9·3541812 |
| 45 | 5·2230829 | 100 | 4·7211548 | 155 | 3·7573764 | 210 | 9·1968622 |
| 46 | 5·2147219 | 101 | 4·7106017 | 156 | 3·7239808 | 211 | 9·0356483 |
| 47 | 5·2063420 | 102 | 4·6999604 | 157 | 3·6895242 | 212 | 8·8704695 |
| 48 | 5·1979433 | 103 | 4·6891137 | 158 | 3·6539712 | 213 | 8·7012548 |
| 49 | 5·1895258 | 104 | 4·6781572 | 159 | 3·6172858 | 214 | 8·5279326 |
| 50 | 5·1810897 | 105 | 4·6670896 | 160 | 3·5794313 | 215 | 8·3504309 |
| 51 | 5·1726349 | 106 | 4·6559091 | 161 | 3·5403704 | 216 | 8·1686768 |
| 52 | 5·1641613 | 107 | 4·6446134 | 162 | 3·5000652 | 217 | 7·9825969 |
| 53 | 5·1556689 | 108 | 4·6331991 | 163 | 3·4584771 | 218 | 7·7921170 |
| 54 | 5·1471574 | 109 | 4·6216628 | 164 | 3·4155667 | 219 | 7·5971624 |

## HALF-YEARLY TABLE:—FEMALES.

## Logarithms of the Series $D_x$; Rate of Interest 3 per Cent.

FEMALES.

| Age ($x$) Half Years. | λ $D_x$ | Age ($x$) Half Years. | λ $D_x$ | Age ($x$) Half Years. | λ $D_x$ | Age ($x$) Half Years. | λ $D_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 5·6886465 | 55 | 5·1314854 | 110 | 4·6142017 | 165 | 3·4629029 |
| 1 | 5·6397835 | 56 | 5·1228270 | 111 | 4·6032054 | 166 | 3·4205237 |
| 2 | 5·6128748 | 57 | 5·1141476 | 112 | 4·5920615 | 167 | 3·3767842 |
| 3 | 5·5895796 | 58 | 5·1054474 | 113 | 4·5807664 | 168 | 3·3316433 |
| 4 | 5·5721837 | 59 | 5·0967262 | 114 | 4·5693158 | 169 | 3·2850591 |
| 5 | 5·5578165 | 60 | 5·0879841 | 115 | 4·5577048 | 170 | 3·2369890 |
| 6 | 5·5436070 | 61 | 5·0792209 | 116 | 4·5459277 | 171 | 3·1873899 |
| 7 | 5·5314001 | 62 | 5·0704367 | 117 | 4·5339782 | 172 | 3·1362177 |
| 8 | 5·5200460 | 63 | 5·0616312 | 118 | 4·5218493 | 173 | 3·0831279 |
| 9 | 5·5094091 | 64 | 5·0528044 | 119 | 4·5095333 | 174 | 3·0289751 |
| 10 | 5·4993662 | 65 | 5·0439560 | 120 | 4·4970219 | 175 | 2·9728135 |
| 11 | 5·4898059 | 66 | 5·0350858 | 121 | 4·4843059 | 176 | 2·9148963 |
| 12 | 5·4806291 | 67 | 5·0261937 | 122 | 4·4713757 | 177 | 2·8551761 |
| 13 | 5·4717488 | 68 | 5·0172792 | 123 | 4·4582208 | 178 | 2·7936050 |
| 14 | 5·4630899 | 69 | 5·0083422 | 124 | 4·4448301 | 179 | 2·7301343 |
| 15 | 5·4545577 | 70 | 4·9993823 | 125 | 4·4311918 | 180 | 2·6647145 |
| 16 | 5·4461970 | 71 | 4·9903992 | 126 | 4·4172935 | 181 | 2·5972955 |
| 17 | 5·4379887 | 72 | 4·9813924 | 127 | 4·4031220 | 182 | 2·5278267 |
| 18 | 5·4299144 | 73 | 4·9723616 | 128 | 4·3886634 | 183 | 2·4562565 |
| 19 | 5·4219566 | 74 | 4·9633063 | 129 | 4·3739032 | 184 | 2·3825329 |
| 20 | 5·4140985 | 75 | 4·9542261 | 130 | 4·3588263 | 185 | 2·3066020 |
| 21 | 5·4063240 | 76 | 4·9451204 | 131 | 4·3434166 | 186 | 2·2284131 |
| 22 | 5·3986178 | 77 | 4·9359887 | 132 | 4·3276577 | 187 | 2·1479094 |
| 23 | 5·3909654 | 78 | 4·9268304 | 133 | 4·3115322 | 188 | 2·0650368 |
| 24 | 5·3833531 | 79 | 4·9176450 | 134 | 4·2950223 | 189 | 1·9797398 |
| 25 | 5·3757678 | 80 | 4·9084319 | 135 | 4·2781093 | 190 | 1·8919622 |
| 26 | 5·3681974 | 81 | 4·8991903 | 136 | 4·2607739 | 191 | 1·8016470 |
| 27 | 5·3606303 | 82 | 4·8899197 | 137 | 4·2429961 | 192 | 1·7087367 |
| 28 | 5·3530560 | 83 | 4·8806193 | 138 | 4·2247552 | 193 | 1·6131729 |
| 29 | 5·3454643 | 84 | 4·8712883 | 139 | 4·2060299 | 194 | 1·5148968 |
| 30 | 5·3378463 | 85 | 4·8619261 | 140 | 4·1867980 | 195 | 1·4138485 |
| 31 | 5·3301934 | 86 | 4·8525318 | 141 | 4·1670369 | 196 | 1·3099679 |
| 32 | 5·3224981 | 87 | 4·8431046 | 142 | 4·1467232 | 197 | 1·2031939 |
| 33 | 5·3147534 | 88 | 4·8336436 | 143 | 4·1258328 | 198 | 1·0934647 |
| 34 | 5·3069532 | 89 | 4·8241480 | 144 | 4·1043408 | 199 | 0·9807180 |
| 35 | 5·2990923 | 90 | 4·8146168 | 145 | 4·0822218 | 200 | 0·8648908 |
| 36 | 5·2911659 | 91 | 4·8050491 | 146 | 4·0594497 | 201 | 0·7459192 |
| 37 | 5·2831703 | 92 | 4·7954440 | 147 | 4·0359977 | 202 | 0·6227388 |
| 38 | 5·2751025 | 93 | 4·7858004 | 148 | 4·0118381 | 203 | 0·4982845 |
| 39 | 5·2669601 | 94 | 4·7761173 | 149 | 3·9869429 | 204 | 0·3694906 |
| 40 | 5·2587416 | 95 | 4·7663937 | 150 | 3·9612830 | 205 | 0·2372904 |
| 41 | 5·2504203 | 96 | 4·7566284 | 151 | 3·9348291 | 206 | 0·1016168 |
| 42 | 5·2420742 | 97 | 4·7468204 | 152 | 3·9075507 | 207 | 9·9624021 |
| 43 | 5·2337036 | 98 | 4·7369685 | 153 | 3·8794170 | 208 | 9·8195775 |
| 44 | 5·2253092 | 99 | 4·7270715 | 154 | 3·8503964 | 209 | 9·6730740 |
| 45 | 5·2168912 | 100 | 4·7171283 | 155 | 3·8204565 | 210 | 9·5228215 |
| 46 | 5·2084500 | 101 | 4·7071375 | 156 | 3·7895644 | 211 | 9·3687495 |
| 47 | 5·1999860 | 102 | 4·6970980 | 157 | 3·7576863 | 212 | 9·2107868 |
| 48 | 5·1914996 | 103 | 4·6870084 | 158 | 3·7247880 | 213 | 9·0488613 |
| 49 | 5·1829909 | 104 | 4·6768674 | 159 | 3·6908344 | 214 | 8·8829005 |
| 50 | 5·1744604 | 105 | 4·6666737 | 160 | 3·6557897 | 215 | 8·7128309 |
| 51 | 5·1659081 | 106 | 4·6564259 | 161 | 3·6196176 | 216 | 8·5385786 |
| 52 | 5·1573343 | 107 | 4·6461226 | 162 | 3·5822810 | 217 | 8·3600689 |
| 53 | 5·1487391 | 108 | 4·6357623 | 163 | 3·5437421 | 218 | 8·1772264 |
| 54 | 5·1401228 | 109 | 4·6250532 | 164 | 3·5039625 | 219 | 7·9899751 |

## HALF-YEARLY TABLE:—MALES. Interest 3 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 511,745 | 19,235,375 | 7·2841007 | 28 | 134,920 | 5,434,336 | 6·7351465 |
| 0½ | 445,909 | 18,723,630 | 7·2723900 | 28½ | 132,284 | 5,299,416 | 6·7242280 |
| 1 | 415,469 | 18,277,721 | 7·2619221 | 29 | 129,693 | 5,167,132 | 6·7132496 |
| 1½ | 394,001 | 17,862,252 | 7·2519363 | 29½ | 127,147 | 5,037,439 | 6·7022098 |
| 2 | 377,349 | 17,468,251 | 7·2422495 | 30 | 124,645 | 4,910,292 | 6·6911073 |
| 2½ | 364,151 | 17,090,902 | 7·2327651 | 30½ | 122,185 | 4,785,647 | 6·6799406 |
| 3 | 353,278 | 16,726,751 | 7·2234116 | 31 | 119,769 | 4,663,462 | 6·6687085 |
| 3½ | 343,572 | 16,373,473 | 7·2141408 | 31½ | 117,394 | 4,543,693 | 6·6574090 |
| 4 | 334,736 | 16,029,901 | 7·2049308 | 32 | 115,060 | 4,426,299 | 6·6460407 |
| 4½ | 326,626 | 15,695,165 | 7·1957659 | 32½ | 112,766 | 4,311,239 | 6·6346021 |
| 5 | 319,125 | 15,368,539 | 7·1866326 | 33 | 110,511 | 4,198,473 | 6·6230914 |
| 5½ | 312,129 | 15,049,414 | 7·1775196 | 33½ | 108,295 | 4,087,962 | 6·6115069 |
| 6 | 305,553 | 14,737,285 | 7·1684175 | 34 | 106,116 | 3,979,667 | 6·5998467 |
| 6½ | 299,323 | 14,431,732 | 7·1593185 | 34½ | 103,975 | 3,873,551 | 6·5881093 |
| 7 | 293,379 | 14,132,409 | 7·1502162 | 35 | 101,871 | 3,769,576 | 6·5762925 |
| 7½ | 287,655 | 13,839,030 | 7·1411056 | 35½ | 99,802 | 3,667,705 | 6·5643944 |
| 8 | 282,164 | 13,551,375 | 7·1319833 | 36 | 97,768 | 3,567,903 | 6·5524131 |
| 8½ | 276,884 | 13,269,211 | 7·1228451 | 36½ | 95,769 | 3,470,135 | 6·5403464 |
| 9 | 271,795 | 12,992,327 | 7·1136869 | 37 | 93,803 | 3,374,366 | 6·5281922 |
| 9½ | 266,877 | 12,720,532 | 7·1045053 | 37½ | 91,870 | 3,280,563 | 6·5159484 |
| 10 | 262,115 | 12,453,655 | 7·0952968 | 38 | 89,970 | 3,188,693 | 6·5036127 |
| 10½ | 257,493 | 12,191,540 | 7·0860586 | 38½ | 88,102 | 3,098,723 | 6·4911827 |
| 11 | 252,996 | 11,934,047 | 7·0767877 | 39 | 86,264 | 3,010,621 | 6·4786561 |
| 11½ | 248,613 | 11,681,051 | 7·0674819 | 39½ | 84,457 | 2,924,357 | 6·4660304 |
| 12 | 244,331 | 11,432,438 | 7·0581388 | 40 | 82,680 | 2,839,900 | 6·4533030 |
| 12½ | 240,140 | 11,188,107 | 7·0487567 | 40½ | 80,933 | 2,757,220 | 6·4404714 |
| 13 | 236,032 | 10,947,967 | 7·0393335 | 41 | 79,214 | 2,676,287 | 6·4275327 |
| 13½ | 231,997 | 10,711,935 | 7·0298680 | 41½ | 77,523 | 2,597,073 | 6·4144842 |
| 14 | 228,028 | 10,479,938 | 7·0203588 | 42 | 75,860 | 2,519,550 | 6·4013230 |
| 14½ | 224,119 | 10,251,910 | 7·0108049 | 42½ | 74,224 | 2,443,690 | 6·3880461 |
| 15 | 220,264 | 10,027,791 | 7·0012052 | 43 | 72,615 | 2,369,466 | 6·3746505 |
| 15½ | 216,457 | 9,807,527 | 6·9915595 | 43½ | 71,032 | 2,296,851 | 6·3611329 |
| 16 | 212,696 | 9,591,070 | 6·9818671 | 44 | 69,474 | 2,225,819 | 6·3474899 |
| 16½ | 208,976 | 9,378,374 | 6·9721276 | 44½ | 67,942 | 2,156,345 | 6·3337182 |
| 17 | 205,293 | 9,169,398 | 6·9623408 | 45 | 66,434 | 2,088,403 | 6·3198143 |
| 17½ | 201,647 | 8,964,105 | 6·9525069 | 45½ | 64,950 | 2,021,969 | 6·3057745 |
| 18 | 198,035 | 8,762,458 | 6·9426260 | 46 | 63,491 | 1,957,019 | 6·2915950 |
| 18½ | 194,455 | 8,564,423 | 6·9326981 | 46½ | 62,054 | 1,893,528 | 6·2772717 |
| 19 | 190,907 | 8,369,968 | 6·9227238 | 47 | 60,641 | 1,831,474 | 6·2628008 |
| 19½ | 187,390 | 8,179,061 | 6·9127035 | 47½ | 59,250 | 1,770,833 | 6·2481776 |
| 20 | 183,905 | 7,991,671 | 6·9026377 | 48 | 57,881 | 1,711,583 | 6·2333980 |
| 20½ | 180,440 | 7,807,766 | 6·8925268 | 48½ | 56,534 | 1,653,702 | 6·2184572 |
| 21 | 177,031 | 7,627,326 | 6·8823722 | 49 | 55,209 | 1,597,168 | 6·2033506 |
| 21½ | 173,679 | 7,450,295 | 6·8721735 | 49½ | 53,904 | 1,541,959 | 6·1880728 |
| 22 | 170,382 | 7,276,616 | 6·8619295 | 50 | 52,620 | 1,488,055 | 6·1726190 |
| 22½ | 167,141 | 7,106,234 | 6·8516394 | 50½ | 51,357 | 1,435,435 | 6·1569835 |
| 23 | 163,954 | 6,939,093 | 6·8413027 | 51 | 50,114 | 1,384,078 | 6·1411606 |
| 23½ | 160,821 | 6,775,139 | 6·8309182 | 51½ | 48,878 | 1,333,964 | 6·1251441 |
| 24 | 157,741 | 6,614,318 | 6·8204851 | 52 | 47,660 | 1,285,086 | 6·1089321 |
| 24½ | 154,713 | 6,456,577 | 6·8100024 | 52½ | 46,461 | 1,237,426 | 6·0925192 |
| 25 | 151,736 | 6,301,864 | 6·7994690 | 53 | 45,280 | 1,190,965 | 6·0758990 |
| 25½ | 148,811 | 6,150,128 | 6·7888842 | 53½ | 44,118 | 1,145,685 | 6·0590652 |
| 26 | 145,936 | 6,001,317 | 6·7782465 | 54 | 42,973 | 1,101,567 | 6·0420110 |
| 26½ | 143,110 | 5,855,381 | 6·7675552 | 54½ | 41,847 | 1,058,594 | 6·0247295 |
| 27 | 140,332 | 5,712,271 | 6·7568088 | 55 | 40,738 | 1,016,747 | 6·0072129 |
| 27½ | 137,603 | 5,571,939 | 6·7460063 | 55½ | 39,647 | 976,009 | 5·9894539 |

## HALF-YEARLY TABLE:—MALES. Interest 3 per Cent.

| Age $(x)$ | $D_x$ | $N_x$ | $\lambda N_x$ | Age $(x)$ | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 56 | 38,572 | 936,362 | 5·9714438 | 84 | 1,697·8 | 13,071·9 | 4·1163387 |
| 56½ | 37,514 | 897,790 | 5·9531748 | 84½ | 1,512·7 | 11,374·1 | 4·0559170 |
| 57 | 36,473 | 860,276 | 5·9346378 | 85 | 1,342·9 | 9,861·4 | 3·9939386 |
| 57½ | 35,448 | 823,803 | 5·9158234 | 85½ | 1,187·8 | 8,518·5 | 3·9303631 |
| 58 | 34,438 | 788,355 | 5·8967219 | 86 | 1,046·6 | 7,330·7 | 3·8651454 |
| 58½ | 33,443 | 753,917 | 5·8773236 | 86½ | 918·50 | 6,284·14 | 3·7982459 |
| 59 | 32,464 | 720,474 | 5·8576183 | 87 | 802·87 | 5,365·64 | 3·7296215 |
| 59½ | 31,499 | 688,010 | 5·8375948 | 87½ | 698·91 | 4,562·77 | 3·6592286 |
| 60 | 30,548 | 656,511 | 5·8172420 | 88 | 605·82 | 3,863·86 | 3·5870214 |
| 60½ | 29,611 | 625,963 | 5·7965487 | 88½ | 522·86 | 3,258·04 | 3·5129564 |
| 61 | 28,688 | 596,352 | 5·7755027 | 89 | 449·24 | 2,735·18 | 3·4369859 |
| 61½ | 27,777 | 567,664 | 5·7540913 | 89½ | 384·23 | 2,285·94 | 3·3590648 |
| 62 | 26,880 | 539,887 | 5·7323029 | 90 | 327·08 | 1,901·71 | 3·2791443 |
| 62½ | 25,996 | 513,007 | 5·7101233 | 90½ | 277·10 | 1,574·63 | 3·1971785 |
| 63 | 25,124 | 487,011 | 5·6875388 | 91 | 233·61 | 1,297·53 | 3·1131174 |
| 63½ | 24,265 | 461,887 | 5·6645358 | 91½ | 195·95 | 1,063·92 | 3·0269090 |
| 64 | 23,418 | 437,622 | 5·6410992 | 92 | 163·51 | 867·97 | 2·9385047 |
| 64½ | 22,584 | 414,204 | 5·6172143 | 92½ | 135·73 | 704·46 | 2·8478563 |
| 65 | 21,761 | 391,620 | 5·5928649 | 93 | 112·05 | 568·73 | 2·7549061 |
| 65½ | 20,951 | 369,859 | 5·5680362 | 93½ | 92·001 | 456·675 | 2·6596073 |
| 66 | 20,153 | 348,908 | 5·5427109 | 94 | 75·110 | 364·674 | 2·5619048 |
| 66½ | 19,367 | 328,755 | 5·5168724 | 94½ | 60·966 | 289·564 | 2·4617446 |
| 67 | 18,594 | 309,388 | 5·4905035 | 95 | 49·194 | 228·598 | 2·3590724 |
| 67½ | 17,833 | 290,794 | 5·4635855 | 95½ | 39·456 | 179·404 | 2·2538321 |
| 68 | 17,085 | 272,961 | 5·4361006 | 96 | 31·450 | 139·948 | 2·1459668 |
| 68½ | 16,350 | 255,876 | 5·4080295 | 96½ | 24·911 | 108·498 | 2·0354218 |
| 69 | 15,628 | 239,526 | 5·3793527 | 97 | 19·605 | 83·587 | 1·9221387 |
| 69½ | 14,920 | 223,898 | 5·3500502 | 97½ | 15·328 | 63·982 | 1·8060578 |
| 70 | 14,225 | 208,978 | 5·3201005 | 98 | 11·904 | 48·654 | 1·6871186 |
| 70½ | 13,545 | 194,753 | 5·2894842 | 98½ | 9·1812 | 36·7502 | 1·5652597 |
| 71 | 12,879 | 181,208 | 5·2581774 | 99 | 7·0319 | 27·5690 | 1·4404210 |
| 71½ | 12,228 | 168,329 | 5·2261589 | 99½ | 5·3474 | 20·5371 | 1·3125391 |
| 72 | 11,592 | 156,101 | 5·1934057 | 100 | 4·0370 | 15·1897 | 1·1815492 |
| 72½ | 10,972 | 144,509 | 5·1598949 | 100½ | 3·0251 | 11·1527 | 1·0473800 |
| 73 | 10,368 | 133,537 | 5·1256016 | 101 | 2·2497 | 8·1276 | 0·9099623 |
| 73½ | 9,780·8 | 123,169·3 | 5·0905026 | 101½ | 1·6602 | 5·8779 | 0·7692222 |
| 74 | 9,210·3 | 113,388·5 | 5·0545690 | 102 | 1·2155 | 4·2177 | 0·6250757 |
| 74½ | 8,657·0 | 104,178·2 | 5·0177769 | 102½ | ·8829 | 3·0022 | 0·4774396 |
| 75 | 8,121·4 | 95,521·2 | 4·9800998 | 103 | ·6360 | 2·1193 | 0·3261924 |
| 75½ | 7,603·8 | 87,399·8 | 4·9415104 | 103½ | ·4544 | 1·4833 | 0·1712290 |
| 76 | 7,104·6 | 79,796·0 | 4·9019811 | 104 | ·3219 | 1·0289 | 0·0123732 |
| 76½ | 6,624·0 | 72,691·4 | 4·8614830 | 104½ | ·2260 | ·7070 | $\bar{1}$·8494194 |
| 77 | 6,162·3 | 66,067·4 | 4·8199872 | 105 | ·1573 | ·4810 | $\bar{1}$·6821451 |
| 77½ | 5,719·7 | 59,905·1 | 4·7774638 | 105½ | ·1086 | ·3237 | $\bar{1}$·5101427 |
| 78 | 5,296·4 | 54,185·4 | 4·7338823 | 106 | ·0742 | ·2151 | $\bar{1}$·3326404 |
| 78½ | 4,892·4 | 48,889·0 | 4·6892112 | 106½ | ·0503 | ·1409 | $\bar{1}$·1489110 |
| 79 | 4,507·9 | 43,996·6 | 4·6434191 | 107 | ·0337 | ·0906 | $\bar{2}$·9571282 |
| 79½ | 4,142·7 | 39,488·7 | 4·5964728 | 107½ | ·0224 | ·0569 | $\bar{2}$·7551123 |
| 80 | 3,796·9 | 35,346·0 | 4·5483403 | 108 | ·0147 | ·0345 | $\bar{2}$·5378191 |
| 80½ | 3,470·3 | 31,549·1 | 4·4989870 | 108½ | ·0096 | ·0198 | $\bar{2}$·2966652 |
| 81 | 3,162·8 | 28,078·8 | 4·4483785 | 109 | ·0062 | ·0102 | $\bar{2}$·0086002 |
| 81½ | 2,873·9 | 24,916·0 | 4·3964783 | 109½ | ·0040 | ·0040 | $\bar{3}$·6020600 |
| 82 | 2,603·6 | 22,042·1 | 4·3432530 | | | | |
| 82½ | 2,351·2 | 19,438·5 | 4·2886628 | | | | |
| 83 | 2,116·5 | 17,087·3 | 4·2326734 | | | | |
| 83½ | 1,898·9 | 14,970·8 | 4·1752450 | | | | |

## HALF-YEARLY TABLE:—MALES. Interest 3 per Cent.

### VALUES OF ANNUITIES.* SINGLE and HALF-YEARLY PREMIUMS which insure £1 on the LIFE of a MALE.

| Age | Present Value of an Annuity of £1 payable every Half Year. | Annuity payable every Half Year which £1 will purchase. | Single Premium which will insure £1 over the Whole Term of Life. | Half-yearly Premium which will insure £1 over the Whole Term of Life. | $\lambda\left(\frac{N_x}{D_x}\right)$ $=\lambda\Lambda_x$ | $\lambda\,\Pi_x$ | $\lambda\,\pi_x$ | Age |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x}=\Lambda_x$ | $\frac{D_x}{N_x}=a_x$ | $1-d\,\Lambda_x=\Pi_x$ | $a_x-d=\pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 0 | 37·5878 | ·026604 | ·44452 | ·011826 | 1·5750469 | $\bar{1}$·6478913 | $\bar{2}$·0728379 | 0 |
| 0½ | 41·9898 | ·023815 | ·37946 | ·009037 | 1·6231435 | $\bar{1}$·5791660 | $\bar{3}$·9560243 | 0½ |
| 1 | 43·9930 | ·022731 | ·34986 | ·007953 | 1·6433840 | $\bar{1}$·5438943 | $\bar{3}$·9005310 | 1 |
| 1½ | 45·3355 | ·022058 | ·33002 | ·007280 | 1·6564386 | $\bar{1}$·5185403 | $\bar{3}$·8621314 | 1½ |
| 2 | 46·2920 | ·021602 | ·31588 | ·006824 | 1·6655058 | $\bar{1}$·4995221 | $\bar{3}$·8340390 | 2 |
| 2½ | 46·9336 | ·021307 | ·30640 | ·006529 | 1·6714835 | $\bar{1}$·4862888 | $\bar{3}$·8148467 | 2½ |
| 3 | 47·3472 | ·021121 | ·30029 | ·006343 | 1·6752947 | $\bar{1}$·4775409 | $\bar{3}$·8022947 | 3 |
| 3½ | 47·6565 | ·020983 | ·29572 | ·006205 | 1·6781225 | $\bar{1}$·4708807 | $\bar{3}$·7927418 | 3½ |
| 4 | 47·8883 | ·020882 | ·29229 | ·006104 | 1·6802290 | $\bar{1}$·4658140 | $\bar{3}$·7856145 | 4 |
| 4½ | 48·0523 | ·020811 | ·28987 | ·006033 | 1·6817146 | $\bar{1}$·4622033 | $\bar{3}$·7805333 | 4½ |
| 5 | 48·1584 | ·020765 | ·28830 | ·005987 | 1·6826716 | $\bar{1}$·4598446 | $\bar{3}$·7772093 | 5 |
| 5½ | 48·2153 | ·020740 | ·28746 | ·005962 | 1·6831850 | $\bar{1}$·4585774 | $\bar{3}$·7753920 | 5½ |
| 6 | 48·2315 | ·020733 | ·28722 | ·005955 | 1·6833312 | $\bar{1}$·4582147 | $\bar{3}$·7748818 | 6 |
| 6½ | 48·2146 | ·020741 | ·28747 | ·005963 | 1·6831787 | $\bar{1}$·4585925 | $\bar{3}$·7754648 | 6½ |
| 7 | 48·1711 | ·020759 | ·28811 | ·005981 | 1·6827869 | $\bar{1}$·4595583 | $\bar{3}$·7767738 | 7 |
| 7½ | 48·1098 | ·020786 | ·28902 | ·006008 | 1·6822337 | $\bar{1}$·4609279 | $\bar{3}$·7787299 | 7½ |
| 8 | 48·0266 | ·020822 | ·29025 | ·006044 | 1·6814817 | $\bar{1}$·4627722 | $\bar{3}$·7813245 | 8 |
| 8½ | 47·9234 | ·020867 | ·29177 | ·006089 | 1·6805473 | $\bar{1}$·4650406 | $\bar{3}$·7845460 | 8½ |
| 9 | 47·8020 | ·020920 | ·29357 | ·006142 | 1·6794462 | $\bar{1}$·4677117 | $\bar{3}$·7883098 | 9 |
| 9½ | 47·6644 | ·020980 | ·29560 | ·006202 | 1·6781938 | $\bar{1}$·4707044 | $\bar{3}$·7925318 | 9½ |
| 10 | 47·5122 | ·021047 | ·29785 | ·006269 | 1·6768048 | $\bar{1}$·4739976 | $\bar{3}$·7971983 | 10 |
| 10½ | 47·3471 | ·021121 | ·30029 | ·006343 | 1·6752936 | $\bar{1}$·4775409 | $\bar{3}$·8022947 | 10½ |
| 11 | 47·1708 | ·021200 | ·30289 | ·006422 | 1·6736736 | $\bar{1}$·4812849 | $\bar{3}$·8076703 | 11 |
| 11½ | 46·9849 | ·021283 | ·30564 | ·006505 | 1·6719584 | $\bar{1}$·4852102 | $\bar{3}$·8132473 | 11½ |
| 12 | 46·7908 | ·021372 | ·30851 | ·006594 | 1·6701602 | $\bar{1}$·4892692 | $\bar{3}$·8191489 | 12 |
| 12½ | 46·5899 | ·021464 | ·31148 | ·006686 | 1·6682913 | $\bar{1}$·4934302 | $\bar{3}$·8251664 | 12½ |
| 13 | 46·3834 | ·021559 | ·31453 | ·006781 | 1·6663629 | $\bar{1}$·4976621 | $\bar{3}$·8312937 | 13 |
| 13½ | 46·1728 | ·021658 | ·31764 | ·006880 | 1·6643859 | $\bar{1}$·5019352 | $\bar{3}$·8375884 | 13½ |
| 14 | 45·9590 | ·021759 | ·32080 | ·006981 | 1·6623705 | $\bar{1}$·5062344 | $\bar{3}$·8439176 | 14 |
| 14½ | 45·7432 | ·021861 | ·32399 | ·007083 | 1·6603264 | $\bar{1}$·5105316 | $\bar{3}$·8502172 | 14½ |
| 15 | 45·5263 | ·021965 | ·32720 | ·007187 | 1·6582622 | $\bar{1}$·5148133 | $\bar{3}$·8565476 | 15 |
| 15½ | 45·3093 | ·022071 | ·33040 | ·007293 | 1·6561869 | $\bar{1}$·5190400 | $\bar{3}$·8629062 | 15½ |
| 16 | 45·0929 | ·022176 | ·33360 | ·007398 | 1·6541078 | $\bar{1}$·5232260 | $\bar{3}$·8691143 | 16 |
| 16½ | 44·8778 | ·022283 | ·33678 | ·007505 | 1·6520320 | $\bar{1}$·5273463 | $\bar{3}$·8753507 | 16½ |
| 17 | 44·6648 | ·022389 | ·33993 | ·007611 | 1·6499658 | $\bar{1}$·5313895 | $\bar{3}$·8814417 | 17 |
| 17½ | 44·4545 | ·022495 | ·34304 | ·007717 | 1·6479152 | $\bar{1}$·5353448 | $\bar{3}$·8874485 | 17½ |
| 18 | 44·2471 | ·022600 | ·34610 | ·007822 | 1·6458850 | $\bar{1}$·5392016 | $\bar{3}$·8933178 | 18 |
| 18½ | 44·0432 | ·022705 | ·34911 | ·007927 | 1·6438793 | $\bar{1}$·5429623 | $\bar{3}$·8991089 | 18½ |
| 19 | 43·8432 | ·022809 | ·35207 | ·008031 | 1·6419021 | $\bar{1}$·5466290 | $\bar{3}$·9047696 | 19 |
| 19½ | 43·6472 | ·022911 | ·35497 | ·008133 | 1·6399560 | $\bar{1}$·5501917 | $\bar{3}$·9102508 | 19½ |
| 20 | 43·4554 | ·023012 | ·35780 | ·008234 | 1·6380433 | $\bar{1}$·5536403 | $\bar{3}$·9156109 | 20 |
| 20½ | 43·2708 | ·023110 | ·36053 | ·008332 | 1·6361945 | $\bar{1}$·5569414 | $\bar{3}$·9207493 | 20½ |
| 21 | 43·0846 | ·023210 | ·36328 | ·008432 | 1·6343225 | $\bar{1}$·5602415 | $\bar{3}$·9259306 | 21 |
| 21½ | 42·8970 | ·023312 | ·36605 | ·008534 | 1·6324264 | $\bar{1}$·5635404 | $\bar{3}$·9311526 | 21½ |
| 22 | 42·7076 | ·023415 | ·36885 | ·008637 | 1·6305048 | $\bar{1}$·5668498 | $\bar{3}$·9363629 | 22 |
| 22½ | 42·5164 | ·023520 | ·37168 | ·008742 | 1·6285565 | $\bar{1}$·5701692 | $\bar{3}$·9416108 | 22½ |
| 23 | 42·3234 | ·023628 | ·37453 | ·008850 | 1·6265808 | $\bar{1}$·5734866 | $\bar{3}$·9469433 | 23 |
| 23½ | 42·1285 | ·023737 | ·37741 | ·008959 | 1·6245762 | $\bar{1}$·5768134 | $\bar{3}$·9522595 | 23½ |
| 24 | 41·9316 | ·023848 | ·38032 | ·009070 | 1·6225418 | $\bar{1}$·5801492 | $\bar{3}$·9576073 | 24 |
| 24½ | 41·7327 | ·023962 | ·38326 | ·009184 | 1·6204766 | $\bar{1}$·5834935 | $\bar{3}$·9630319 | 24½ |
| 25 | 41·5317 | ·024078 | ·38623 | ·009300 | 1·6183793 | $\bar{1}$·5868460 | $\bar{3}$·9684829 | 25 |
| 25½ | 41·3285 | ·024196 | ·38923 | ·009418 | 1·6162493 | $\bar{1}$·5902063 | $\bar{3}$·9739587 | 25½ |
| 26 | 41·1230 | ·024317 | ·39227 | ·009539 | 1·6140852 | $\bar{1}$·5935851 | $\bar{3}$·9795028 | 26 |
| 26½ | 40·9153 | ·024441 | ·39534 | ·009663 | 1·6118863 | $\bar{1}$·5969708 | $\bar{3}$·9851120 | 26½ |
| 27 | 40·7053 | ·024567 | ·39844 | ·009789 | 1·6096514 | $\bar{1}$·6003629 | $\bar{3}$·9907383 | 27 |
| 27½ | 40·4930 | ·024696 | ·40158 | ·009918 | 1·6073796 | $\bar{1}$·6037721 | $\bar{3}$·9964241 | 27½ |

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* **Note.**—The Value of an Annuity of £·5 payable at the commencement of every **half year** that the Annuitant lives, making £1 a year, is obtained by dividing the number in column 2. by *two*. The **Sum Insured** is payable at the end of the **half year** of age in which the death occurs.

## HALF-YEARLY TABLE:—MALES. Interest 3 per Cent.

VALUES OF ANNUITIES. SINGLE and HALF-YEARLY PREMIUMS which insure **£1** on the LIFE of a MALE.

| Age | **Present Value** of an **Annuity** of £1 payable every **Half Year.** | **Annuity** payable every **Half Year** which £1 will purchase. | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Half-yearly Premium** which will insure £1 over the **Whole Term of Life.** | $\lambda \left(\frac{N_x}{D_x}\right) = \lambda A_x$ | $\lambda\ \Pi_x$ | $\lambda\ \pi_x$ |
|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1 - d\ A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | |
| | £ | £ | £ | £ | | | |
| 28 | 40·2782 | ·024827 | ·40476 | ·010049 | 1·6050700 | $\bar{1}$·6071976 | $\bar{2}$·0021228 |
| 28½ | 40·0610 | ·024962 | ·40797 | ·010184 | 1·6027215 | $\bar{1}$·6106282 | $\bar{2}$·0079184 |
| 29 | 39·8413 | ·025100 | ·41121 | ·010322 | 1·6003334 | $\bar{1}$·6140637 | $\bar{2}$·0137639 |
| 29½ | 39·6191 | ·025240 | ·41450 | ·010462 | 1·5979045 | $\bar{1}$·6175245 | $\bar{2}$·0196147 |
| 30 | 39·3943 | ·025384 | ·41782 | ·010606 | 1·5954339 | $\bar{1}$·6209892 | $\bar{2}$·0255516 |
| 30½ | 39·1671 | ·025532 | ·42118 | ·010754 | 1·5929209 | $\bar{1}$·6244677 | $\bar{2}$·0315700 |
| 31 | 38·9372 | ·025682 | ·42457 | ·010904 | 1·5903646 | $\bar{1}$·6279493 | $\bar{2}$·0375858 |
| 31½ | 38·7047 | ·025837 | ·42801 | ·011059 | 1·5877638 | $\bar{1}$·6314539 | $\bar{2}$·0437159 |
| 32 | 38·4696 | ·025995 | ·43148 | ·011217 | 1·5851178 | $\bar{1}$·6349607 | $\bar{2}$·0498767 |
| 32½ | 38·2319 | ·026156 | ·43500 | ·011373 | 1·5824257 | $\bar{1}$·6384893 | $\bar{2}$·0560659 |
| 33 | 37·9915 | ·026322 | ·43855 | ·011544 | 1·5796867 | $\bar{1}$·6420191 | $\bar{2}$·0623563 |
| 33½ | 37·7485 | ·026491 | ·44214 | ·011713 | 1·5768997 | $\bar{1}$·6455598 | $\bar{2}$·0686681 |
| 34 | 37·5028 | ·026665 | ·44577 | ·011887 | 1·5740639 | $\bar{1}$·6491108 | $\bar{2}$·0750723 |
| 34½ | 37·2545 | ·026842 | ·44944 | ·012064 | 1·5711786 | $\bar{1}$·6526717 | $\bar{2}$·0814913 |
| 35 | 37·0035 | ·027024 | ·45315 | ·012246 | 1·5682426 | $\bar{1}$·6562420 | $\bar{2}$·0879943 |
| 35½ | 36·7498 | ·027211 | ·45690 | ·012433 | 1·5652552 | $\bar{1}$·6598212 | $\bar{2}$·0945759 |
| 36 | 36·4935 | ·027402 | ·46069 | ·012624 | 1·5622155 | $\bar{1}$·6634088 | $\bar{2}$·1011970 |
| 36½ | 36·2345 | ·027598 | ·46451 | ·012820 | 1·5591225 | $\bar{1}$·6669951 | $\bar{2}$·1078880 |
| 37 | 35·9729 | ·027799 | ·46838 | ·013021 | 1·5559753 | $\bar{1}$·6705983 | $\bar{2}$·1146443 |
| 37½ | 35·7086 | ·028004 | ·47229 | ·013226 | 1·5527730 | $\bar{1}$·6742088 | $\bar{2}$·1214285 |
| 38 | 35·4417 | ·028215 | ·47623 | ·013437 | 1·5495147 | $\bar{1}$·6778168 | $\bar{2}$·1283023 |
| 38½ | 35·1722 | ·028432 | ·48021 | ·013654 | 1·5461993 | $\bar{1}$·6814312 | $\bar{2}$·1352599 |
| 39 | 34·9000 | ·028653 | ·48424 | ·013875 | 1·5428259 | $\bar{1}$·6850607 | $\bar{2}$·1422330 |
| 39½ | 34·6253 | ·028881 | ·48830 | ·014103 | 1·5393936 | $\bar{1}$·6886867 | $\bar{2}$·1493115 |
| 40 | 34·3480 | ·029114 | ·49239 | ·014336 | 1·5359011 | $\bar{1}$·6923092 | $\bar{2}$·1564280 |
| 40½ | 34·0681 | ·029353 | ·49653 | ·014575 | 1·5323477 | $\bar{1}$·6959455 | $\bar{2}$·1636086 |
| 41 | 33·7856 | ·029598 | ·50070 | ·014820 | 1·5287320 | $\bar{1}$·6995776 | $\bar{2}$·1708482 |
| 41½ | 33·5006 | ·029850 | ·50492 | ·015072 | 1·5250530 | $\bar{1}$·7032226 | $\bar{2}$·1781709 |
| 42 | 33·2131 | ·030109 | ·50917 | ·015331 | 1·5213096 | $\bar{1}$·7068628 | $\bar{2}$·1855705 |
| 42½ | 32·9231 | ·030374 | ·51345 | ·015596 | 1·5175005 | $\bar{1}$·7104982 | $\bar{2}$·1930132 |
| 43 | 32·6306 | ·030646 | ·51777 | ·015868 | 1·5136245 | $\bar{1}$·7141369 | $\bar{2}$·2005222 |
| 43½ | 32·3356 | ·030926 | ·52213 | ·016148 | 1·5096803 | $\bar{1}$·7177786 | $\bar{2}$·2081187 |
| 44 | 32·0381 | ·031213 | ·52653 | ·016435 | 1·5056663 | $\bar{1}$·7214231 | $\bar{2}$·2157697 |
| 44½ | 31·7381 | ·031508 | ·53096 | ·016730 | 1·5015813 | $\bar{1}$·7250618 | $\bar{2}$·2234959 |
| 45 | 31·4358 | ·031811 | ·53543 | ·017033 | 1·4974239 | $\bar{1}$·7287027 | $\bar{2}$·2312911 |
| 45½ | 31·1309 | ·032122 | ·53994 | ·017344 | 1·4931923 | $\bar{1}$·7323455 | $\bar{2}$·2391493 |
| 46 | 30·8237 | ·032443 | ·54448 | ·017665 | 1·4888850 | $\bar{1}$·7359819 | $\bar{2}$·2471136 |
| 46½ | 30·5141 | ·032772 | ·54905 | ·017994 | 1·4845001 | $\bar{1}$·7396119 | $\bar{2}$·2551277 |
| 47 | 30·2020 | ·033110 | ·55366 | ·018332 | 1·4800360 | $\bar{1}$·7432431 | $\bar{2}$·2632098 |
| 47½ | 29·8875 | ·033459 | ·55831 | ·018681 | 1·4754903 | $\bar{1}$·7468754 | $\bar{2}$·2714001 |
| 48 | 29·5707 | ·033817 | ·56299 | ·019039 | 1·4708613 | $\bar{1}$·7505007 | $\bar{2}$·2796441 |
| 48½ | 29·2514 | ·034186 | ·56771 | ·019408 | 1·4661465 | $\bar{1}$·7541265 | $\bar{2}$·2879808 |
| 49 | 28·9297 | ·034567 | ·57247 | ·019789 | 1·4613439 | $\bar{1}$·7577527 | $\bar{2}$·2964238 |
| 49½ | 28·6056 | ·034958 | ·57726 | ·020180 | 1·4564505 | $\bar{1}$·7613715 | $\bar{2}$·3049212 |
| 50 | 28·2790 | ·035362 | ·58208 | ·020584 | 1·4514642 | $\bar{1}$·7649827 | $\bar{2}$·3135298 |
| 50½ | 27·9500 | ·035778 | ·58694 | ·021000 | 1·4463818 | $\bar{1}$·7685937 | $\bar{2}$·3222193 |
| 51 | 27·6185 | ·036208 | ·59184 | ·021430 | 1·4412002 | $\bar{1}$·7722043 | $\bar{2}$·3310222 |
| 51½ | 27·2917 | ·036641 | ·59667 | ·021863 | 1·4360304 | $\bar{1}$·7757342 | $\bar{2}$·3397098 |
| 52 | 26·9634 | ·037087 | ·60153 | ·022309 | 1·4307749 | $\bar{1}$·7792573 | $\bar{2}$·3484801 |
| 52½ | 26·6336 | ·037547 | ·60640 | ·022769 | 1·4254296 | $\bar{1}$·7827592 | $\bar{2}$·3573440 |
| 53 | 26·3021 | ·038020 | ·61130 | ·023242 | 1·4199899 | $\bar{1}$·7862544 | $\bar{2}$·3662735 |
| 53½ | 25·9688 | ·038508 | ·61622 | ·023730 | 1·4144518 | $\bar{1}$·7897358 | $\bar{2}$·3752977 |
| 54 | 25·6337 | ·039011 | ·62118 | ·024233 | 1·4088119 | $\bar{1}$·7932175 | $\bar{2}$·3844072 |
| 54½ | 25·2969 | ·039531 | ·62615 | ·024753 | 1·4030667 | $\bar{1}$·7966784 | $\bar{2}$·3936278 |
| 55 | 24·9582 | ·040067 | ·63116 | ·025289 | 1·3972131 | $\bar{1}$·8001395 | $\bar{2}$·4029317 |
| 55½ | 24·6178 | ·040621 | ·63619 | ·025843 | 1·3912487 | $\bar{1}$·8035868 | $\bar{2}$·4123429 |

## HALF-YEARLY TABLE:—MALES. Interest 3 per Cent.

VALUES OF ANNUITIES. SINGLE and HALF-YEARLY PREMIUMS which insure £1 on the LIFE of a MALE.

| Age | **Present Value** of an **Annuity** of £1 payable every **Half Year.** | **Annuity** payable every **Half Year** which £1 will purchase. | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Half-yearly Premium** which will insure £1 over the **Whole Term of Life.** | $\lambda\left(\frac{N_x}{D_x}\right)$ $=\lambda\,A_x$ | $\lambda\,\Pi_x$ | $\lambda\,\pi_x$ | Age |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x}=A_x$ | $\frac{D_x}{N_x}=a_x$ | $1-d\ A_x=\Pi_x$ | $a_x-d=\pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 56 | 24·2756 | ·041194 | ·64125 | ·026416 | 1·3851704 | $\bar{1}$·8070274 | $\bar{2}$·4218671 | 56 |
| 56½ | 23·9319 | ·041785 | ·64633 | ·027007 | 1·3789769 | $\bar{1}$·8104543 | $\bar{2}$·4314763 | 56½ |
| 57 | 23·5866 | ·042397 | ·65143 | ·027619 | 1·3726659 | $\bar{1}$·8138678 | $\bar{2}$·4412080 | 57 |
| 57½ | 23·2400 | ·043029 | ·65655 | ·028251 | 1·3662357 | $\bar{1}$·8172678 | $\bar{2}$·4510338 | 57½ |
| 58 | 22·8921 | ·043683 | ·66169 | ·028905 | 1·3596849 | $\bar{1}$·8206546 | $\bar{2}$·4609730 | 58 |
| 58½ | 22·5431 | ·044360 | ·66685 | ·029582 | 1·3530127 | $\bar{1}$·8240282 | $\bar{2}$·4710275 | 58½ |
| 59 | 22·1931 | ·045059 | ·67202 | ·030281 | 1·3462184 | $\bar{1}$·8273822 | $\bar{2}$·4811702 | 59 |
| 59½ | 21·8424 | ·045782 | ·67721 | ·031004 | 1·3393011 | $\bar{1}$·8307234 | $\bar{2}$·4914177 | 59½ |
| 60 | 21·4912 | ·046531 | ·68240 | ·031753 | 1·3322604 | $\bar{1}$·8340390 | $\bar{2}$·5017848 | 60 |
| 60½ | 21·1396 | ·047305 | ·68759 | ·032527 | 1·3250967 | $\bar{1}$·8373296 | $\bar{2}$·5122440 | 60½ |
| 61 | 20·7879 | ·048105 | ·69279 | ·033327 | 1·3178099 | $\bar{1}$·8406016 | $\bar{2}$·5227962 | 61 |
| 61½ | 20·4362 | ·048933 | ·69799 | ·034155 | 1·3104001 | $\bar{1}$·8438492 | $\bar{2}$·5334543 | 61½ |
| 62 | 20·0849 | ·049789 | ·70318 | ·035011 | 1·3028691 | $\bar{1}$·8470665 | $\bar{2}$·5442045 | 62 |
| 62½ | 19·7341 | ·050674 | ·70836 | ·035896 | 1·2952167 | $\bar{1}$·8502540 | $\bar{2}$·5550461 | 62½ |
| 63 | 19·3840 | ·051589 | ·71354 | ·036811 | 1·2874441 | $\bar{1}$·8534183 | $\bar{2}$·5659776 | 63 |
| 63½ | 19·0350 | ·052535 | ·71869 | ·037757 | 1·2795530 | $\bar{1}$·8565416 | $\bar{2}$·5769975 | 63½ |
| 64 | 18·6872 | ·053513 | ·72383 | ·038735 | 1·2715442 | $\bar{1}$·8596366 | $\bar{2}$·5881036 | 64 |
| 64½ | 18·3409 | ·054523 | ·72895 | ·039745 | 1·2634198 | $\bar{1}$·8626977 | $\bar{2}$·5992825 | 64½ |
| 65 | 17·9962 | ·055567 | ·73405 | ·040789 | 1·2551808 | $\bar{1}$·8657256 | $\bar{2}$·6105431 | 65 |
| 65½ | 17·6535 | ·056646 | ·73911 | ·041868 | 1·2468304 | $\bar{1}$·8687091 | $\bar{2}$·6218822 | 65½ |
| 66 | 17·3129 | ·057760 | ·74414 | ·042982 | 1·2383699 | $\bar{1}$·8716546 | $\bar{2}$·6332866 | 66 |
| 66½ | 16·9747 | ·058911 | ·74914 | ·044133 | 1·2298018 | $\bar{1}$·8745630 | $\bar{2}$·6447635 | 66½ |
| 67 | 16·6391 | ·060100 | ·75410 | ·045322 | 1·2211290 | $\bar{1}$·8774289 | $\bar{2}$·6563091 | 67 |
| 67½ | 16·3062 | ·061326 | ·75902 | ·046548 | 1·2123532 | 1·8802532 | $\bar{2}$·6679010 | 67½ |
| 68 | 15·9764 | ·062593 | ·76390 | ·047815 | 1·2034777 | $\bar{1}$·8830365 | $\bar{2}$·6795642 | 68 |
| 68½ | 15·6497 | ·063899 | ·76872 | ·049121 | 1·1945052 | $\bar{1}$·8857682 | $\bar{2}$·6912672 | 68½ |
| 69 | 15·3263 | ·065247 | ·77350 | ·050469 | 1·1854385 | $\bar{1}$·8884603 | $\bar{2}$·7030247 | 69 |
| 69½ | 15·0066 | ·066638 | ·77823 | ·051860 | 1·1762809 | $\bar{1}$·8911080 | $\bar{2}$·7148325 | 69½ |
| 70 | 14·6904 | ·068072 | ·78290 | ·053294 | 1·1670344 | $\bar{1}$·8937063 | $\bar{2}$·7266783 | 70 |
| 70½ | 14·3782 | ·069550 | ·78751 | ·054772 | 1·1577042 | $\bar{1}$·8962561 | $\bar{2}$·7385586 | 70½ |
| 71 | 14·0699 | ·071074 | ·79207 | ·056296 | 1·1482914 | $\bar{1}$·8987636 | $\bar{2}$·7504775 | 71 |
| 71½ | 13·7658 | ·072644 | ·79656 | ·057866 | 1·1388005 | $\bar{1}$·9012185 | $\bar{2}$·7624235 | 71½ |
| 72 | 13·4659 | ·074262 | ·80100 | ·059484 | 1·1292347 | $\bar{1}$·9036325 | $\bar{2}$·7744002 | 72 |
| 72½ | 13·1704 | ·075928 | ·80536 | ·061150 | 1·1195983 | $\bar{1}$·9059901 | $\bar{2}$·7863965 | 72½ |
| 73 | 12·8794 | ·077644 | ·80966 | ·062866 | 1·1098939 | $\bar{1}$·9083027 | $\bar{2}$·7984158 | 73 |
| 73½ | 12·5929 | ·079410 | ·81390 | ·064632 | 1·1001265 | $\bar{1}$·9105710 | $\bar{2}$·8104476 | 73½ |
| 74 | 12·3111 | ·081228 | ·81806 | ·066450 | 1·0902963 | $\bar{1}$·9127852 | $\bar{2}$·8224950 | 74 |
| 74½ | 12·0340 | ·083098 | ·82216 | ·068320 | 1·0804089 | $\bar{1}$·9149563 | $\bar{2}$·8345479 | 74½ |
| 75 | 11·7616 | ·085022 | ·82618 | ·070244 | 1·0704679 | $\bar{1}$·9170747 | $\bar{2}$·8466092 | 75 |
| 75½ | 11·4942 | ·087001 | ·83014 | ·072223 | 1·0604770 | $\bar{1}$·9191513 | $\bar{2}$·8586755 | 75½ |
| 76 | 11·2316 | ·089035 | ·83402 | ·074257 | 1·0504400 | $\bar{1}$·9211765 | $\bar{2}$·8707374 | 76 |
| 76½ | 10·9739 | ·091125 | ·83782 | ·076347 | 1·0403602 | $\bar{1}$·9231507 | $\bar{2}$·8827920 | 76½ |
| 77 | 10·7212 | ·093274 | ·84156 | ·078496 | 1·0302415 | $\bar{1}$·9250851 | $\bar{2}$·8948475 | 77 |
| 77½ | 10·4734 | ·095480 | ·84522 | ·080702 | 1·0200874 | $\bar{1}$·9269698 | $\bar{2}$·9068843 | 77½ |
| 78 | 10·2306 | ·097746 | ·84881 | ·082968 | 1·0099015 | $\bar{1}$·9288105 | $\bar{2}$·9189106 | 78 |
| 78½ | 9·9928 | ·100072 | ·85232 | ·085294 | 0·9996870 | $\bar{1}$·9306027 | $\bar{2}$·9309185 | 78½ |
| 79 | 9·7600 | ·102459 | ·85576 | ·087681 | 0·9894479 | $\bar{1}$·9323520 | $\bar{2}$·9429055 | 79 |
| 79½ | 9·5321 | ·104909 | ·85913 | ·090131 | 0·9791870 | $\bar{1}$·9340589 | $\bar{2}$·9548742 | 79½ |
| 80 | 9·3091 | 107421 | ·86243 | ·092643 | 0·9689090 | $\bar{1}$·9357239 | $\bar{2}$·9668126 | 80 |
| 80½ | 9·0911 | ·109998 | ·86565 | ·095220 | 0·9586166 | $\bar{1}$·9373423 | $\bar{2}$·9787282 | 80½ |
| 81 | 8·8780 | ·112638 | ·86880 | ·097860 | 0·9483133 | $\bar{1}$·9389198 | $\bar{2}$·9906052 | 81 |
| 81½ | 8·6696 | ·115345 | ·87188 | ·100567 | 0·9380012 | $\bar{1}$·9404567 | $\bar{1}$·0024556 | 81½ |
| 82 | 8·4662 | ·118117 | ·87488 | ·103339 | 0·9276863 | $\bar{1}$·9419485 | $\bar{1}$·0142643 | 82 |
| 82½ | 8·2674 | ·120957 | ·87782 | ·106179 | 0·9173685 | $\bar{1}$·9434055 | $\bar{1}$·0260386 | 82½ |
| 83 | 8·0734 | ·123864 | ·88069 | ·109086 | 0·9070541 | $\bar{1}$·9448231 | $\bar{1}$·0377690 | 83 |
| 83½ | 7·8840 | ·126840 | ·88349 | ·112062 | 0·8967445 | $\bar{1}$·9462016 | $\bar{1}$·0494584 | 83½ |

## HALF-YEARLY TABLE:—MALES. Interest 3 per Cent.

VALUES OF ANNUITIES. SINGLE and HALF-YEARLY PREMIUMS which insure £1 on the LIFE of a MALE.

| Age | Present Value of an Annuity of £1 payable every **Half Year.** | Annuity payable every **Half Year** which £1 will purchase. | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Half-yearly Premium** which will insure £1 over the **Whole Term of Life.** | $\lambda\left(\frac{N_x}{D_x}\right) = \lambda A_x$ | $\lambda\,\Pi_x$ | $\lambda\,\pi_x$ | Age |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1 - d\ A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 84 | 7·6991 | ·129884 | ·88622 | ·115106 | 0·8864427 | $\bar{1}$·9475415 | $\bar{1}$·0610980 | 84 |
| 84½ | 7·5189 | ·132998 | ·88888 | ·118220 | 0·8761535 | $\bar{1}$·9488431 | $\bar{1}$·0726910 | 84½ |
| 85 | 7·3431 | ·136182 | ·89148 | ·121404 | 0·8658789 | $\bar{1}$·9501116 | $\bar{1}$·0842331 | 85 |
| 85½ | 7·1717 | ·139437 | ·89401 | ·124659 | 0·8556221 | $\bar{1}$·9513424 | $\bar{1}$·0957237 | 85½ |
| 86 | 7·0046 | ·142764 | ·89648 | ·127986 | 0·8453825 | $\bar{1}$·9525406 | $\bar{1}$·1071624 | 86 |
| 86½ | 6·8417 | ·146162 | ·89889 | ·131384 | 0·8351656 | $\bar{1}$·9537065 | $\bar{1}$·1185425 | 86½ |
| 87 | 6·6830 | ·149633 | ·90124 | ·134855 | 0·8249739 | $\bar{1}$·9548405 | $\bar{1}$·1298672 | 87 |
| 87½ | 6·5285 | ·153176 | ·90352 | ·138398 | 0·8148101 | $\bar{1}$·9559378 | $\bar{1}$·1411298 | 87½ |
| 88 | 6·3779 | ·156792 | ·90575 | ·142014 | 0·8046756 | $\bar{1}$·9570083 | $\bar{1}$·1523311 | 88 |
| 88½ | 6·2312 | ·160482 | ·90791 | ·145704 | 0·7945744 | $\bar{1}$·9580428 | $\bar{1}$·1634715 | 88½ |
| 89 | 6·0885 | ·164245 | ·91002 | ·149467 | 0·7845071 | $\bar{1}$·9590509 | $\bar{1}$·1745453 | 89 |
| 89½ | 5·9495 | ·168083 | ·91208 | ·153305 | 0·7744774 | $\bar{1}$·9600329 | $\bar{1}$·1855564 | 89½ |
| 90 | 5·8142 | ·171994 | ·91408 | ·157216 | 0·7644863 | $\bar{1}$·9609842 | $\bar{1}$·1964968 | 90 |
| 90½ | 5·6825 | ·175979 | ·91602 | ·161201 | 0·7545380 | $\bar{1}$·9619050 | $\bar{1}$·2073677 | 90½ |
| 91 | 5·5544 | ·180039 | ·91792 | ·165261 | 0·7446334 | $\bar{1}$·9628048 | $\bar{1}$·2181703 | 91 |
| 91½ | 5·4297 | ·184174 | ·91976 | ·169396 | 0·7347720 | $\bar{1}$·9636745 | $\bar{1}$·2289032 | 91½ |
| 92 | 5·3083 | ·188383 | ·92155 | ·173605 | 0·7249573 | $\bar{1}$·9645189 | $\bar{1}$·2395622 | 92 |
| 92½ | 5·1903 | ·192666 | ·92330 | ·177888 | 0·7151940 | $\bar{1}$·9653428 | $\bar{1}$·2501466 | 92½ |
| 93 | 5·0755 | ·197025 | ·92499 | ·182247 | 0·7054777 | $\bar{1}$·9661370 | $\bar{1}$·2606604 | 93 |
| 93½ | 4·9638 | ·201458 | ·92664 | ·186680 | 0·6958158 | $\bar{1}$·9669110 | $\bar{1}$·2710978 | 93½ |
| 94 | 4·8552 | ·205964 | ·92825 | ·191186 | 0·6862079 | $\bar{1}$·9676650 | $\bar{1}$·2814561 | 94 |
| 94½ | 4·7496 | ·210545 | ·92981 | ·195767 | 0·6766555 | $\bar{1}$·9683942 | $\bar{1}$·2917395 | 94½ |
| 95 | 4·6469 | ·215199 | ·93133 | ·200421 | 0·6671601 | $\bar{1}$·9691036 | $\bar{1}$·3019433 | 95 |
| 95½ | 4·5470 | ·219927 | ·93280 | ·205149 | 0·6577224 | $\bar{1}$·9697885 | $\bar{1}$·3120694 | 95½ |
| 96 | 4·4498 | ·224728 | ·93424 | ·209950 | 0·6483429 | $\bar{1}$·9704585 | $\bar{1}$·3221159 | 96 |
| 96½ | 4·3554 | ·229602 | ·93563 | ·214824 | 0·6390247 | $\bar{1}$·9711041 | $\bar{1}$·3320828 | 96½ |
| 97 | 4·2635 | ·234548 | ·93699 | ·219770 | 0·6297681 | $\bar{1}$·9717350 | $\bar{1}$·3419684 | 97 |
| 97½ | 4·1742 | ·239567 | ·93831 | ·224789 | 0·6205727 | $\bar{1}$·9723463 | $\bar{1}$·3517751 | 97½ |
| 98 | 4·0873 | ·244660 | ·93960 | ·229882 | 0·6114378 | $\bar{1}$·9729430 | $\bar{1}$·3615050 | 98 |
| 98½ | 4·0028 | ·249826 | ·94085 | ·235048 | 0·6023626 | $\bar{1}$·9735204 | $\bar{1}$·3711566 | 98½ |
| 99 | 3·9206 | ·255066 | ·94206 | ·240288 | 0·5933482 | $\bar{1}$·9740786 | $\bar{1}$·3807321 | 99 |
| 99½ | 3·8405 | ·260380 | ·94324 | ·245602 | 0·5843929 | $\bar{1}$·9746222 | $\bar{1}$·3902319 | 99½ |
| 100 | 3·7627 | ·265770 | ·94439 | ·250992 | 0·5754946 | $\bar{1}$·9751514 | $\bar{1}$·3996599 | 100 |
| 100½ | 3·6868 | ·271241 | ·94552 | ·256463 | 0·5666450 | $\bar{1}$·9756707 | $\bar{1}$·4090247 | 100½ |
| 101 | 3·6128 | ·276797 | ·94661 | ·262019 | 0·5578387 | $\bar{1}$·9761711 | $\bar{1}$·4183328 | 101 |
| 101½ | 3·5405 | ·282445 | ·94768 | ·267667 | 0·5490662 | $\bar{1}$·9766617 | $\bar{1}$·4275948 | 101½ |
| 102 | 3·4698 | ·288198 | ·94872 | ·273420 | 0·5403086 | $\bar{1}$·9771381 | $\bar{1}$·4368303 | 102 |
| 102½ | 3·4005 | ·294071 | ·94975 | ·279293 | 0·5315483 | $\bar{1}$·9776093 | $\bar{1}$·4460601 | 102½ |
| 103 | 3·3322 | ·300103 | ·95076 | ·285325 | 0·5227303 | $\bar{1}$·9780709 | $\bar{1}$·4553398 | 103 |
| 103½ | 3·2645 | ·306326 | ·95176 | ·291548 | 0·5138165 | $\bar{1}$·9785274 | $\bar{1}$·4647100 | 103½ |
| 104 | 3·1967 | ·312825 | ·95276 | ·298047 | 0·5046982 | $\bar{1}$·9789835 | $\bar{1}$·4742848 | 104 |
| 104½ | 3·1278 | ·319714 | ·95378 | ·304936 | 0·4952382 | $\bar{1}$·9794482 | $\bar{1}$·4842087 | 104½ |
| 105 | 3·0569 | ·327128 | ·95482 | ·312350 | 0·4852829 | $\bar{1}$·9799215 | $\bar{1}$·4946415 | 105 |
| 105½ | 2·9819 | ·335356 | ·95593 | ·320578 | 0·4744944 | $\bar{1}$·9804261 | $\bar{1}$·5059337 | 105½ |
| 106 | 2·8985 | ·345008 | ·95717 | ·330230 | 0·4621709 | $\bar{1}$·9809891 | $\bar{1}$·5188165 | 106 |
| 106½ | 2·8032 | ·356733 | ·95857 | ·341955 | 0·4476562 | $\bar{1}$·9816238 | $\bar{1}$·5339690 | 106½ |
| 107 | 2·6866 | ·372224 | ·96030 | ·357446 | 0·4291956 | $\bar{1}$·9824069 | $\bar{1}$·5532105 | 107 |
| 107½ | 2·5391 | ·393839 | ·96248 | ·379061 | 0·4046814 | $\bar{1}$·9833917 | $\bar{1}$·5787091 | 107½ |
| 108 | 2·3396 | ·427423 | ·96542 | ·412645 | 0·3691423 | $\bar{1}$·9847163 | $\bar{1}$·6155766 | 108 |
| 108½ | 2·0610 | ·485212 | ·96954 | ·470434 | 0·3140683 | $\bar{1}$·9865657 | $\bar{1}$·6724987 | 108½ |
| 109 | 1·6462 | ·607459 | ·97567 | ·592681 | 0·2164832 | $\bar{1}$·9893030 | $\bar{1}$·7728210 | 109 |
| 109½ | 1·0113 | ·988786 | ·98505 | ·974008 | 0·0048976 | $\bar{1}$·9934583 | $\bar{1}$·9885625 | 109½ |

## HALF-YEARLY TABLE:—FEMALES. Interest 3 per Cent.

| Age $(x)$ | $D_x$ | $N_x$ | $\lambda N_x$ | Age $(x)$ | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 488,255 | 19,035,744 | 7·2795699 | 28 | 132,687 | 5,417,752 | 6·7338192 |
| 0½ | 436,298 | 18,547,489 | 7·2682852 | 28½ | 130,061 | 5,285,065 | 6·7230503 |
| 1 | 410,086 | 18,111,191 | 7·2579470 | 29 | 127,482 | 5,155,004 | 6·7122290 |
| 1½ | 388,669 | 17,701,105 | 7·2480004 | 29½ | 124,947 | 5,027,522 | 6·7013540 |
| 2 | 373,408 | 17,312,436 | 7·2383581 | 30 | 122,457 | 4,902,575 | 6·6904243 |
| 2½ | 361,257 | 16,939,028 | 7·2288885 | 30½ | 120,011 | 4,780,118 | 6·6794386 |
| 3 | 349,629 | 16,577,771 | 7·2195261 | 31 | 117,608 | 4,660,107 | 6·6683959 |
| 3½ | 339,938 | 16,228,142 | 7·2102688 | 31½ | 115,247 | 4,542,499 | 6·6572949 |
| 4 | 331,166 | 15,888,204 | 7·2010748 | 32 | 112,929 | 4,427,252 | 6·6461343 |
| 4½ | 323,154 | 15,557,038 | 7·1919270 | 32½ | 110,651 | 4,314,323 | 6·6349126 |
| 5 | 315,767 | 15,233,884 | 7·1828107 | 33 | 108,414 | 4,203,672 | 6·6236288 |
| 5½ | 308,891 | 14,918,117 | 7·1737140 | 33½ | 106,217 | 4,095,258 | 6·6122813 |
| 6 | 302,433 | 14,609,226 | 7·1646272 | 34 | 104,059 | 3,989,041 | 6·6008685 |
| 6½ | 296,312 | 14,306,793 | 7·1555423 | 34½ | 101,939 | 3,884,982 | 6·5893890 |
| 7 | 290,462 | 14,010,481 | 7·1464530 | 35 | 99,858 | 3,783,043 | 6·5778413 |
| 7½ | 284,812 | 13,720,019 | 7·1373547 | 35½ | 97,814 | 3,683,185 | 6·5662235 |
| 8 | 279,381 | 13,435,207 | 7·1282444 | 36 | 95,806 | 3,585,371 | 6·5545341 |
| 8½ | 274,150 | 13,155,826 | 7·1191182 | 36½ | 93,834 | 3,489,565 | 6·5427712 |
| 9 | 269,100 | 12,881,676 | 7·1099724 | 37 | 91,898 | 3,395,731 | 6·5309332 |
| 9½ | 264,214 | 12,612,576 | 7·1008038 | 37½ | 89,997 | 3,303,833 | 6·5190181 |
| 10 | 259,477 | 12,348,362 | 7·0916094 | 38 | 88,129 | 3,213,836 | 6·5070237 |
| 10½ | 254,873 | 12,088,885 | 7·0823863 | 38½ | 86,296 | 3,125,707 | 6·4949483 |
| 11 | 250,390 | 11,834,012 | 7·0731320 | 39 | 84,495 | 3,039,411 | 6·4827894 |
| 11½ | 246,017 | 11,583,622 | 7·0638444 | 39½ | 82,727 | 2,954,916 | 6·4705452 |
| 12 | 241,743 | 11,337,605 | 7·0545214 | 40 | 80,990 | 2,872,189 | 6·4582131 |
| 12½ | 237,557 | 11,095,862 | 7·0451610 | 40½ | 79,285 | 2,791,199 | 6·4457908 |
| 13 | 233,452 | 10,858,305 | 7·0357620 | 41 | 77,610 | 2,711,914 | 6·4332759 |
| 13½ | 229,419 | 10,624,853 | 7·0263230 | 41½ | 75,966 | 2,634,304 | 6·4206659 |
| 14 | 225,453 | 10,395,434 | 7·0168427 | 42 | 74,351 | 2,558,338 | 6·4079580 |
| 14½ | 221,546 | 10,169,981 | 7·0073203 | 42½ | 72,766 | 2,483,987 | 6·3951493 |
| 15 | 217,694 | 9,948,435 | 6·9977547 | 43 | 71,208 | 2,411,221 | 6·3822370 |
| 15½ | 213,891 | 9,730,741 | 6·9881459 | 43½ | 69,679 | 2,340,013 | 6·3692184 |
| 16 | 210,135 | 9,516,850 | 6·9784932 | 44 | 68,178 | 2,270,334 | 6·3560898 |
| 16½ | 206,421 | 9,306,715 | 6·9687964 | 44½ | 66,703 | 2,202,156 | 6·3428481 |
| 17 | 202,746 | 9,100,294 | 6·9590554 | 45 | 65,255 | 2,135,453 | 6·3294900 |
| 17½ | 199,110 | 8,897,548 | 6·9492704 | 45½ | 63,834 | 2,070,198 | 6·3160119 |
| 18 | 195,509 | 8,698,438 | 6·9394413 | 46 | 62,437 | 2,006,364 | 6·3024098 |
| 18½ | 191,942 | 8,502,929 | 6·9295686 | 46½ | 61,066 | 1,943,927 | 6·2886800 |
| 19 | 188,409 | 8,310,987 | 6·9196527 | 47 | 59,720 | 1,882,861 | 6·2748183 |
| 19½ | 184,910 | 8,122,578 | 6·9096939 | 47½ | 58,397 | 1,823,141 | 6·2608202 |
| 20 | 181,444 | 7,937,668 | 6·8996929 | 48 | 57,099 | 1,764,744 | 6·2466817 |
| 20½ | 178,000 | 7,756,224 | 6·8896503 | 48½ | 55,824 | 1,707,645 | 6·2323976 |
| 21 | 174,612 | 7,578,224 | 6·8795674 | 49 | 54,572 | 1,651,821 | 6·2179631 |
| 21½ | 171,279 | 7,403,612 | 6·8694436 | 49½ | 53,342 | 1,597,249 | 6·2033727 |
| 22 | 168,000 | 7,232,333 | 6·8592784 | 50 | 52,135 | 1,543,907 | 6·1886212 |
| 22½ | 164,775 | 7,064,333 | 6·8490712 | 50½ | 50,949 | 1,491,772 | 6·1737025 |
| 23 | 161,603 | 6,899,558 | 6·8388213 | 51 | 49,785 | 1,440,823 | 6·1586106 |
| 23½ | 158,484 | 6,737,955 | 6·8285281 | 51½ | 48,642 | 1,391,038 | 6·1433390 |
| 24 | 155,417 | 6,579,471 | 6·8181910 | 52 | 47,519 | 1,342,396 | 6·1278806 |
| 24½ | 152,402 | 6,424,054 | 6·8078092 | 52½ | 46,417 | 1,294,877 | 6·1122286 |
| 25 | 149,438 | 6,271,652 | 6·7973820 | 53 | 45,334 | 1,248,460 | 6·0963746 |
| 25½ | 146,524 | 6,122,214 | 6·7869085 | 53½ | 44,271 | 1,203,126 | 6·0803111 |
| 26 | 143,659 | 5,975,690 | 6·7763881 | 54 | 43,228 | 1,158,855 | 6·0640292 |
| 26½ | 140,844 | 5,832,031 | 6·7658199 | 54½ | 42,175 | 1,115,627 | 6·0475190 |
| 27 | 138,077 | 5,691,187 | 6·7552028 | 55 | 41,134 | 1,073,452 | 6·0307827 |
| 27½ | 135,358 | 5,553,110 | 6·7445363 | 55½ | 40,106 | 1,032,318 | 6·0138135 |

## HALF-YEARLY TABLE:—FEMALES. Interest 3 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | λ $N_x$ | Age ($x$) | $D_x$ | $N_x$ | λ $N_x$ |
|---|---|---|---|---|---|---|---|
| 56 | 39,090 | 992,212 | 5·9966045 | 84 | 2,146·1 | 17,450·3 | 4·2418029 |
| 56½ | 38,086 | 953,122 | 5·9791485 | 84½ | 1,927·8 | 15,304·2 | 4·1848107 |
| 57 | 37,095 | 915,036 | 5·9614382 | 85 | 1,725·8 | 13,376·4 | 4·1263393 |
| 57½ | 36,116 | 877,941 | 5·9434653 | 85½ | 1,539·5 | 11,650·6 | 4·0663483 |
| 58 | 35,150 | 841,825 | 5·9252218 | 86 | 1,368·4 | 10,111·1 | 4·0047984 |
| 58½ | 34,196 | 806,675 | 5·9066986 | 86½ | 1,211·8 | 8,742·7 | 3·9416456 |
| 59 | 33,254 | 772,479 | 5·8878866 | 87 | 1,069·0 | 7,530·9 | 3·8768469 |
| 59½ | 32,325 | 739,225 | 5·8687767 | 87½ | 939·32 | 6,461·94 | 3·8103629 |
| 60 | 31,407 | 706,900 | 5·8493580 | 88 | 822·05 | 5,522·62 | 3·7421452 |
| 60½ | 30,500 | 675,493 | 5·8296209 | 88½ | 716·43 | 4,700·57 | 3·6721505 |
| 61 | 29,606 | 644,993 | 5·8095550 | 89 | 621·73 | 3,984·14 | 3·6003346 |
| 61½ | 28,722 | 615,387 | 5·7891483 | 89½ | 537·20 | 3,362·41 | 3·5266507 |
| 62 | 27,850 | 586,665 | 5·7683902 | 90 | 462·08 | 2,825·21 | 3·4510507 |
| 62½ | 26,989 | 558,815 | 5·7472681 | 90½ | 395·64 | 2,363·13 | 3·3734876 |
| 63 | 26,139 | 531,826 | 5·7257696 | 91 | 337·15 | 1,967·49 | 3·2939125 |
| 63½ | 25,300 | 505,687 | 5·7038818 | 91½ | 285·93 | 1,630·34 | 3·2122782 |
| 64 | 24,472 | 480,387 | 5·6815913 | 92 | 241·29 | 1,344·41 | 3·1285317 |
| 64½ | 23,654 | 455,915 | 5·6588839 | 92½ | 202·58 | 1,103·12 | 3·0426228 |
| 65 | 22,847 | 432,261 | 5·6357460 | 93 | 169·20 | 900·54 | 2·9545030 |
| 65½ | 22,050 | 409,414 | 5·6121627 | 93½ | 140·57 | 731·34 | 2·8641193 |
| 66 | 21,265 | 387,364 | 5·5881193 | 94 | 116·15 | 590·77 | 2·7714184 |
| 66½ | 20,490 | 366,099 | 5·5635985 | 94½ | 95·442 | 474·619 | 2·6763451 |
| 67 | 19,725 | 345,609 | 5·5385850 | 95 | 77·976 | 379·177 | 2·5788420 |
| 67½ | 18,972 | 325,884 | 5·5130630 | 95½ | 63·335 | 301·201 | 2·4788564 |
| 68 | 18,229 | 306,912 | 5·4870138 | 96 | 51·137 | 237·866 | 2·3763324 |
| 68½ | 17,498 | 288,683 | 5·4604212 | 96½ | 41·037 | 186·729 | 2·2712118 |
| 69 | 16,779 | 271,185 | 5·4332657 | 97 | 32·726 | 145·692 | 2·1634357 |
| 69½ | 16,071 | 254,406 | 5·4055274 | 97½ | 25·933 | 112·966 | 2·0529478 |
| 70 | 15,374 | 238,335 | 5·3771878 | 98 | 20·416 | 87·033 | 1·9396840 |
| 70½ | 14,691 | 222,961 | 5·3482289 | 98½ | 15·966 | 66·617 | 1·8235851 |
| 71 | 14,019 | 208,270 | 5·3186267 | 99 | 12·401 | 50·651 | 1·7045880 |
| 71½ | 13,361 | 194,251 | 5·2883632 | 99½ | 9·5657 | 38·2495 | 1·5826258 |
| 72 | 12,716 | 180,890 | 5·2574146 | 100 | 7·3264 | 28·6838 | 1·4576367 |
| 72½ | 12,084 | 168,174 | 5·2257588 | 100½ | 5·5708 | 21·3574 | 1·3295484 |
| 73 | 11,467 | 156,090 | 5·1933751 | 101 | 4·2047 | 15·7866 | 1·1982886 |
| 73½ | 10,864 | 144,623 | 5·1602374 | 101½ | 3·1498 | 11·5819 | 1·0637799 |
| 74 | 10,276 | 133,759 | 5·1263231 | 102 | 2·3415 | 8·4321 | 0·9259357 |
| 74½ | 9,703·8 | 123,483·2 | 5·0916079 | 102½ | 1·7270 | 6·0906 | 0·7846601 |
| 75 | 9,147·1 | 113,779·4 | 5·0560636 | 103 | 1·2636 | 4·3636 | 0·6398449 |
| 75½ | 8,606·6 | 104,632·3 | 5·0196658 | 103½ | ·9171 | 3·1000 | 0·4913617 |
| 76 | 8,082·6 | 96,025·7 | 4·9823875 | 104 | ·6601 | 2·1829 | 0·3390338 |
| 76½ | 7,575·6 | 87,943·1 | 4·9442018 | 104½ | ·4711 | 1·5228 | 0·1826429 |
| 77 | 7,085·9 | 80,367·5 | 4·9050805 | 105 | ·3333 | 1·0517 | 0·0218919 |
| 77½ | 6,613·9 | 73,281·6 | 4·8649949 | 105½ | ·2337 | ·7184 | $\bar{1}$·8563663 |
| 78 | 6,159·8 | 66,667·7 | 4·8239155 | 106 | ·1625 | ·4847 | $\bar{1}$·6854730 |
| 78½ | 5,723·8 | 60,507·9 | 4·7818121 | 106½ | ·1119 | ·3222 | $\bar{1}$·5081255 |
| 79 | 5,306·3 | 54,784·1 | 4·7386545 | 107 | ·0764 | ·2103 | $\bar{1}$·3228393 |
| 79½ | 4,907·2 | 49,477·8 | 4·6944104 | 107½ | ·0516 | ·1339 | $\bar{1}$·1267806 |
| 80 | 4,526·8 | 44,570·6 | 4·6490485 | 108 | ·0346 | ·0823 | $\bar{2}$·9153998 |
| 80½ | 4,165·0 | 40,043·8 | 4·6025353 | 108½ | ·0229 | ·0477 | $\bar{2}$·6785184 |
| 81 | 3,821·9 | 35,878·8 | 4·5548379 | 109 | ·0150 | ·0248 | $\bar{2}$·3944517 |
| 81½ | 3,497·4 | 32,056·9 | 4·5059215 | 109½ | ·0098 | ·0098 | $\bar{3}$·9912261 |
| 82 | 3,191·3 | 28,559·5 | 4·4557506 | | | | |
| 82½ | 2,903·4 | 25,368·2 | 4·4042896 | | | | |
| 83 | 2,633·4 | 22,464·8 | 4·3515025 | | | | |
| 83½ | 2,381·1 | 19,831·4 | 4·2973534 | | | | |

## HALF-YEARLY TABLE :—FEMALES. Interest 3 per Cent.

VALUES OF ANNUITIES.* SINGLE and HALF-YEARLY PREMIUMS which insure £1 on the LIFE of a FEMALE.

| Age | Present Value of an Annuity of £1 payable every Half Year. | Annuity payable every Half Year which £1 will purchase. | Single Premium which will insure £1 over the Whole Term of Life. | Half-yearly Premium which will insure £1 over the Whole Term of Life. | $\lambda\left(\frac{N_x}{D_x}\right)$ $= \lambda\,\Lambda_x$ | $\lambda\,\Pi_x$ | $\lambda\,\pi_x$ | Age |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = \Lambda_x$ | $\frac{D_x}{N_x} = a_x$ | $1-d\ \Lambda_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 0 | 38·9873 | ·025649 | ·42383 | ·010871 | 1·5909234 | $\bar{1}$·6271917 | $\bar{2}$·0362695 | 0 |
| 0½ | 42·5110 | ·023523 | ·37176 | ·008745 | 1·6285017 | $\bar{1}$·5702627 | $\bar{3}$·9417598 | 0½ |
| 1 | 44·1644 | ·022643 | ·34732 | ·007865 | 1·6450722 | $\bar{1}$·5407298 | $\bar{3}$·8956987 | 1 |
| 1½ | 45·5429 | ·021957 | ·32695 | ·007179 | 1·6584208 | $\bar{1}$·5144813 | $\bar{3}$·8560640 | 1½ |
| 2 | 46·3633 | ·021569 | ·31483 | ·006791 | 1·6661744 | $\bar{1}$·4980761 | $\bar{3}$·8319337 | 2 |
| 2½ | 46·8891 | ·021327 | ·30706 | ·006549 | 1·6710720 | $\bar{1}$·4872232 | $\bar{3}$·8161750 | 2½ |
| 3 | 47·4154 | ·021090 | ·29928 | ·006312 | 1·6759191 | $\bar{1}$·4760777 | $\bar{3}$·8001670 | 3 |
| 3½ | 47·7385 | ·020947 | ·29450 | ·006169 | 1·6788687 | $\bar{1}$·4690853 | $\bar{3}$·7902148 | 3½ |
| 4 | 47·9765 | ·020844 | ·29099 | ·006066 | 1·6810288 | $\bar{1}$·4638781 | $\bar{3}$·7829024 | 4 |
| 4½ | 48·1413 | ·020772 | ·28855 | ·005994 | 1·6825179 | $\bar{1}$·4602211 | $\bar{3}$·7777167 | 4½ |
| 5 | 48·2441 | ·020728 | ·28703 | ·005950 | 1·6834445 | $\bar{1}$·4579273 | $\bar{3}$·7745170 | 5 |
| 5½ | 48·2957 | ·020706 | ·28627 | ·005928 | 1·6839081 | $\bar{1}$·4567758 | $\bar{3}$·7729082 | 5½ |
| 6 | 48·3057 | ·020702 | ·28612 | ·005924 | 1·6839981 | $\bar{1}$·4565482 | $\bar{3}$·7726150 | 6 |
| 6½ | 48·2829 | ·020711 | ·28646 | ·005933 | 1·6837935 | $\bar{1}$ 4570640 | $\bar{3}$·7732743 | 6½ |
| 7 | 48·2351 | ·020732 | ·28717 | ·005954 | 1·6833631 | $\bar{1}$·4581391 | $\bar{3}$·7748088 | 7 |
| 7½ | 48·1723 | ·020759 | ·28809 | ·005981 | 1·6827970 | $\bar{1}$·4595282 | $\bar{3}$·7767738 | 7½ |
| 8 | 48·0892 | ·020795 | ·28932 | ·006017 | 1·6820474 | $\bar{1}$·4613785 | $\bar{3}$·7793800 | 8 |
| 8½ | 47·9876 | ·020839 | ·29082 | ·006061 | 1·6811295 | $\bar{1}$·4636243 | $\bar{3}$·7825443 | 8½ |
| 9 | 47·8694 | ·020890 | ·29257 | ·006112 | 1·6800580 | $\bar{1}$·4662298 | $\bar{3}$·7861833 | 9 |
| 9½ | 47·7361 | ·020948 | ·29454 | ·006170 | 1·6788472 | $\bar{1}$·4691443 | $\bar{3}$·7902852 | 9½ |
| 10 | 47·5895 | ·021013 | ·29671 | ·006235 | 1·6775109 | $\bar{1}$·4723322 | $\bar{3}$·7948365 | 10 |
| 10½ | 47·4310 | ·021083 | ·29905 | ·006305 | 1·6760623 | $\bar{1}$·4757438 | $\bar{3}$·7996851 | 10½ |
| 11 | 47·2622 | ·021159 | ·30154 | ·006381 | 1·6745142 | $\bar{1}$·4793449 | $\bar{3}$·8048887 | 11 |
| 11½ | 47·0846 | ·021238 | ·30417 | ·006460 | 1·6728790 | $\bar{1}$·4831164 | $\bar{3}$·8102325 | 11½ |
| 12 | 46·8995 | ·021322 | ·30690 | ·006544 | 1·6711683 | $\bar{1}$·4869969 | $\bar{3}$·8158433 | 12 |
| 12½ | 46·7082 | ·021410 | ·30973 | ·006632 | 1·6693932 | $\bar{1}$·4909833 | $\bar{3}$·8216445 | 12½ |
| 13 | 46·5120 | ·021500 | ·31263 | ·006722 | 1·6675646 | $\bar{1}$·4950307 | $\bar{3}$·8274985 | 13 |
| 13½ | 46·3119 | ·021593 | ·31559 | ·006815 | 1·6656927 | $\bar{1}$·4991232 | $\bar{3}$·8334659 | 13½ |
| 14 | 46·1091 | ·021688 | ·31858 | ·006910 | 1·6637867 | $\bar{1}$·5032185 | $\bar{3}$·8394780 | 14 |
| 14½ | 45·9046 | ·021784 | ·32161 | ·007006 | 1·6618560 | $\bar{1}$·5073295 | $\bar{3}$·8454701 | 14½ |
| 15 | 45·6992 | ·021882 | ·32464 | ·007104 | 1·6599084 | $\bar{1}$·5114020 | $\bar{3}$·8515030 | 15 |
| 15½ | 45·4938 | ·021981 | ·32768 | ·007203 | 1·6579525 | $\bar{1}$·5154499 | $\bar{3}$·8575134 | 15½ |
| 16 | 45·2893 | ·022080 | ·33070 | ·007302 | 1·6559951 | $\bar{1}$·5194342 | $\bar{3}$·8634418 | 16 |
| 16½ | 45·0861 | ·022180 | ·33370 | ·007402 | 1·6540430 | $\bar{1}$·5233562 | $\bar{3}$·8693491 | 16½ |
| 17 | 44·8851 | ·022279 | ·33667 | ·007501 | 1·6521022 | $\bar{1}$·5272044 | $\bar{3}$·8751192 | 17 |
| 17½ | 44·6867 | ·022378 | ·33961 | ·007600 | 1·6501781 | $\bar{1}$·5309805 | $\bar{3}$·8808136 | 17½ |
| 18 | 44·4913 | ·022476 | ·34249 | ·007698 | 1·6482754 | $\bar{1}$·5346479 | $\bar{3}$·8863779 | 18 |
| 18½ | 44·2995 | ·022574 | ·34533 | ·007796 | 1·6463983 | $\bar{1}$·5382343 | $\bar{3}$·8918718 | 18½ |
| 19 | 44·1113 | ·022670 | ·34811 | ·007892 | 1·6445502 | $\bar{1}$·5417165 | $\bar{3}$·8971871 | 19 |
| 19½ | 43·9272 | ·022765 | ·35083 | ·007987 | 1·6427338 | $\bar{1}$·5450967 | $\bar{3}$·9023837 | 19½ |
| 20 | 43·7473 | ·022859 | ·35349 | ·008081 | 1·6409513 | $\bar{1}$·5483771 | $\bar{3}$·9074651 | 20 |
| 20½ | 43·5743 | ·022949 | ·35605 | ·008171 | 1·6392300 | $\bar{1}$·5515110 | $\bar{3}$·9122752 | 20½ |
| 21 | 43·4004 | ·023041 | ·35862 | ·008263 | 1·6374932 | $\bar{1}$·5546345 | $\bar{3}$·9171378 | 21 |
| 21½ | 43·2255 | ·023134 | ·36120 | ·008356 | 1·6357400 | $\bar{1}$·5577477 | $\bar{3}$·9219984 | 21½ |
| 22 | 43·0496 | ·023229 | ·36380 | ·008451 | 1·6339692 | $\bar{1}$·5608627 | $\bar{3}$·9269081 | 22 |
| 22½ | 42·8726 | ·023325 | ·36641 | ·008547 | 1·6321800 | $\bar{1}$·5639673 | $\bar{3}$·9318137 | 22½ |
| 23 | 42·6944 | ·023422 | ·36905 | ·008644 | 1·6303713 | $\bar{1}$·5670852 | $\bar{3}$·9367148 | 23 |
| 23½ | 42·5150 | ·023521 | ·37170 | ·008743 | 1·6285421 | $\bar{1}$·5701926 | $\bar{3}$·9416605 | 23½ |
| 24 | 42·3342 | ·023622 | ·37437 | ·008844 | 1·6266914 | $\bar{1}$·5733010 | $\bar{3}$·9466487 | 24 |
| 24½ | 42·1520 | ·023724 | ·37706 | ·008946 | 1·6248183 | $\bar{1}$·5764105 | $\bar{3}$·9516289 | 24½ |
| 25 | 41·9683 | ·023827 | ·37978 | ·009049 | 1·6229216 | $\bar{1}$·5795321 | $\bar{3}$·9566006 | 25 |
| 25½ | 41·7831 | ·023933 | ·38252 | ·009155 | 1·6210004 | $\bar{1}$·5826541 | $\bar{3}$·9616583 | 25½ |
| 26 | 41·5962 | ·024041 | ·38528 | ·009263 | 1·6190538 | $\bar{1}$·5857765 | $\bar{3}$·9667517 | 26 |
| 26½ | 41·4077 | ·024150 | ·38806 | ·009372 | 1·6170808 | $\bar{1}$·5888989 | $\bar{3}$·9718323 | 26½ |
| 27 | 41·2173 | ·024262 | ·39088 | ·009484 | 1·6150800 | $\bar{1}$·5920434 | $\bar{3}$·9769915 | 27 |
| 27½ | 41·0252 | ·024375 | ·39372 | ·009597 | 1·6130509 | $\bar{1}$·5951875 | $\bar{3}$·9821355 | 27½ |

* **Note.**—The Value of an Annuity of £·5 payable at the commencement of every **half year** that the Annuitant lives, making £1 a year, is obtained by dividing the number in column 2. by *two*. The **Sum Insured** is payable at the end of the **half year** of age in which the death occurs.

## HALF-YEARLY TABLE :—Females. Interest 3 per Cent.

Values of Annuities. Single and Half-Yearly Premiums which insure **£1** on the Life of a Female.

| Age | **Present Value** of an **Annuity** of £1 payable every **Half Year.** | **Annuity** payable every **Half Year** which £1 will purchase. | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Half-yearly Premium** which will insure £1 over the **Whole Term of Life.** | $\lambda\left(\frac{N_x}{D_x}\right) = \lambda A_x$ | $\lambda \Pi_x$ | $\lambda \pi_x$ | Age |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1-d\,A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 28 | 40·8312 | ·024491 | ·39658 | ·009713 | 1·6109922 | $\bar{1}$·5983308 | $\bar{3}$·9873534 | 28 |
| 28½ | 40·6352 | ·024609 | ·39948 | ·009831 | 1·6089027 | $\bar{1}$·6014950 | $\bar{3}$·9925977 | 28½ |
| 29 | 40·4372 | ·024730 | ·40241 | ·009952 | 1·6067816 | $\bar{1}$·6046688 | $\bar{3}$·9979104 | 29 |
| 29½ | 40·2372 | ·024853 | ·40536 | ·010075 | 1·6046278 | $\bar{1}$·6078409 | $\bar{2}$·0032451 | 29½ |
| 30 | 40·0350 | ·024978 | ·40835 | ·010200 | 1·6024402 | $\bar{1}$·6110326 | $\bar{2}$·0086002 | 30 |
| 30½ | 39·8307 | ·025106 | ·41137 | ·010328 | 1·6002177 | $\bar{1}$·6142326 | $\bar{2}$·0140162 | 30½ |
| 31 | 39·6241 | ·025237 | ·41442 | ·010459 | 1·5979592 | $\bar{1}$·6174407 | $\bar{2}$·0194902 | 31 |
| 31½ | 39·4152 | ·025371 | ·41751 | ·010593 | 1·5956637 | $\bar{1}$·6206669 | $\bar{2}$·0250190 | 31½ |
| 32 | 39·2040 | ·025508 | ·42063 | ·010730 | 1·5933299 | $\bar{1}$·6239002 | $\bar{2}$·0305997 | 32 |
| 32½ | 38·9903 | ·025647 | ·42379 | ·010869 | 1·5909566 | $\bar{1}$·6271507 | $\bar{2}$·0361896 | 32½ |
| 33 | 38·7742 | ·025790 | ·42698 | ·011012 | 1·5885430 | $\bar{1}$·6304075 | $\bar{2}$·0418662 | 33 |
| 33½ | 38·5556 | ·025937 | ·43021 | ·011159 | 1·5860876 | $\bar{1}$·6336805 | $\bar{2}$·0476253 | 33½ |
| 34 | 38·3345 | ·026086 | ·43348 | ·011308 | 1·5835893 | $\bar{1}$·6369691 | $\bar{2}$·0533858 | 34 |
| 34½ | 38·1107 | ·026239 | ·43679 | ·011461 | 1·5810468 | $\bar{1}$·6402727 | $\bar{2}$·0592225 | 34½ |
| 35 | 37·8843 | ·026396 | ·44013 | ·011618 | 1·5784590 | $\bar{1}$·6435810 | $\bar{2}$·0651314 | 35 |
| 35½ | 37·6551 | ·026557 | ·44352 | ·011779 | 1·5758243 | $\bar{1}$·6469132 | $\bar{2}$·0711084 | 35½ |
| 36 | 37·4233 | ·026721 | ·44695 | ·011943 | 1·5731417 | $\bar{1}$·6502589 | $\bar{2}$·0771134 | 36 |
| 36½ | 37·1886 | ·026890 | ·45041 | ·012112 | 1·5704096 | $\bar{1}$·6536080 | $\bar{2}$·0832159 | 36½ |
| 37 | 36·9511 | ·027063 | ·45393 | ·012285 | 1·5676269 | $\bar{1}$·6569889 | $\bar{2}$·0893752 | 37 |
| 37½ | 36·7106 | ·027240 | ·45748 | ·012462 | 1·5647920 | $\bar{1}$·6603721 | $\bar{2}$·0955877 | 37½ |
| 38 | 36·4673 | ·027422 | ·46107 | ·012644 | 1·5619033 | $\bar{1}$·6637669 | $\bar{2}$·1018845 | 38 |
| 38½ | 36·2209 | ·027608 | ·46472 | ·012830 | 1·5589596 | $\bar{1}$·6671914 | $\bar{2}$·1082267 | 38½ |
| 39 | 35·9715 | ·027800 | ·46840 | ·013022 | 1·5559590 | $\bar{1}$·6706169 | $\bar{2}$·1146777 | 39 |
| 39½ | 35·7191 | ·027996 | ·47213 | ·013218 | 1·5529002 | $\bar{1}$·6740616 | $\bar{2}$·1211657 | 39½ |
| 40 | 35·4635 | ·028198 | ·47591 | ·013420 | 1·5497812 | $\bar{1}$·6775248 | $\bar{2}$·1277525 | 40 |
| 40½ | 35·2047 | ·028405 | ·47973 | ·013627 | 1·5466005 | $\bar{1}$·6809969 | $\bar{2}$·1344003 | 40½ |
| 41 | 34·9427 | ·028618 | ·48361 | ·013840 | 1·5433562 | $\bar{1}$·6844953 | $\bar{2}$·1411361 | 41 |
| 41½ | 34·6774 | ·028837 | ·48753 | ·014059 | 1·5400466 | $\bar{1}$·6880013 | $\bar{2}$·1479544 | 41½ |
| 42 | 34·4088 | ·029062 | ·49150 | ·014284 | 1·5366697 | $\bar{1}$·6915235 | $\bar{2}$·1548498 | 42 |
| 42½ | 34·1368 | ·029294 | ·49551 | ·014516 | 1·5332232 | $\bar{1}$·6950524 | $\bar{2}$·1618470 | 42½ |
| 43 | 33·8614 | ·029532 | ·49958 | ·014754 | 1·5297052 | $\bar{1}$·6986050 | $\bar{2}$·1689098 | 43 |
| 43½ | 33·5826 | ·029777 | ·50371 | ·014999 | 1·5261138 | $\bar{1}$·7021806 | $\bar{2}$·1760623 | 43½ |
| 44 | 33·3002 | ·030030 | ·50788 | ·015252 | 1·5224462 | $\bar{1}$·7057611 | $\bar{2}$·1833268 | 44 |
| 44½ | 33·0142 | ·030290 | ·51211 | ·015512 | 1·5187001 | $\bar{1}$·7093633 | $\bar{2}$·1906678 | 44½ |
| 45 | 32·7245 | ·030558 | ·51639 | ·015780 | 1·5148732 | $\bar{1}$·7129778 | $\bar{2}$·1981070 | 45 |
| 45½ | 32·4312 | .030835 | ·52072 | ·016057 | 1·5109628 | $\bar{1}$·7166043 | $\bar{2}$·2056644 | 45½ |
| 46 | 32·1341 | ·031120 | ·52511 | ·016342 | 1·5069658 | $\bar{1}$·7202503 | $\bar{2}$·2133052 | 46 |
| 46½ | 31·8331 | ·031414 | ·52956 | ·016636 | 1·5028796 | $\bar{1}$·7239152 | $\bar{2}$·2210489 | 46½ |
| 47 | 31·5283 | ·031718 | ·53406 | ·016940 | 1·4987010 | $\bar{1}$·7275901 | $\bar{2}$·2289134 | 47 |
| 47½ | 31·2195 | ·032031 | ·53863 | ·017253 | 1·4944265 | $\bar{1}$·7312905 | $\bar{2}$·2368646 | 47½ |
| 48 | 30·9067 | ·032355 | ·54325 | ·017577 | 1·4900533 | $\bar{1}$ 7349997 | $\bar{2}$·2449448 | 48 |
| 48½ | 30·5898 | ·032691 | ·54793 | ·017913 | 1·4855772 | $\bar{1}$·7387251 | $\bar{2}$·2531683 | 48½ |
| 49 | 30·2688 | ·033037 | ·55268 | ·018259 | 1·4809946 | $\bar{1}$·7424737 | $\bar{2}$·2614770 | 49 |
| 49½ | 29·9434 | ·033396 | ·55749 | ·018618 | 1·4763012 | $\bar{1}$·7462371 | $\bar{2}$·2699330 | 49½ |
| 50 | 29·6137 | ·033768 | ·56236 | ·018990 | 1·4714929 | $\bar{1}$·7500144 | $\bar{2}$·2785250 | 50 |
| 50½ | 29·2796 | ·034153 | ·56730 | ·019375 | 1·4665650 | $\bar{1}$·7538128 | $\bar{2}$·2872417 | 50½ |
| 51 | 28·9409 | ·034553 | ·57230 | ·019775 | 1·4615126 | $\bar{1}$·7576237 | $\bar{2}$·2961165 | 51 |
| 51½ | 28·5977 | ·034968 | ·57737 | ·020190 | 1·4563306 | $\bar{1}$·7614542 | $\bar{2}$·3051363 | 51½ |
| 52 | 28·2497 | ·035399 | ·58252 | ·020621 | 1·4510132 | $\bar{1}$·7653108 | $\bar{2}$·3143097 | 52 |
| 52½ | 27·8968 | ·035846 | ·58773 | ·021068 | 1·4455549 | $\bar{1}$·7691779 | $\bar{2}$·3236233 | 52½ |
| 53 | 27·5390 | ·036312 | ·59302 | ·021534 | 1·4399487 | $\bar{1}$·7730693 | $\bar{2}$·3331247 | 53 |
| 53½ | 27·1762 | ·036797 | ·59838 | ·022019 | 1·4341885 | $\bar{1}$·7769771 | $\bar{2}$·3427976 | 53½ |
| 54 | 26·8082 | ·037302 | ·60382 | ·022524 | 1·4282669 | $\bar{1}$·7809075 | $\bar{2}$·3526455 | 54 |
| 54½ | 26·4524 | ·037804 | ·60908 | ·023026 | 1·4224658 | $\bar{1}$·7846743 | $\bar{2}$·3622185 | 54½ |
| 55 | 26·0964 | ·038319 | ·61434 | ·023541 | 1·4165810 | $\bar{1}$·7884088 | $\bar{2}$·3718249 | 55 |
| 55½ | 25·7400 | ·038850 | ·61961 | ·024072 | 1·4106081 | $\bar{1}$·7921184 | $\bar{2}$·3815122 | 55½ |

## HALF-YEARLY TABLE :—FEMALES. Interest 3 per Cent.

VALUES of ANNUITIES. SINGLE and HALF-YEARLY PREMIUMS which insure £1 on the LIFE of a FEMALE.

| Age | Present Value of an Annuity of £1 payable every **Half Year.** | Annuity payable every **Half Year** which £1 will purchase. | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Half-yearly Premium** which will insure £1 over the **Whole Term of Life.** | $\lambda\left(\frac{N_x}{D_x}\right) = \lambda A_x$ | $\lambda \Pi_x$ | $\lambda \pi_x$ | Age |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1 - d\ A_x = \Pi_x$ | $a_x - d\ = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 56 | 25·3830 | ·039396 | ·62488 | ·024618 | 1·4045430 | $\bar{1}$·7957966 | $\bar{2}$·3912528 | 56 |
| 56½ | 25·0255 | ·039959 | ·63017 | ·025181 | 1·3983821 | $\bar{1}$·7994577 | $\bar{2}$·4010730 | 56½ |
| 57 | 24·6673 | ·040539 | ·63546 | ·025761 | 1·3921224 | $\bar{1}$·8030882 | $\bar{2}$·4109627 | 57 |
| 57½ | 24·3086 | ·041138 | ·64076 | ·026360 | 1·3857605 | $\bar{1}$·8066954 | $\bar{2}$·4209454 | 57½ |
| 58 | 23·9494 | ·041755 | ·64607 | ·026977 | 1·3792941 | $\bar{1}$·8102796 | $\bar{2}$·4309937 | 58 |
| 58½ | 23·5896 | ·042392 | ·65139 | ·027614 | 1·3727204 | $\bar{1}$·8138411 | $\bar{2}$·4411293 | 58½ |
| 59 | 23·2294 | ·043049 | ·65671 | ·028271 | 1·3660373 | $\bar{1}$·8173736 | $\bar{2}$·4513412 | 59 |
| 59½ | 22·8688 | ·043728 | ·66204 | ·028950 | 1·3592434 | $\bar{1}$·8208842 | $\bar{2}$·4616486 | 59½ |
| 60 | 22·5080 | ·044429 | ·66737 | ·029651 | 1·3523361 | $\bar{1}$·8243667 | $\bar{2}$·4720393 | 60 |
| 60½ | 22·1470 | ·045153 | ·67270 | ·030375 | 1·3453150 | $\bar{1}$·8278214 | $\bar{2}$·4825163 | 60½ |
| 61 | 21·7861 | ·045901 | ·67804 | ·031123 | 1·3381793 | $\bar{1}$·8312553 | $\bar{2}$·4930815 | 61 |
| 61½ | 21·4253 | ·046674 | ·68337 | ·031896 | 1·3309275 | $\bar{1}$·8346559 | $\bar{2}$·5037362 | 61½ |
| 62 | 21·0649 | ·047472 | ·68870 | ·032694 | 1·3235601 | $\bar{1}$·8380301 | $\bar{2}$·5144681 | 62 |
| 62½ | 20·7051 | ·048297 | ·69401 | ·033519 | 1·3160763 | $\bar{1}$·8413657 | $\bar{2}$·5252911 | 62½ |
| 63 | 20·3459 | ·049150 | ·69932 | ·034372 | 1·3084761 | $\bar{1}$·8446759 | $\bar{2}$·5362048 | 63 |
| 63½ | 19·9876 | ·050031 | ·70462 | ·035253 | 1·3007598 | $\bar{1}$·8479550 | $\bar{2}$·5471961 | 63½ |
| 64 | 19·6303 | ·050942 | ·70990 | ·036164 | 1·2929279 | $\bar{1}$·8511972 | $\bar{2}$·5582765 | 64 |
| 64½ | 19·2744 | ·051882 | ·71516 | ·037104 | 1·2849807 | $\bar{1}$·8544032 | $\bar{2}$·5694207 | 64½ |
| 65 | 18·9199 | ·052854 | ·72039 | ·038076 | 1·2769197 | $\bar{1}$·8575677 | $\bar{2}$·5806513 | 65 |
| 65½ | 18·5672 | ·053858 | ·72561 | ·039080 | 1·2687461 | $\bar{1}$·8607033 | $\bar{2}$·5919546 | 65½ |
| 66 | 18·2164 | ·054896 | ·73079 | ·040118 | 1·2604616 | $\bar{1}$·8637926 | $\bar{2}$·6033393 | 66 |
| 66½ | 17·8676 | ·055967 | ·73595 | ·041189 | 1·2520663 | $\bar{1}$·8668483 | $\bar{2}$·6147812 | 66½ |
| 67 | 17·5212 | ·057074 | ·74107 | ·042296 | 1·2435627 | $\bar{1}$·8698592 | $\bar{2}$·6262993 | 67 |
| 67½ | 17·1773 | ·058217 | ·74615 | ·043439 | 1·2349537 | $\bar{1}$·8728261 | $\bar{2}$·6378798 | 67½ |
| 68 | 16·8360 | ·059396 | ·75119 | ·044618 | 1·2262399 | $\bar{1}$·8757498 | $\bar{2}$·6495101 | 68 |
| 68½ | 16·4978 | ·060614 | ·75619 | ·045836 | 1·2174251 | $\bar{1}$·8786309 | $\bar{2}$·6612067 | 68½ |
| 69 | 16·1626 | ·061871 | ·76114 | ·047093 | 1·2085105 | $\bar{1}$·8814645 | $\bar{2}$·6729564 | 69 |
| 69½ | 15·8306 | ·063169 | ·76605 | ·048391 | 1·1994975 | $\bar{1}$·8842571 | $\bar{2}$·6847646 | 69½ |
| 70 | 15·5021 | ·064508 | ·77091 | ·049730 | 1·1903898 | $\bar{1}$·8870037 | $\bar{2}$·6966185 | 70 |
| 70½ | 15·1772 | ·065888 | ·77571 | ·051110 | 1·1811920 | $\bar{1}$·8896994 | $\bar{2}$·7085059 | 70½ |
| 71 | 14·8561 | ·067313 | ·78045 | ·052535 | 1·1719035 | $\bar{1}$·8923451 | $\bar{2}$·7204487 | 71 |
| 71½ | 14·5389 | ·068781 | ·78514 | ·054003 | 1·1625304 | $\bar{1}$·8949471 | $\bar{2}$·7324179 | 71½ |
| 72 | 14·2257 | ·070295 | ·78977 | ·055517 | 1·1530738 | $\bar{1}$·8975006 | $\bar{2}$·7444260 | 72 |
| 72½ | 13·9167 | ·071856 | ·79433 | ·057078 | 1·1435370 | $\bar{1}$ 9000010 | $\bar{2}$·7564687 | 72½ |
| 73 | 13·6121 | ·073464 | ·79884 | ·058686 | 1·1339254 | $\bar{1}$·9024598 | $\bar{2}$·7685345 | 73 |
| 73½ | 13·3119 | ·075121 | ·80327 | ·060343 | 1·1242397 | $\bar{1}$·9048615 | $\bar{2}$·7806269 | 73½ |
| 74 | 13·0162 | ·076827 | ·80764 | ·062049 | 1·1144850 | $\bar{1}$·9072178 | $\bar{2}$·7927348 | 74 |
| 74½ | 12·7252 | ·078584 | ·81194 | ·063806 | 1·1046650 | $\bar{1}$·9095239 | $\bar{2}$·8048615 | 74½ |
| 75 | 12·4389 | ·080393 | ·81617 | ·065615 | 1·0947806 | $\bar{1}$·9117806 | $\bar{2}$·8170031 | 75 |
| 75½ | 12·1573 | ·082255 | ·82034 | ·067477 | 1·0848367 | $\bar{1}$·9139939 | $\bar{2}$·8291558 | 75½ |
| 76 | 11·8806 | ·084171 | ·82443 | ·069393 | 1·0748368 | $\bar{1}$·9161538 | $\bar{2}$·8413157 | 76 |
| 76½ | 11·6087 | ·086142 | ·82844 | ·071364 | 1·0647848 | $\bar{1}$·9182611 | $\bar{2}$·8534792 | 76½ |
| 77 | 11·3419 | ·088169 | ·83239 | ·073391 | 1·0546841 | $\bar{1}$·9203269 | $\bar{2}$·8656428 | 77 |
| 77½ | 11·0800 | ·090253 | ·83626 | ·075475 | 1·0445384 | $\bar{1}$·9223413 | $\bar{2}$·8778031 | 77½ |
| 78 | 10·8231 | ·092395 | ·84005 | ·077617 | 1·0343511 | $\bar{1}$·9243051 | $\bar{2}$·8899569 | 78 |
| 78½ | 10·5712 | ·094596 | ·84377 | ·079818 | 1·0241258 | $\bar{1}$·9262241 | $\bar{2}$·9021008 | 78½ |
| 79 | 10·3244 | ·096858 | ·84742 | ·082080 | 1·0138665 | $\bar{1}$·9280987 | $\bar{2}$·9142373 | 79 |
| 79½ | 10·0827 | ·099180 | ·85099 | ·084402 | 1·0035760 | $\bar{1}$·9299245 | $\bar{2}$·9263527 | 79½ |
| 80 | 9·8460 | ·101564 | ·85449 | ·086786 | 0·9932583 | $\bar{1}$·9317070 | $\bar{2}$·9384497 | 80 |
| 80½ | 9·6143 | ·104012 | ·85792 | ·089234 | 0·9829177 | $\bar{1}$·9334468 | $\bar{2}$·9505304 | 80½ |
| 81 | 9·3877 | ·106523 | ·86127 | ·091745 | 0·9725569 | $\bar{1}$·9351393 | $\bar{2}$·9625824 | 81 |
| 81½ | 9·1660 | ·109099 | ·86454 | ·094321 | 0·9621794 | $\bar{1}$·9367851 | $\bar{2}$·9746084 | 81½ |
| 82 | 8·9493 | ·111741 | ·86774 | ·096963 | 0·9517881 | $\bar{1}$·9383896 | $\bar{2}$·9866060 | 82 |
| 82½ | 8·7375 | ·114449 | ·87087 | ·099671 | 0·9413867 | $\bar{1}$·9399533 | $\bar{2}$·9985688 | 82½ |
| 83 | 8·5306 | ·117225 | ·87393 | ·102447 | 0·9309788 | $\bar{1}$·9414766 | $\bar{1}$·0104994 | 83 |
| 83½ | 8·3285 | ·120069 | ·87692 | ·105291 | 0·9205692 | $\bar{1}$·9429600 | $\bar{1}$·0223912 | 83½ |

## HALF-YEARLY TABLE :—FEMALES. Interest 3 per Cent.

VALUES of ANNUITIES. SINGLE and HALF-YEARLY PREMIUMS which insure £1 on the LIFE of a FEMALE.

| Age | **Present Value** of an **Annuity** of £1 payable every **Half Year.** | **Annuity** payable every **Half Year** which £1 will purchase. | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Half-yearly Premium** which will insure £1 over the **Whole Term of Life.** | $\lambda\left(\frac{N_x}{D_x}\right) = \lambda A_x$ | $\lambda\,\Pi_x$ | $\lambda\,\pi_x$ | Age |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1 - d\,A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 84 | 8·1313 | ·122982 | ·87983 | ·108204 | 0·9101596 | $\bar{1}$·9443988 | $\bar{1}$·0342433 | 84 |
| 84½ | 7·9387 | ·125965 | ·88268 | ·111187 | 0·8997516 | $\bar{1}$·9458033 | $\bar{1}$·0460541 | 84½ |
| 85 | 7·7509 | ·129018 | ·88546 | ·114240 | 0·8893503 | $\bar{1}$·9471689 | $\bar{1}$·0578182 | 85 |
| 85½ | 7·5676 | ·132142 | ·88816 | ·117364 | 0·8789584 | $\bar{1}$·9484912 | $\bar{1}$·0695349 | 85½ |
| 86 | 7·3889 | ·135338 | ·89080 | ·120560 | 0·8685807 | $\bar{1}$·9497802 | $\bar{1}$·0812032 | 86 |
| 86½ | 7·2147 | ·138606 | ·89338 | ·123828 | 0·8582177 | $\bar{1}$·9510362 | $\bar{1}$·0928189 | 86½ |
| 87 | 7·0449 | ·141948 | ·89589 | ·127170 | 0·8478718 | $\bar{1}$·9522547 | $\bar{1}$·1043847 | 87 |
| 87½ | 6·8794 | ·145362 | ·89833 | ·130584 | 0·8375494 | $\bar{1}$·9534359 | $\bar{1}$·1158900 | 87½ |
| 88 | 6·7181 | ·148851 | ·90072 | ·134073 | 0·8272489 | $\bar{1}$·9545898 | $\bar{1}$·1273413 | 88 |
| 88½ | 6·5611 | ·152414 | ·90304 | ·137636 | 0·8169744 | $\bar{1}$·9557070 | $\bar{1}$·1387321 | 88½ |
| 89 | 6·4081 | ·156052 | ·90530 | ·141274 | 0·8067296 | $\bar{1}$·9567925 | $\bar{1}$·1500622 | 89 |
| 89½ | 6·2592 | ·159766 | ·90750 | ·144988 | 0·7965164 | $\bar{1}$·9578466 | $\bar{1}$·1613320 | 89½ |
| 90 | 6·1142 | ·163555 | ·90964 | ·148777 | 0·7863362 | $\bar{1}$·9588695 | $\bar{1}$·1725358 | 90 |
| 90½ | 5·9730 | ·167420 | ·91173 | ·152642 | 0·7761921 | $\bar{1}$·9598662 | $\bar{1}$·1836741 | 90½ |
| 91 | 5·8356 | ·171362 | ·91376 | ·156584 | 0·7660858 | $\bar{1}$·9608321 | $\bar{1}$·1947474 | 91 |
| 91½ | 5·7019 | ·175379 | ·91574 | ·160601 | 0·7560217 | $\bar{1}$·9617722 | $\bar{1}$·2057482 | 91½ |
| 92 | 5·5718 | ·179474 | ·91766 | ·164696 | 0·7459988 | $\bar{1}$·9626818 | $\bar{1}$·2166830 | 92 |
| 92½ | 5·4453 | ·183645 | ·91953 | ·168867 | 0·7360199 | $\bar{1}$·9635659 | $\bar{1}$·2275448 | 92½ |
| 93 | 5·3222 | ·187893 | ·92135 | ·173115 | 0·7260899 | $\bar{1}$·9644246 | $\bar{1}$·2383347 | 93 |
| 93½ | 5·2025 | ·192216 | ·92312 | ·177438 | 0·7162099 | $\bar{1}$·9652582 | $\bar{1}$·2490466 | 93½ |
| 94 | 5·0861 | ·196616 | ·92484 | ·181838 | 0·7063816 | $\bar{1}$·9660666 | $\bar{1}$·2596846 | 94 |
| 94½ | 4·9728 | ·201092 | ·92651 | ·186314 | 0·6966053 | $\bar{1}$·9668501 | $\bar{1}$·2702455 | 94½ |
| 95 | 4·8627 | ·205646 | ·92814 | ·190868 | 0·6868798 | $\bar{1}$·9676135 | $\bar{1}$·2807331 | 95 |
| 95½ | 4·7556 | ·210276 | ·92972 | ·195498 | 0·6772094 | $\bar{1}$·9683522 | $\bar{1}$·2911423 | 95½ |
| 96 | 4·6515 | ·214983 | ·93126 | ·200205 | 0·6675957 | $\bar{1}$·9690709 | $\bar{1}$·3014750 | 96 |
| 96½ | 4·5503 | ·219766 | ·93275 | ·204988 | 0·6580389 | $\bar{1}$·9697653 | $\bar{1}$·3117285 | 96½ |
| 97 | 4·4518 | ·224627 | ·93421 | ·209849 | 0·6485389 | $\bar{1}$·9704445 | $\bar{1}$·3219069 | 97 |
| 97½ | 4·3561 | ·229562 | ·93562 | ·214784 | 0·6390993 | $\bar{1}$·9710995 | $\bar{1}$·3320019 | 97½ |
| 98 | 4·2630 | ·234576 | ·93700 | ·219798 | 0·6297161 | $\bar{1}$·9717396 | $\bar{1}$·3420237 | 98 |
| 98½ | 4·1725 | ·239667 | ·93834 | ·224889 | 0·6203912 | $\bar{1}$·9723602 | $\bar{1}$·3519682 | 98½ |
| 99 | 4·0844 | ·244837 | ·93964 | ·230059 | 0·6111233 | $\bar{1}$·9729615 | $\bar{1}$·3618392 | 99 |
| 99½ | 3·9986 | ·250088 | ·94091 | ·235310 | 0·6019078 | $\bar{1}$·9735481 | $\bar{1}$·3716404 | 99½ |
| 100 | 3·9151 | ·255420 | ·94214 | ·240642 | 0·5927459 | $\bar{1}$·9741154 | $\bar{1}$·3813714 | 100 |
| 100½ | 3·8338 | ·260838 | ·94334 | ·246060 | 0·5836292 | $\bar{1}$·9746683 | $\bar{1}$·3910410 | 100½ |
| 101 | 3·7545 | ·266348 | ·94452 | ·251570 | 0·5745498 | $\bar{1}$·9752112 | $\bar{1}$·4006588 | 101 |
| 101½ | 3·6770 | ·271960 | ·94566 | ·257182 | 0·5654954 | $\bar{1}$·9757350 | $\bar{1}$·4102406 | 101½ |
| 102 | 3·6012 | ·277687 | ·94678 | ·262909 | 0·5564451 | $\bar{1}$·9762491 | $\bar{1}$·4198055 | 102 |
| 102½ | 3·5267 | ·283550 | ·94788 | ·268772 | 0·5473697 | $\bar{1}$·9767534 | $\bar{1}$·4293840 | 102½ |
| 103 | 3·4533 | ·289582 | ·94897 | ·274804 | 0·5382281 | $\bar{1}$·9772525 | $\bar{1}$·4390230 | 103 |
| 103½ | 3·3803 | ·295829 | ·95004 | ·281051 | 0·5289596 | $\bar{1}$·9777419 | $\bar{1}$·4487851 | 103½ |
| 104 | 3·3072 | ·302373 | ·95113 | ·287595 | 0·5194563 | $\bar{1}$·9782399 | $\bar{1}$·4587814 | 104 |
| 104½ | 3·2327 | ·309336 | ·95223 | ·294558 | 0·5095689 | $\bar{1}$·9787419 | $\bar{1}$·4691708 | 104½ |
| 105 | 3·1555 | ·316905 | ·95337 | ·302127 | 0·4990704 | $\bar{1}$·9792615 | $\bar{1}$·4801896 | 105 |
| 105½ | 3·0734 | ·325374 | ·95458 | ·310596 | 0·4876168 | $\bar{1}$·9798123 | $\bar{1}$·4921959 | 105½ |
| 106 | 2·9832 | ·335208 | ·95591 | ·320430 | 0·4746862 | $\bar{1}$·9804170 | $\bar{1}$·5057332 | 106 |
| 106½ | 2·8791 | ·347325 | ·95745 | ·332547 | 0·4592642 | $\bar{1}$·9811161 | $\bar{1}$·5218531 | 106½ |
| 107 | 2·7538 | ·363129 | ·95930 | ·348351 | 0·4399388 | $\bar{1}$·9819544 | $\bar{1}$·5420171 | 107 |
| 107½ | 2·5939 | ·385523 | ·96167 | ·370745 | 0·4139497 | $\bar{1}$·9830261 | $\bar{1}$·5690753 | 107½ |
| 108 | 2·3813 | ·419932 | ·96481 | ·405154 | 0·3768212 | $\bar{1}$·9844418 | $\bar{1}$·6076201 | 108 |
| 108½ | 2·0819 | ·480342 | ·96923 | ·465564 | 0·3184495 | $\bar{1}$·9864268 | $\bar{1}$·6679794 | 108½ |
| 109 | 1·6490 | ·606422 | ·97563 | ·591644 | 0·2172253 | $\bar{1}$·9892851 | $\bar{1}$·7720605 | 109 |
| 109½ | 1·0029 | ·997124 | ·98518 | ·982346 | 0·0012510 | $\bar{1}$·9935156 | $\bar{1}$·9922644 | 109½ |

# NOTE.

In the Half-yearly Life Table the Interest is convertible half-yearly, and the $v$ at 3 per Cent. is derived thus :—

$$\text{Interest 3 per Cent.; } \lambda v = \lambda \frac{1}{1+\frac{\cdot 03}{2}} \text{ or } \lambda \frac{1}{1\cdot 015} = 9\cdot 9935339{,}57750768\,;\ v = \cdot 98522167$$

and

$$1 - v = d = \cdot 01477833\,;\ \lambda d = \bar{2}\cdot 1696253$$

$$\text{or } \lambda d = \lambda \frac{3}{203} = \bar{2}\cdot 1696253$$

# SINGLE LIVES.

## QUARTERLY TABLE.

### MALES and FEMALES.

(For Note as to Interest see page 174.)

## QUARTERLY TABLE:—MALES.

## Logarithms of the Series $l_x$.

| MALES. | | | | | | | |
|---|---|---|---|---|---|---|---|
| Age ($x$) Quarter Years. | $\lambda\, l_x$ | Age ($x$) Quarter Years. | $\lambda\, l_x$ | Age ($x$) Quarter Years. | $\lambda\, l_x$ | Age ($x$) Quarter Years. | $\lambda\, l_x$ |
| 0 | 5·7090538 | 55 | 5·5395527 | 110 | 5·4942590 | 165 | 5·4275703 |
| 1 | 5·6707648 | 56 | 5·5390375 | 111 | 5·4932194 | 166 | 5·4261127 |
| 2 | 5·6557125 | 57 | 5·5385182 | 112 | 5·4921749 | 167 | 5·4246429 |
| 3 | 5·6425635 | 58 | 5·5379938 | 113 | 5·4911254 | 168 | 5·4231610 |
| 4 | 5·6314702 | 59 | 5·5374628 | 114 | 5·4900709 | 169 | 5·4216665 |
| 5 | 5·6225851 | 60 | 5·5369242 | 115 | 5·4890113 | 170 | 5·4201592 |
| 6 | 5·6148959 | 61 | 5·5363770 | 116 | 5·4879467 | 171 | 5·4186390 |
| 7 | 5·6082782 | 62 | 5·5358199 | 117 | 5·4868769 | 172 | 5·4171056 |
| 8 | 5·6026079 | 63 | 5·5352521 | 118 | 5·4858018 | 173 | 5·4155588 |
| 9 | 5·5977605 | 64 | 5·5346726 | 119 | 5·4847215 | 174 | 5·4139983 |
| 10 | 5·5936119 | 65 | 5·5340805 | 120 | 5·4836359 | 175 | 5·4124239 |
| 11 | 5·5900375 | 66 | 5·5334750 | 121 | 5·4825448 | 176 | 5·4108353 |
| 12 | 5·5869132 | 67 | 5·5328552 | 122 | 5·4814483 | 177 | 5·4092323 |
| 13 | 5·5839915 | 68 | 5·5322204 | 123 | 5·4803462 | 178 | 5·4076146 |
| 14 | 5·5812806 | 69 | 5·5315700 | 124 | 5·4792385 | 179 | 5·4059820 |
| 15 | 5·5787651 | 70 | 5·5309032 | 125 | 5·4781251 | 180 | 5·4043342 |
| 16 | 5·5764301 | 71 | 5·5302196 | 126 | 5·4770058 | 181 | 5·4026710 |
| 17 | 5·5742615 | 72 | 5·5295186 | 127 | 5·4758807 | 182 | 5·4009920 |
| 18 | 5·5722457 | 73 | 5·5287996 | 128 | 5·4747496 | 183 | 5·3992970 |
| 19 | 5·5703698 | 74 | 5·5280623 | 129 | 5·4736124 | 184 | 5·3975858 |
| 20 | 5·5686214 | 75 | 5·5273064 | 130 | 5·4724691 | 185 | 5·3958581 |
| 21 | 5·5669889 | 76 | 5·5265313 | 131 | 5·4713195 | 186 | 5·3941135 |
| 22 | 5·5654611 | 77 | 5·5257370 | 132 | 5·4701635 | 187 | 5·3923518 |
| 23 | 5·5640277 | 78 | 5·5249231 | 133 | 5·4690011 | 188 | 5·3905727 |
| 24 | 5·5626788 | 79 | 5·5240895 | 134 | 5·4678320 | 189 | 5·3887760 |
| 25 | 5·5614052 | 80 | 5·5232361 | 135 | 5·4666563 | 190 | 5·3869613 |
| 26 | 5·5601984 | 81 | 5·5223407 | 136 | 5·4654737 | 191 | 5·3851283 |
| 27 | 5·5590504 | 82 | 5·5214401 | 137 | 5·4642842 | 192 | 5·3832768 |
| 28 | 5·5579538 | 83 | 5·5205343 | 138 | 5·4630876 | 193 | 5·3814063 |
| 29 | 5·5568835 | 84 | 5·5196235 | 139 | 5·4618839 | 194 | 5·3795168 |
| 30 | 5·5558625 | 85 | 5·5187077 | 140 | 5·4606728 | 195 | 5·3776077 |
| 31 | 5·5548883 | 86 | 5·5177869 | 141 | 5·4594543 | 196 | 5·3756788 |
| 32 | 5·5539582 | 87 | 5·5168612 | 142 | 5·4582282 | 197 | 5·3737298 |
| 33 | 5·5530698 | 88 | 5·5159306 | 143 | 5·4569943 | 198 | 5·3717604 |
| 34 | 5·5522205 | 89 | 5·5149951 | 144 | 5·4557526 | 199 | 5·3697702 |
| 35 | 5·5514078 | 90 | 5·5140548 | 145 | 5·4545029 | 200 | 5·3677590 |
| 36 | 5·5506295 | 91 | 5·5131097 | 146 | 5·4532449 | 201 | 5·3657263 |
| 37 | 5·5498831 | 92 | 5·5121599 | 147 | 5·4519787 | 202 | 5·3636720 |
| 38 | 5·5491663 | 93 | 5·5112053 | 148 | 5·4507040 | 203 | 5·3615955 |
| 39 | 5·5484770 | 94 | 5·5102460 | 149 | 5·4494207 | 204 | 5·3594966 |
| 40 | 5·5478129 | 95 | 5·5092820 | 150 | 5·4481285 | 205 | 5·3573200 |
| 41 | 5·5471719 | 96 | 5·5083133 | 151 | 5·4468274 | 206 | 5·3551160 |
| 42 | 5·5465519 | 97 | 5·5073399 | 152 | 5·4455172 | 207 | 5·3528846 |
| 43 | 5·5459510 | 98 | 5·5063619 | 153 | 5·4441977 | 208 | 5·3506255 |
| 44 | 5·5453670 | 99 | 5·5053792 | 154 | 5·4428687 | 209 | 5·3483387 |
| 45 | 5·5447982 | 100 | 5·5043918 | 155 | 5·4415300 | 210 | 5·3460240 |
| 46 | 5·5442425 | 101 | 5·5033997 | 156 | 5·4401815 | 211 | 5·3436810 |
| 47 | 5·5436983 | 102 | 5·5024030 | 157 | 5·4388229 | 212 | 5·3413096 |
| 48 | 5·5431636 | 103 | 5·5014016 | 158 | 5·4374542 | 213 | 5·3389093 |
| 49 | 5·5426369 | 104 | 5·5003955 | 159 | 5·4360750 | 214 | 5·3364798 |
| 50 | 5·5421164 | 105 | 5·4993847 | 160 | 5·4346852 | 215 | 5·3340208 |
| 51 | 5·5416006 | 106 | 5·4983691 | 161 | 5·4332847 | 216 | 5·3315316 |
| 52 | 5·5410877 | 107 | 5·4973488 | 162 | 5·4318731 | 217 | 5·3290120 |
| 53 | 5·5405765 | 108 | 5·4963237 | 163 | 5·4304503 | 218 | 5·3264613 |
| 54 | 5·5400653 | 109 | 5·4952938 | 164 | 5·4290161 | 219 | 5·3238790 |

## QUARTERLY TABLE:—Males.

## Logarithms of the Series $l_x$.

MALES.

| Age ($x$) Quarter Years. | $\lambda\ l_x$ | Age ($x$) Quarter Years. | $\lambda\ l_x$ | Age ($x$) Quarter Years. | $\lambda\ l_x$ | Age ($x$) Quarter Years. | $\lambda\ l_x$ |
|---|---|---|---|---|---|---|---|
| 220 | 5·3212644 | 275 | 5·0928654 | 330 | 4·4381912 | 385 | 2·6920698 |
| 221 | 5·3186169 | 276 | 5·0862279 | 331 | 4·4187646 | 386 | 2·6443431 |
| 222 | 5·3159359 | 277 | 5·0794568 | 332 | 4·3989822 | 387 | 2·5959165 |
| 223 | 5·3132205 | 278 | 5·0725491 | 333 | 4·3788389 | 388 | 2·5467827 |
| 224 | 5·3104701 | 279 | 5·0655018 | 334 | 4·3583295 | 389 | 2·4969340 |
| 225 | 5·3076837 | 280 | 5·0583119 | 335 | 4·3374486 | 390 | 2·4463632 |
| 226 | 5·3048607 | 281 | 5·0509763 | 336 | 4·3161911 | 391 | 2·3950627 |
| 227 | 5·3019999 | 282 | 5·0434919 | 337 | 4·2945515 | 392 | 2·3430250 |
| 228 | 5·2991007 | 283 | 5·0358555 | 338 | 4·2725246 | 393 | 2·2902424 |
| 229 | 5·2961618 | 284 | 5·0280639 | 339 | 4·2501048 | 394 | 2·2367073 |
| 230 | 5·2931825 | 285 | 5·0201140 | 340 | 4·2272868 | 395 | 2·1824121 |
| 231 | 5·2901615 | 286 | 5·0120024 | 341 | 4·2040651 | 396 | 2·1273491 |
| 232 | 5·2870978 | 287 | 5·0037258 | 342 | 4·1804342 | 397 | 2·0715105 |
| 233 | 5·2839903 | 288 | 4·9952810 | 343 | 4·1563883 | 398 | 2·0148885 |
| 234 | 5·2808378 | 289 | 4·9866644 | 344 | 4·1319221 | 399 | 1·9574753 |
| 235 | 5·2776390 | 290 | 4·9778727 | 345 | 4·1070297 | 400 | 1·8992629 |
| 236 | 5·2743928 | 291 | 4·9689023 | 346 | 4·0817056 | 401 | 1·8402436 |
| 237 | 5·2710978 | 292 | 4·9597498 | 347 | 4·0559439 | 402 | 1·7804094 |
| 238 | 5·2677527 | 293 | 4·9504116 | 348 | 4·0297389 | 403 | 1·7197522 |
| 239 | 5·2643561 | 294 | 4·9408842 | 349 | 4·0030848 | 404 | 1·6582640 |
| 240 | 5·2609066 | 295 | 4·9311638 | 350 | 3·9759758 | 405 | 1·5959368 |
| 241 | 5·2574028 | 296 | 4·9212468 | 351 | 3·9484059 | 406 | 1·5327625 |
| 242 | 5·2538431 | 297 | 4·9111296 | 352 | 3·9203691 | 407 | 1·4687328 |
| 243 | 5·2502260 | 298 | 4·9008082 | 353 | 3·8918597 | 408 | 1·4038396 |
| 244 | 5·2465499 | 299 | 4·8902790 | 354 | 3·8628714 | 409 | 1·3380747 |
| 245 | 5·2428133 | 300 | 4·8795381 | 355 | 3·8333983 | 410 | 1·2714298 |
| 246 | 5·2390144 | 301 | 4·8685817 | 356 | 3·8034343 | 411 | 1·2038966 |
| 247 | 5·2351515 | 302 | 4·8574057 | 357 | 3·7729732 | 412 | 1·1354666 |
| 248 | 5·2312230 | 303 | 4·8460063 | 358 | 3·7420088 | 413 | 1·0661317 |
| 249 | 5·2272270 | 304 | 4·8343794 | 359 | 3·7105350 | 414 | 0·9958831 |
| 250 | 5·2231618 | 305 | 4·8225211 | 360 | 3·6785455 | 415 | 0·9247126 |
| 251 | 5·2190254 | 306 | 4·8104272 | 361 | 3·6460339 | 416 | 0·8526117 |
| 252 | 5·2148159 | 307 | 4·7980936 | 362 | 3·6129940 | 417 | 0·7795716 |
| 253 | 5·2105315 | 308 | 4·7855161 | 363 | 3·5794194 | 418 | 0·7055839 |
| 254 | 5·2061701 | 309 | 4·7726906 | 364 | 3·5453036 | 419 | 0·6306399 |
| 255 | 5·2017297 | 310 | 4·7596129 | 365 | 3·5106402 | 420 | 0·5547309 |
| 256 | 5·1972083 | 311 | 4·7462785 | 366 | 3·4754227 | 421 | 0·4778482 |
| 257 | 5·1926037 | 312 | 4·7326833 | 367 | 3·4396445 | 422 | 0·3999831 |
| 258 | 5·1879139 | 313 | 4·7188229 | 368 | 3·4032991 | 423 | 0·3211268 |
| 259 | 5·1831365 | 314 | 4·7046928 | 369 | 3·3663798 | 424 | 0·2412703 |
| 260 | 5·1782695 | 315 | 4·6902886 | 370 | 3·3288801 | 425 | 0·1604049 |
| 261 | 5·1733105 | 316 | 4·6756058 | 371 | 3·2907931 | 426 | 0·0785217 |
| 262 | 5·1682573 | 317 | 4·6606400 | 372 | 3·2521122 | 427 | 9·9956115 |
| 263 | 5·1631074 | 318 | 4·6453864 | 373 | 3·2128305 | 428 | 9·9116655 |
| 264 | 5·1578586 | 319 | 4·6298407 | 374 | 3·1729413 | 429 | 9·8266747 |
| 265 | 5·1525083 | 320 | 4·6139980 | 375 | 3·1324377 | 430 | 9·7406299 |
| 266 | 5·1470541 | 321 | 4·5978537 | 376 | 3·0913127 | 431 | 9·6535220 |
| 267 | 5·1414936 | 322 | 4·5814032 | 377 | 3·0495595 | 432 | 9·5653418 |
| 268 | 5·1358241 | 323 | 4·5646415 | 378 | 3·0071710 | 433 | 9·4760802 |
| 269 | 5·1300431 | 324 | 4·5475640 | 379 | 2·9641403 | 434 | 9·3857279 |
| 270 | 5·1241480 | 325 | 4·5301657 | 380 | 2·9204602 | 435 | 9·2942756 |
| 271 | 5·1181360 | 326 | 4·5124419 | 381 | 2·8761237 | 436 | 9·2017141 |
| 272 | 5·1120046 | 327 | 4·4943875 | 382 | 2·8311236 | | |
| 273 | 5·1057508 | 328 | 4·4759976 | 383 | 2·7854528 | | |
| 274 | 5·0993720 | 329 | 4·4572672 | 384 | 2·7391039 | | |

## QUARTERLY TABLE:—Females.

## Logarithms of the Series $l_x$.

FEMALES.

| Age ($x$) Quarter Years. | λ $l_x$ | Age ($x$) Quarter Years. | λ $l_x$ | Age ($x$) Quarter Years. | λ $l_x$ | Age ($x$) Quarter Years. | λ $l_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 5·6886465 | 55 | 5·5346609 | 110 | 5·4871177 | 165 | 5·4187217 |
| 1 | 5·6585491 | 56 | 5·5341051 | 111 | 5·4860242 | 166 | 5·4173008 |
| 2 | 5·6462495 | 57 | 5·5335451 | 112 | 5·4849253 | 167 | 5·4158722 |
| 3 | 5·6355335 | 58 | 5·5329796 | 113 | 5·4838213 | 168 | 5·4144359 |
| 4 | 5·6258069 | 59 | 5·5324074 | 114 | 5·4827120 | 169 | 5·4129917 |
| 5 | 5·6164755 | 60 | 5·5318275 | 115 | 5·4815976 | 170 | 5·4115397 |
| 6 | 5·6089777 | 61 | 5·5312390 | 116 | 5·4804778 | 171 | 5·4100796 |
| 7 | 5·6029548 | 62 | 5·5306407 | 117 | 5·4793529 | 172 | 5·4086114 |
| 8 | 5·5980479 | 63 | 5·5300318 | 118 | 5·4782227 | 173 | 5·4071350 |
| 9 | 5·5938981 | 64 | 5·5294114 | 119 | 5·4770873 | 174 | 5·4056502 |
| 10 | 5·5901467 | 65 | 5·5287787 | 120 | 5·4759466 | 175 | 5·4041570 |
| 11 | 5·5864347 | 66 | 5·5281328 | 121 | 5·4748007 | 176 | 5·4026553 |
| 12 | 5·5824033 | 67 | 5·5274730 | 122 | 5·4736495 | 177 | 5·4011449 |
| 13 | 5·5794173 | 68 | 5·5267986 | 123 | 5·4724931 | 178 | 5·3996257 |
| 14 | 5·5766624 | 69 | 5·5261091 | 124 | 5·4713313 | 179 | 5·3980976 |
| 15 | 5·5741205 | 70 | 5·5254037 | 125 | 5·4701643 | 180 | 5·3965606 |
| 16 | 5·5717743 | 71 | 5·5246820 | 126 | 5·4689919 | 181 | 5·3950144 |
| 17 | 5·5696072 | 72 | 5·5239434 | 127 | 5·4678142 | 182 | 5·3934590 |
| 18 | 5·5676035 | 73 | 5·5231875 | 128 | 5·4666311 | 183 | 5·3918942 |
| 19 | 5·5657480 | 74 | 5·5224139 | 129 | 5·4654426 | 184 | 5·3903199 |
| 20 | 5·5640266 | 75 | 5·5216222 | 130 | 5·4642487 | 185 | 5·3887360 |
| 21 | 5·5624256 | 76 | 5·5208121 | 131 | 5·4630494 | 186 | 5·3871423 |
| 22 | 5·5609324 | 77 | 5·5199834 | 132 | 5·4618446 | 187 | 5·3855388 |
| 23 | 5·5595348 | 78 | 5·5191358 | 133 | 5·4606343 | 188 | 5·3839253 |
| 24 | 5·5582216 | 79 | 5·5182691 | 134 | 5·4594185 | 189 | 5·3823016 |
| 25 | 5·5569824 | 80 | 5·5173833 | 135 | 5·4581971 | 190 | 5·3806677 |
| 26 | 5·5558073 | 81 | 5·5164588 | 136 | 5·4569701 | 191 | 5·3790234 |
| 27 | 5·5546874 | 82 | 5·5155281 | 137 | 5·4557375 | 192 | 5·3773685 |
| 28 | 5·5536144 | 83 | 5·5145911 | 138 | 5·4544991 | 193 | 5·3757029 |
| 29 | 5·5525587 | 84 | 5·5136479 | 139 | 5·4532551 | 194 | 5·3740265 |
| 30 | 5·5515483 | 85 | 5·5126987 | 140 | 5·4520053 | 195 | 5·3723391 |
| 31 | 5·5505807 | 86 | 5·5117434 | 141 | 5·4507497 | 196 | 5·3706406 |
| 32 | 5·5496536 | 87 | 5·5107822 | 142 | 5·4494882 | 197 | 5·3689309 |
| 33 | 5·5487646 | 88 | 5·5098150 | 143 | 5·4482208 | 198 | 5·3672097 |
| 34 | 5·5479114 | 89 | 5·5088420 | 144 | 5·4469475 | 199 | 5·3654770 |
| 35 | 5·5470916 | 90 | 5·5078631 | 145 | 5·4456681 | 200 | 5·3637325 |
| 36 | 5·5463032 | 91 | 5·5068784 | 146 | 5·4443827 | 201 | 5·3619761 |
| 37 | 5·5455438 | 92 | 5·5058879 | 147 | 5·4430912 | 202 | 5·3602078 |
| 38 | 5·5448114 | 93 | 5·5048918 | 148 | 5·4417935 | 203 | 5·3584272 |
| 39 | 5·5441039 | 94 | 5·5038900 | 149 | 5·4404895 | 204 | 5·3566343 |
| 40 | 5·5434193 | 95 | 5·5028826 | 150 | 5·4391793 | 205 | 5·3548289 |
| 41 | 5·5427556 | 96 | 5·5018696 | 151 | 5·4378626 | 206 | 5·3530107 |
| 42 | 5·5421108 | 97 | 5·5008511 | 152 | 5·4365396 | 207 | 5·3511798 |
| 43 | 5·5414831 | 98 | 5·4998270 | 153 | 5·4352100 | 208 | 5·3493358 |
| 44 | 5·5408707 | 99 | 5·4987975 | 154 | 5·4338739 | 209 | 5·3474787 |
| 45 | 5·5402717 | 100 | 5·4977625 | 155 | 5·4325312 | 210 | 5·3456081 |
| 46 | 5·5396843 | 101 | 5·4967220 | 156 | 5·4311817 | 211 | 5·3437241 |
| 47 | 5·5391070 | 102 | 5·4956762 | 157 | 5·4298255 | 212 | 5·3418264 |
| 48 | 5·5385381 | 103 | 5·4946250 | 158 | 5·4284624 | 213 | 5·3399148 |
| 49 | 5·5379759 | 104 | 5·4935685 | 159 | 5·4270923 | 214 | 5·3379891 |
| 50 | 5·5374188 | 105 | 5·4925066 | 160 | 5·4257153 | 215 | 5·3360492 |
| 51 | 5·5368655 | 106 | 5·4914394 | 161 | 5·4243311 | 216 | 5·3340948 |
| 52 | 5·5363145 | 107 | 5·4903669 | 162 | 5·4229398 | 217 | 5·3319910 |
| 53 | 5·5357642 | 108 | 5·4892891 | 163 | 5·4215411 | 218 | 5·3298518 |
| 54 | 5·5352135 | 109 | 5·4882060 | 164 | 5·4201352 | 219 | 5·3276770 |

## QUARTERLY TABLE :—Females.

### Logarithms of the Series $l_x$.

FEMALES.

| Age ($x$) Quarter Years. | λ $l_x$ | Age ($x$) Quarter Years. | λ $l_x$ | Age ($x$) Quarter Years. | λ $l_x$ | Age ($x$) Quarter Years. | λ $l_x$ |
|---|---|---|---|---|---|---|---|
| 220 | 5·3254663 | 275 | 5·1230157 | 330 | 4·5297999 | 385 | 2·9060033 |
| 221 | 5·3232195 | 276 | 5·1170690 | 331 | 4·5120108 | 386 | 2·8611191 |
| 222 | 5·3209361 | 277 | 5·1110013 | 332 | 4·4938867 | 387 | 2·8155568 |
| 223 | 5·3186158 | 278 | 5·1048097 | 333 | 4·4754226 | 388 | 2·7693090 |
| 224 | 5·3162583 | 279 | 5·0984916 | 334 | 4·4566133 | 389 | 2·7223681 |
| 225 | 5·3138629 | 280 | 5·0920439 | 335 | 4·4374536 | 390 | 2·6747268 |
| 226 | 5·3114292 | 281 | 5·0854640 | 336 | 4·4179384 | 391 | 2·6263773 |
| 227 | 5·3089567 | 282 | 5·0787489 | 337 | 4·3980624 | 392 | 2·5773122 |
| 228 | 5·3064447 | 283 | 5·0718956 | 338 | 4·3778202 | 393 | 2·5275237 |
| 229 | 5·3038926 | 284 | 5·0649012 | 339 | 4·3572066 | 394 | 2·4770042 |
| 230 | 5·3012997 | 285 | 5·0577627 | 340 | 4·3362162 | 395 | 2·4257459 |
| 231 | 5·2986653 | 286 | 5·0504768 | 341 | 4·3148435 | 396 | 2·3737411 |
| 232 | 5·2959886 | 287 | 5·0430406 | 342 | 4·2930831 | 397 | 2·3209819 |
| 233 | 5·2932689 | 288 | 5·0354509 | 343 | 4·2709294 | 398 | 2·2674604 |
| 234 | 5·2905052 | 289 | 5·0277044 | 344 | 4·2483770 | 399 | 2·2131689 |
| 235 | 5·2876966 | 290 | 5·0197980 | 345 | 4·2254201 | 400 | 2·1580992 |
| 236 | 5·2848423 | 291 | 5·0117282 | 346 | 4·2020532 | 401 | 2·1022435 |
| 237 | 5·2819412 | 292 | 5·0034919 | 347 | 4·1782706 | 402 | 2·0455937 |
| 238 | 5·2789924 | 293 | 4·9950856 | 348 | 4·1540665 | 403 | 1·9881417 |
| 239 | 5·2759947 | 294 | 4·9865059 | 349 | 4·1294352 | 404 | 1·9298794 |
| 240 | 5·2729470 | 295 | 4·9777493 | 350 | 4·1043709 | 405 | 1·8707986 |
| 241 | 5·2698482 | 296 | 4·9688124 | 351 | 4·0788677 | 406 | 1·8108911 |
| 242 | 5·2666970 | 297 | 4·9596915 | 352 | 4·0529197 | 407 | 1·7501488 |
| 243 | 5·2634924 | 298 | 4·9503832 | 353 | 4·0265210 | 408 | 1·6885632 |
| 244 | 5·2602329 | 299 | 4·9408837 | 354 | 3·9996656 | 409 | 1·6261261 |
| 245 | 5·2569172 | 300 | 4·9311894 | 355 | 3·9723475 | 410 | 1·5628290 |
| 246 | 5·2535440 | 301 | 4·9212966 | 356 | 3·9445605 | 411 | 1·4986637 |
| 247 | 5·2501119 | 302 | 4·9112015 | 357 | 3·9162987 | 412 | 1·4336215 |
| 248 | 5·2466194 | 303 | 4·9009003 | 358 | 3·8875558 | 413 | 1·3676941 |
| 249 | 5·2430650 | 304 | 4·8903891 | 359 | 3·8583257 | 414 | 1·3008728 |
| 250 | 5·2394471 | 305 | 4·8796642 | 360 | 3·8286021 | 415 | 1·2331491 |
| 251 | 5·2357643 | 306 | 4·8687215 | 361 | 3·7983787 | 416 | 1·1645143 |
| 252 | 5·2320148 | 307 | 4·8575571 | 362 | 3·7676492 | 417 | 1·0949598 |
| 253 | 5·2281971 | 308 | 4·8461669 | 363 | 3·7364072 | 418 | 1·0244768 |
| 254 | 5·2243094 | 309 | 4·8345469 | 364 | 3·7046464 | 419 | 0·9530566 |
| 255 | 5·2203499 | 310 | 4·8226930 | 365 | 3·6723602 | 420 | 0·8806904 |
| 256 | 5·2163168 | 311 | 4·8106011 | 366 | 3·6395423 | 421 | 0·8073693 |
| 257 | 5·2122084 | 312 | 4·7982669 | 367 | 3·6061859 | 422 | 0·7330845 |
| 258 | 5·2080227 | 313 | 4·7856863 | 368 | 3·5722846 | 423 | 0·6578269 |
| 259 | 5·2037578 | 314 | 4·7728549 | 369 | 3·5378318 | 424 | 0·5815878 |
| 260 | 5·1994117 | 315 | 4·7597685 | 370 | 3·5028207 | 425 | 0·5043579 |
| 261 | 5·1949825 | 316 | 4·7464227 | 371 | 3·4672447 | 426 | 0·4261283 |
| 262 | 5·1904681 | 317 | 4·7328130 | 372 | 3·4310970 | 427 | 0·3468899 |
| 263 | 5·1858664 | 318 | 4·7189351 | 373 | 3·3943708 | 428 | 0·2666335 |
| 264 | 5·1811753 | 319 | 4·7047844 | 374 | 3·3570593 | 429 | 0·1853500 |
| 265 | 5·1763925 | 320 | 4·6903565 | 375 | 3·3191556 | 430 | 0·1030300 |
| 266 | 5·1715159 | 321 | 4·6756467 | 376 | 3·2806527 | 431 | 0·0196644 |
| 267 | 5·1665431 | 322 | 4·6606504 | 377 | 3·2415438 | 432 | 9·9352438 |
| 268 | 5·1614720 | 323 | 4·6453631 | 378 | 3·2018218 | 433 | 9·8497588 |
| 269 | 5·1563001 | 324 | 4·6297799 | 379 | 3·1614796 | 434 | 9·7632001 |
| 270 | 5·1510250 | 325 | 4·6138961 | 380 | 3·1205102 | 435 | 9·6755582 |
| 271 | 5·1456444 | 326 | 4·5977070 | 381 | 3·0789064 | 436 | 9·5868236 |
| 272 | 5·1401557 | 327 | 4·5812078 | 382 | 3·0366611 | | |
| 273 | 5·1345564 | 328 | 4·5643934 | 383 | 2·9937670 | | |
| 274 | 5·1288439 | 329 | 4·5472591 | 384 | 2·9502168 | | |

## QUARTERLY TABLE:—MALES. Interest 3 per Cent.

### **Logarithms** of the Series $p_x = \lambda$ probability of living *a quarter of a year* after Age $x$.

| Age ($x$) | $\lambda\, p_x$ | Age ($x$) | $\lambda\, p_x$ | Age ($x$) | $\lambda\, p_x$ | Age ($x$) | $\lambda\, p_x$ |
|---|---|---|---|---|---|---|---|
| 0 | $\bar{1}$·9617110 | 14 | $\bar{1}$·9994807 | 28 | $\bar{1}$·9989505 | 42 | $\bar{1}$·9985055 |
| 0¼ | $\bar{1}$·9849477 | 14¼ | $\bar{1}$·9994756 | 28¼ | $\bar{1}$·9989455 | 42¼ | $\bar{1}$·9984927 |
| 0½ | $\bar{1}$·9868510 | 14½ | $\bar{1}$·9994690 | 28½ | $\bar{1}$·9989404 | 42½ | $\bar{1}$·9984798 |
| 0¾ | $\bar{1}$·9889067 | 14¾ | $\bar{1}$·9994614 | 28¾ | $\bar{1}$·9989354 | 42¾ | $\bar{1}$·9984666 |
| 1 | $\bar{1}$·9911149 | 15 | $\bar{1}$·9994528 | 29 | $\bar{1}$·9989302 | 43 | $\bar{1}$·9984532 |
| 1¼ | $\bar{1}$·9923108 | 15¼ | $\bar{1}$·9994429 | 29¼ | $\bar{1}$·9989249 | 43¼ | $\bar{1}$·9984395 |
| 1½ | $\bar{1}$·9933823 | 15½ | $\bar{1}$·9994322 | 29½ | $\bar{1}$·9989197 | 43½ | $\bar{1}$·9984256 |
| 1¾ | $\bar{1}$·9943297 | 15¾ | $\bar{1}$·9994205 | 29¾ | $\bar{1}$·9989144 | 43¾ | $\bar{1}$·9984114 |
| 2 | $\bar{1}$·9951526 | 16 | $\bar{1}$·9994079 | 30 | $\bar{1}$·9989089 | 44 | $\bar{1}$·9983970 |
| 2¼ | $\bar{1}$·9958514 | 16¼ | $\bar{1}$·9993945 | 30¼ | $\bar{1}$·9989035 | 44¼ | $\bar{1}$·9983823 |
| 2½ | $\bar{1}$·9964256 | 16½ | $\bar{1}$·9993802 | 30½ | $\bar{1}$·9988979 | 44½ | $\bar{1}$·9983674 |
| 2¾ | $\bar{1}$·9968757 | 16¾ | $\bar{1}$·9993652 | 30¾ | $\bar{1}$·9988923 | 44¾ | $\bar{1}$·9983522 |
| 3 | $\bar{1}$·9970783 | 17 | $\bar{1}$·9993496 | 31 | $\bar{1}$·9988866 | 45 | $\bar{1}$·9983368 |
| 3¼ | $\bar{1}$·9972891 | 17¼ | $\bar{1}$·9993332 | 31¼ | $\bar{1}$·9988807 | 45¼ | $\bar{1}$·9983210 |
| 3½ | $\bar{1}$·9974845 | 17½ | $\bar{1}$·9993164 | 31½ | $\bar{1}$·9988749 | 45½ | $\bar{1}$·9983050 |
| 3¾ | $\bar{1}$·9976650 | 17¾ | $\bar{1}$·9992990 | 31¾ | $\bar{1}$·9988689 | 45¾ | $\bar{1}$·9982888 |
| 4 | $\bar{1}$·9978314 | 18 | $\bar{1}$·9992810 | 32 | $\bar{1}$·9988628 | 46 | $\bar{1}$·9982723 |
| 4¼ | $\bar{1}$·9979842 | 18¼ | $\bar{1}$·9992627 | 32¼ | $\bar{1}$·9988567 | 46¼ | $\bar{1}$·9982554 |
| 4½ | $\bar{1}$·9981241 | 18½ | $\bar{1}$·9992441 | 32½ | $\bar{1}$·9988504 | 46½ | $\bar{1}$·9982383 |
| 4¾ | $\bar{1}$·9982516 | 18¾ | $\bar{1}$·9992249 | 32¾ | $\bar{1}$·9988440 | 46¾ | $\bar{1}$·9982209 |
| 5 | $\bar{1}$·9983675 | 19 | $\bar{1}$·9992057 | 33 | $\bar{1}$·9988376 | 47 | $\bar{1}$·9982033 |
| 5¼ | $\bar{1}$·9984722 | 19¼ | $\bar{1}$·9991861 | 33¼ | $\bar{1}$·9988309 | 47¼ | $\bar{1}$·9981853 |
| 5½ | $\bar{1}$·9985666 | 19½ | $\bar{1}$·9991664 | 33½ | $\bar{1}$·9988243 | 47½ | $\bar{1}$·9981670 |
| 5¾ | $\bar{1}$·9986511 | 19¾ | $\bar{1}$·9991466 | 33¾ | $\bar{1}$·9988174 | 47¾ | $\bar{1}$·9981485 |
| 6 | $\bar{1}$·9987264 | 20 | $\bar{1}$·9991046 | 34 | $\bar{1}$·9988105 | 48 | $\bar{1}$·9981295 |
| 6¼ | $\bar{1}$·9987932 | 20¼ | $\bar{1}$·9990994 | 34¼ | $\bar{1}$·9988034 | 48¼ | $\bar{1}$·9981105 |
| 6½ | $\bar{1}$·9988520 | 20½ | $\bar{1}$·9990942 | 34½ | $\bar{1}$·9987963 | 48½ | $\bar{1}$·9980909 |
| 6¾ | $\bar{1}$·9989034 | 20¾ | $\bar{1}$·9990892 | 34¾ | $\bar{1}$·9987889 | 48¾ | $\bar{1}$·9980711 |
| 7 | $\bar{1}$·9989297 | 21 | $\bar{1}$·9990842 | 35 | $\bar{1}$·9987815 | 49 | $\bar{1}$·9980510 |
| 7¼ | $\bar{1}$·9989790 | 21¼ | $\bar{1}$·9990792 | 35¼ | $\bar{1}$·9987739 | 49¼ | $\bar{1}$·9980306 |
| 7½ | $\bar{1}$·9990258 | 21½ | $\bar{1}$·9990743 | 35½ | $\bar{1}$·9987661 | 49½ | $\bar{1}$·9980098 |
| 7¾ | $\bar{1}$·9990699 | 21¾ | $\bar{1}$·9990694 | 35¾ | $\bar{1}$·9987583 | 49¾ | $\bar{1}$·9979888 |
| 8 | $\bar{1}$·9991116 | 22 | $\bar{1}$·9990645 | 36 | $\bar{1}$·9987503 | 50 | $\bar{1}$·9979673 |
| 8¼ | $\bar{1}$·9991507 | 22¼ | $\bar{1}$·9990597 | 36¼ | $\bar{1}$·9987420 | 50¼ | $\bar{1}$·9979457 |
| 8½ | $\bar{1}$·9991873 | 22½ | $\bar{1}$·9990549 | 36½ | $\bar{1}$·9987338 | 50½ | $\bar{1}$·9979235 |
| 8¾ | $\bar{1}$·9992217 | 22¾ | $\bar{1}$·9990502 | 36¾ | $\bar{1}$·9987253 | 50¾ | $\bar{1}$·9979011 |
| 9 | $\bar{1}$·9992536 | 23 | $\bar{1}$·9990454 | 37 | $\bar{1}$·9987167 | 51 | $\bar{1}$·9978234 |
| 9¼ | $\bar{1}$·9992832 | 23¼ | $\bar{1}$·9990407 | 37¼ | $\bar{1}$·9987078 | 51¼ | $\bar{1}$·9977960 |
| 9½ | $\bar{1}$·9993107 | 23½ | $\bar{1}$·9990360 | 37½ | $\bar{1}$·9986989 | 51½ | $\bar{1}$·9977686 |
| 9¾ | $\bar{1}$·9993359 | 23¾ | $\bar{1}$·9990313 | 37¾ | $\bar{1}$·9986898 | 51¾ | $\bar{1}$·9977409 |
| 10 | $\bar{1}$·9993590 | 24 | $\bar{1}$·9990266 | 38 | $\bar{1}$·9986805 | 52 | $\bar{1}$·9977132 |
| 10¼ | $\bar{1}$·9993800 | 24¼ | $\bar{1}$·9990220 | 38¼ | $\bar{1}$·9986710 | 52¼ | $\bar{1}$·9976853 |
| 10½ | $\bar{1}$·9993991 | 24½ | $\bar{1}$·9990173 | 38½ | $\bar{1}$·9986613 | 52½ | $\bar{1}$·9976570 |
| 10¾ | $\bar{1}$·9994160 | 24¾ | $\bar{1}$·9990126 | 38¾ | $\bar{1}$·9986515 | 52¾ | $\bar{1}$·9976286 |
| 11 | $\bar{1}$·9994312 | 25 | $\bar{1}$·9990079 | 39 | $\bar{1}$·9986414 | 53 | $\bar{1}$·9975997 |
| 11¼ | $\bar{1}$·9994443 | 25¼ | $\bar{1}$·9990033 | 39¼ | $\bar{1}$·9986313 | 53¼ | $\bar{1}$·9975705 |
| 11½ | $\bar{1}$·9994558 | 25½ | $\bar{1}$·9989986 | 39½ | $\bar{1}$·9986208 | 53½ | $\bar{1}$·9975410 |
| 11¾ | $\bar{1}$·9994653 | 25¾ | $\bar{1}$·9989939 | 39¾ | $\bar{1}$·9986102 | 53¾ | $\bar{1}$·9975108 |
| 12 | $\bar{1}$·9994733 | 26 | $\bar{1}$·9989892 | 40 | $\bar{1}$·9985995 | 54 | $\bar{1}$·9974804 |
| 12¼ | $\bar{1}$·9994795 | 26¼ | $\bar{1}$·9989844 | 40¼ | $\bar{1}$·9985884 | 54¼ | $\bar{1}$·9974493 |
| 12½ | $\bar{1}$·9994842 | 26½ | $\bar{1}$·9989797 | 40½ | $\bar{1}$·9985772 | 54½ | $\bar{1}$·9974177 |
| 12¾ | $\bar{1}$·9994871 | 26¾ | $\bar{1}$·9989749 | 40¾ | $\bar{1}$·9985658 | 54¾ | $\bar{1}$·9973854 |
| 13 | $\bar{1}$·9994888 | 27 | $\bar{1}$·9989701 | 41 | $\bar{1}$·9985542 | 55 | $\bar{1}$·9973525 |
| 13¼ | $\bar{1}$·9994888 | 27¼ | $\bar{1}$·9989652 | 41¼ | $\bar{1}$·9985424 | 55¼ | $\bar{1}$·9973190 |
| 13½ | $\bar{1}$·9994874 | 27½ | $\bar{1}$·9989604 | 41½ | $\bar{1}$·9985302 | 55½ | $\bar{1}$·9972846 |
| 13¾ | $\bar{1}$·9994848 | 27¾ | $\bar{1}$·9989555 | 41¾ | $\bar{1}$·9985181 | 55¾ | $\bar{1}$·9972496 |

**Note.**—$\lambda\, p_x = \lambda\, l_{x+\frac{1}{4}} - \lambda\, l_x$.

## QUARTERLY TABLE:—MALES. Interest 3 per Cent.

Logarithms of the Series $p_x = \lambda$ probability of living *a quarter of a year* after Age $x$.

| Age ($x$) | λ $p_x$ | Age ($x$) | λ $p_x$ | Age ($x$) | λ $p_x$ | Age ($x$) | λ $p_x$ |
|---|---|---|---|---|---|---|---|
| 56 | $\bar{1}$·9972136 | 70 | $\bar{1}$·9926644 | 84 | $\bar{1}$·9783604 | 98 | $\bar{1}$·9472174 |
| 56¼ | $\bar{1}$·9971770 | 70¼ | $\bar{1}$·9925156 | 84¼ | $\bar{1}$·9779731 | 98¼ | $\bar{1}$·9464649 |
| 56½ | $\bar{1}$·9971392 | 70½ | $\bar{1}$·9923636 | 84½ | $\bar{1}$·9775802 | 98½ | $\bar{1}$·9457048 |
| 56¾ | $\bar{1}$·9971008 | 70¾ | $\bar{1}$·9922084 | 84¾ | $\bar{1}$·9771820 | 98¾ | $\bar{1}$·9449370 |
| 57 | $\bar{1}$·9970611 | 71 | $\bar{1}$·9920501 | 85 | $\bar{1}$·9767783 | 99 | $\bar{1}$·9441614 |
| 57¼ | $\bar{1}$·9970207 | 71¼ | $\bar{1}$·9918884 | 85¼ | $\bar{1}$·9763691 | 99¼ | $\bar{1}$·9433780 |
| 57½ | $\bar{1}$·9969790 | 71½ | $\bar{1}$·9917234 | 85½ | $\bar{1}$·9759541 | 99½ | $\bar{1}$·9425868 |
| 57¾ | $\bar{1}$·9969363 | 71¾ | $\bar{1}$·9915552 | 85¾ | $\bar{1}$·9755338 | 99¾ | $\bar{1}$·9417876 |
| 58 | $\bar{1}$·9968925 | 72 | $\bar{1}$·9913834 | 86 | $\bar{1}$·9751076 | 100 | $\bar{1}$·9409807 |
| 58¼ | $\bar{1}$·9968475 | 72¼ | $\bar{1}$·9912083 | 86¼ | $\bar{1}$·9746759 | 100¼ | $\bar{1}$·9401658 |
| 58½ | $\bar{1}$·9968012 | 72½ | $\bar{1}$·9910296 | 86½ | $\bar{1}$·9742383 | 100½ | $\bar{1}$·9393428 |
| 58¾ | $\bar{1}$·9967538 | 72¾ | $\bar{1}$·9908475 | 86¾ | $\bar{1}$·9737950 | 100¾ | $\bar{1}$·9385118 |
| 59 | $\bar{1}$·9967050 | 73 | $\bar{1}$·9906618 | 87 | $\bar{1}$·9733459 | 101 | $\bar{1}$·9376728 |
| 59¼ | $\bar{1}$·9966549 | 73¼ | $\bar{1}$·9904726 | 87¼ | $\bar{1}$·9728910 | 101¼ | $\bar{1}$·9368257 |
| 59½ | $\bar{1}$·9966034 | 73½ | $\bar{1}$·9902796 | 87½ | $\bar{1}$·9724301 | 101½ | $\bar{1}$·9359703 |
| 59¾ | $\bar{1}$·9965505 | 73¾ | $\bar{1}$·9900830 | 87¾ | $\bar{1}$·9719632 | 101¾ | $\bar{1}$·9351068 |
| 60 | $\bar{1}$·9964962 | 74 | $\bar{1}$·9898828 | 88 | $\bar{1}$·9714906 | 102 | $\bar{1}$·9342351 |
| 60¼ | $\bar{1}$·9964403 | 74¼ | $\bar{1}$·9896786 | 88¼ | $\bar{1}$·9710117 | 102¼ | $\bar{1}$·9333551 |
| 60½ | $\bar{1}$·9963829 | 74½ | $\bar{1}$·9894708 | 88½ | $\bar{1}$·9705269 | 102½ | $\bar{1}$·9324668 |
| 60¾ | $\bar{1}$·9963239 | 74¾ | $\bar{1}$·9892591 | 88¾ | $\bar{1}$·9700360 | 102¾ | $\bar{1}$·9315700 |
| 61 | $\bar{1}$·9962634 | 75 | $\bar{1}$·9890436 | 89 | $\bar{1}$·9695389 | 103 | $\bar{1}$·9306651 |
| 61¼ | $\bar{1}$·9962011 | 75¼ | $\bar{1}$·9888240 | 89¼ | $\bar{1}$·9690356 | 103¼ | $\bar{1}$·9297514 |
| 61½ | $\bar{1}$·9961371 | 75½ | $\bar{1}$·9886006 | 89½ | $\bar{1}$·9685262 | 103½ | $\bar{1}$·9288295 |
| 61¾ | $\bar{1}$·9960715 | 75¾ | $\bar{1}$·9883731 | 89¾ | $\bar{1}$·9680105 | 103¾ | $\bar{1}$·9278991 |
| 62 | $\bar{1}$·9960040 | 76 | $\bar{1}$·9881417 | 90 | $\bar{1}$·9674884 | 104 | $\bar{1}$·9269599 |
| 62¼ | $\bar{1}$·9959348 | 76¼ | $\bar{1}$·9879061 | 90¼ | $\bar{1}$·9669601 | 104¼ | $\bar{1}$·9260123 |
| 62½ | $\bar{1}$·9958636 | 76½ | $\bar{1}$·9876664 | 90½ | $\bar{1}$·9664254 | 104½ | $\bar{1}$·9250560 |
| 62¾ | $\bar{1}$·9957905 | 76¾ | $\bar{1}$·9874225 | 90¾ | $\bar{1}$·9658842 | 104¾ | $\bar{1}$·9240910 |
| 63 | $\bar{1}$·9957156 | 77 | $\bar{1}$·9871745 | 91 | $\bar{1}$·9653366 | 105 | $\bar{1}$·9231173 |
| 63¼ | $\bar{1}$·9956386 | 77¼ | $\bar{1}$·9869223 | 91¼ | $\bar{1}$·9647825 | 105¼ | $\bar{1}$·9221349 |
| 63½ | $\bar{1}$·9955596 | 77½ | $\bar{1}$·9866656 | 91½ | $\bar{1}$·9642218 | 105½ | $\bar{1}$·9211437 |
| 63¾ | $\bar{1}$·9954786 | 77¾ | $\bar{1}$·9864048 | 91¾ | $\bar{1}$·9636546 | 105¾ | $\bar{1}$·9201435 |
| 64 | $\bar{1}$·9953954 | 78 | $\bar{1}$·9861396 | 92 | $\bar{1}$·9630807 | 106 | $\bar{1}$·9191346 |
| 64¼ | $\bar{1}$·9953102 | 78¼ | $\bar{1}$·9858699 | 92¼ | $\bar{1}$·9625003 | 106¼ | $\bar{1}$·9181168 |
| 64½ | $\bar{1}$·9952226 | 78½ | $\bar{1}$·9855958 | 92½ | $\bar{1}$·9619130 | 106½ | $\bar{1}$·9170898 |
| 64¾ | $\bar{1}$·9951330 | 78¾ | $\bar{1}$·9853172 | 92¾ | $\bar{1}$·9613191 | 106¾ | $\bar{1}$·9160540 |
| 65 | $\bar{1}$·9950410 | 79 | $\bar{1}$·9850342 | 93 | $\bar{1}$·9607183 | 107 | $\bar{1}$·9150092 |
| 65¼ | $\bar{1}$·9949468 | 79¼ | $\bar{1}$·9847464 | 93¼ | $\bar{1}$·9601108 | 107¼ | $\bar{1}$·9139552 |
| 65½ | $\bar{1}$·9948501 | 79½ | $\bar{1}$·9844543 | 93½ | $\bar{1}$·9594964 | 107½ | $\bar{1}$·9128921 |
| 65¾ | $\bar{1}$·9947512 | 79¾ | $\bar{1}$·9841573 | 93¾ | $\bar{1}$·9588750 | 107¾ | $\bar{1}$·9118198 |
| 66 | $\bar{1}$·9946497 | 80 | $\bar{1}$·9838557 | 94 | $\bar{1}$·9582468 | 108 | $\bar{1}$·9107384 |
| 66¼ | $\bar{1}$·9945458 | 80¼ | $\bar{1}$·9835495 | 94¼ | $\bar{1}$·9576115 | 108¼ | $\bar{1}$·9096477 |
| 66½ | $\bar{1}$·9944395 | 80½ | $\bar{1}$·9832383 | 94½ | $\bar{1}$·9569693 | 108½ | $\bar{1}$·9085477 |
| 66¾ | $\bar{1}$·9943305 | 80¾ | $\bar{1}$·9829225 | 94¾ | $\bar{1}$·9563199 | 108¾ | $\bar{1}$·9074385 |
| 67 | $\bar{1}$·9942190 | 81 | $\bar{1}$·9826017 | 95 | $\bar{1}$·9556635 | | |
| 67¼ | $\bar{1}$·9941049 | 81¼ | $\bar{1}$·9822762 | 95¼ | $\bar{1}$·9549999 | | |
| 67½ | $\bar{1}$·9939880 | 81½ | $\bar{1}$·9819456 | 95½ | $\bar{1}$·9543292 | | |
| 67¾ | $\bar{1}$·9938686 | 81¾ | $\bar{1}$·9816101 | 95¾ | $\bar{1}$·9536511 | | |
| 68 | $\bar{1}$·9937462 | 82 | $\bar{1}$·9812696 | 96 | $\bar{1}$·9529659 | | |
| 68¼ | $\bar{1}$·9936212 | 82¼ | $\bar{1}$·9809240 | 96¼ | $\bar{1}$·9522733 | | |
| 68½ | $\bar{1}$·9934934 | 82½ | $\bar{1}$·9805734 | 96½ | $\bar{1}$·9515734 | | |
| 68¾ | $\bar{1}$·9933625 | 82¾ | $\bar{1}$·9802176 | 96¾ | $\bar{1}$·9508662 | | |
| 69 | $\bar{1}$·9932289 | 83 | $\bar{1}$·9798567 | 97 | $\bar{1}$·9501513 | | |
| 69¼ | $\bar{1}$·9930923 | 83¼ | $\bar{1}$·9794906 | 97¼ | $\bar{1}$·9494292 | | |
| 69½ | $\bar{1}$·9929527 | 83½ | $\bar{1}$·9791191 | 97½ | $\bar{1}$·9486995 | | |
| 69¾ | $\bar{1}$·9928101 | 83¾ | $\bar{1}$·9787425 | 97¾ | $\bar{1}$·9479623 | | |

## QUARTERLY TABLE:—FEMALES. Interest 3 per Cent.

### Logarithms of the Series $p_x = \lambda$ probability of living *a quarter of a year* after Age $x$.

| **Age** ($x$) | $\lambda p_x$ | **Age** ($x$) | $\lambda p_x$ | **Age** ($x$) | $\lambda p_x$ | **Age** ($x$) | $\lambda p_x$ |
|---|---|---|---|---|---|---|---|
| 0 | $\bar{1}\cdot9699026$ | 14 | $\bar{1}\cdot9994400$ | 28 | $\bar{1}\cdot9988960$ | 42 | $\bar{1}\cdot9985558$ |
| 0¼ | $\bar{1}\cdot9877004$ | 14¼ | $\bar{1}\cdot9994345$ | 28¼ | $\bar{1}\cdot9988907$ | 42¼ | $\bar{1}\cdot9985480$ |
| 0½ | $\bar{1}\cdot9892840$ | 14½ | $\bar{1}\cdot9994278$ | 28½ | $\bar{1}\cdot9988856$ | 42½ | $\bar{1}\cdot9985399$ |
| 0¾ | $\bar{1}\cdot9902734$ | 14¾ | $\bar{1}\cdot9994201$ | 28¾ | $\bar{1}\cdot9988802$ | 42¾ | $\bar{1}\cdot9985318$ |
| 1 | $\bar{1}\cdot9906686$ | 15 | $\bar{1}\cdot9994115$ | 29 | $\bar{1}\cdot9988751$ | 43 | $\bar{1}\cdot9985236$ |
| 1¼ | $\bar{1}\cdot9925022$ | 15¼ | $\bar{1}\cdot9994017$ | 29¼ | $\bar{1}\cdot9988698$ | 43¼ | $\bar{1}\cdot9985152$ |
| 1½ | $\bar{1}\cdot9939771$ | 15½ | $\bar{1}\cdot9993911$ | 29½ | $\bar{1}\cdot9988646$ | 43½ | $\bar{1}\cdot9985068$ |
| 1¾ | $\bar{1}\cdot9950931$ | 15¾ | $\bar{1}\cdot9993796$ | 29¾ | $\bar{1}\cdot9988593$ | 43¾ | $\bar{1}\cdot9984983$ |
| 2 | $\bar{1}\cdot9958502$ | 16 | $\bar{1}\cdot9993673$ | 30 | $\bar{1}\cdot9988541$ | 44 | $\bar{1}\cdot9984896$ |
| 2¼ | $\bar{1}\cdot9962486$ | 16¼ | $\bar{1}\cdot9993541$ | 30¼ | $\bar{1}\cdot9988488$ | 44¼ | $\bar{1}\cdot9984808$ |
| 2½ | $\bar{1}\cdot9962880$ | 16½ | $\bar{1}\cdot9993402$ | 30½ | $\bar{1}\cdot9988436$ | 44½ | $\bar{1}\cdot9984719$ |
| 2¾ | $\bar{1}\cdot9959686$ | 16¾ | $\bar{1}\cdot9993256$ | 30¾ | $\bar{1}\cdot9988382$ | 44¾ | $\bar{1}\cdot9984630$ |
| 3 | $\bar{1}\cdot9970140$ | 17 | $\bar{1}\cdot9993105$ | 31 | $\bar{1}\cdot9988330$ | 45 | $\bar{1}\cdot9984538$ |
| 3¼ | $\bar{1}\cdot9972451$ | 17¼ | $\bar{1}\cdot9992946$ | 31¼ | $\bar{1}\cdot9988276$ | 45¼ | $\bar{1}\cdot9984446$ |
| 3½ | $\bar{1}\cdot9974581$ | 17½ | $\bar{1}\cdot9992783$ | 31½ | $\bar{1}\cdot9988223$ | 45½ | $\bar{1}\cdot9984352$ |
| 3¾ | $\bar{1}\cdot9976538$ | 17¾ | $\bar{1}\cdot9992614$ | 31¾ | $\bar{1}\cdot9988169$ | 45¾ | $\bar{1}\cdot9984257$ |
| 4 | $\bar{1}\cdot9978329$ | 18 | $\bar{1}\cdot9992441$ | 32 | $\bar{1}\cdot9988115$ | 46 | $\bar{1}\cdot9984161$ |
| 4¼ | $\bar{1}\cdot9979963$ | 18¼ | $\bar{1}\cdot9992264$ | 32¼ | $\bar{1}\cdot9988061$ | 46¼ | $\bar{1}\cdot9984063$ |
| 4½ | $\bar{1}\cdot9981445$ | 18½ | $\bar{1}\cdot9992083$ | 32½ | $\bar{1}\cdot9988007$ | 46½ | $\bar{1}\cdot9983965$ |
| 4¾ | $\bar{1}\cdot9982786$ | 18¾ | $\bar{1}\cdot9991899$ | 32¾ | $\bar{1}\cdot9987952$ | 46¾ | $\bar{1}\cdot9983865$ |
| 5 | $\bar{1}\cdot9983990$ | 19 | $\bar{1}\cdot9991713$ | 33 | $\bar{1}\cdot9987897$ | 47 | $\bar{1}\cdot9983763$ |
| 5¼ | $\bar{1}\cdot9985068$ | 19¼ | $\bar{1}\cdot9991524$ | 33¼ | $\bar{1}\cdot9987842$ | 47¼ | $\bar{1}\cdot9983661$ |
| 5½ | $\bar{1}\cdot9986024$ | 19½ | $\bar{1}\cdot9991333$ | 33½ | $\bar{1}\cdot9987786$ | 47½ | $\bar{1}\cdot9983557$ |
| 5¾ | $\bar{1}\cdot9986868$ | 19¾ | $\bar{1}\cdot9991142$ | 33¾ | $\bar{1}\cdot9987730$ | 47¾ | $\bar{1}\cdot9983451$ |
| 6 | $\bar{1}\cdot9987608$ | 20 | $\bar{1}\cdot9990755$ | 34 | $\bar{1}\cdot9987674$ | 48 | $\bar{1}\cdot9983344$ |
| 6¼ | $\bar{1}\cdot9988249$ | 20¼ | $\bar{1}\cdot9990693$ | 34¼ | $\bar{1}\cdot9987616$ | 48¼ | $\bar{1}\cdot9983236$ |
| 6½ | $\bar{1}\cdot9988801$ | 20½ | $\bar{1}\cdot9990630$ | 34½ | $\bar{1}\cdot9987560$ | 48½ | $\bar{1}\cdot9983126$ |
| 6¾ | $\bar{1}\cdot9989270$ | 20¾ | $\bar{1}\cdot9990568$ | 34¾ | $\bar{1}\cdot9987502$ | 48¾ | $\bar{1}\cdot9983015$ |
| 7 | $\bar{1}\cdot9989443$ | 21 | $\bar{1}\cdot9990508$ | 35 | $\bar{1}\cdot9987444$ | 49 | $\bar{1}\cdot9982903$ |
| 7¼ | $\bar{1}\cdot9989896$ | 21¼ | $\bar{1}\cdot9990447$ | 35¼ | $\bar{1}\cdot9987385$ | 49¼ | $\bar{1}\cdot9982788$ |
| 7½ | $\bar{1}\cdot9990324$ | 21½ | $\bar{1}\cdot9990388$ | 35½ | $\bar{1}\cdot9987326$ | 49½ | $\bar{1}\cdot9982673$ |
| 7¾ | $\bar{1}\cdot9990729$ | 21¾ | $\bar{1}\cdot9990328$ | 35¾ | $\bar{1}\cdot9987267$ | 49¾ | $\bar{1}\cdot9982555$ |
| 8 | $\bar{1}\cdot9991110$ | 22 | $\bar{1}\cdot9990270$ | 36 | $\bar{1}\cdot9987206$ | 50 | $\bar{1}\cdot9982436$ |
| 8¼ | $\bar{1}\cdot9991468$ | 22¼ | $\bar{1}\cdot9990211$ | 36¼ | $\bar{1}\cdot9987146$ | 50¼ | $\bar{1}\cdot9982317$ |
| 8½ | $\bar{1}\cdot9991802$ | 22½ | $\bar{1}\cdot9990153$ | 36½ | $\bar{1}\cdot9987085$ | 50½ | $\bar{1}\cdot9982194$ |
| 8¾ | $\bar{1}\cdot9992116$ | 22¾ | $\bar{1}\cdot9990095$ | 36¾ | $\bar{1}\cdot9987023$ | 50¾ | $\bar{1}\cdot9982071$ |
| 9 | $\bar{1}\cdot9992406$ | 23 | $\bar{1}\cdot9990039$ | 37 | $\bar{1}\cdot9986960$ | 51 | $\bar{1}\cdot9981946$ |
| 9¼ | $\bar{1}\cdot9992676$ | 23¼ | $\bar{1}\cdot9989982$ | 37¼ | $\bar{1}\cdot9986898$ | 51¼ | $\bar{1}\cdot9981818$ |
| 9½ | $\bar{1}\cdot9992925$ | 23½ | $\bar{1}\cdot9989926$ | 37½ | $\bar{1}\cdot9986833$ | 51½ | $\bar{1}\cdot9981691$ |
| 9¾ | $\bar{1}\cdot9993154$ | 23¾ | $\bar{1}\cdot9989870$ | 37¾ | $\bar{1}\cdot9986770$ | 51¾ | $\bar{1}\cdot9981560$ |
| 10 | $\bar{1}\cdot9993363$ | 24 | $\bar{1}\cdot9989815$ | 38 | $\bar{1}\cdot9986704$ | 52 | $\bar{1}\cdot9981429$ |
| 10¼ | $\bar{1}\cdot9993552$ | 24¼ | $\bar{1}\cdot9989759$ | 38¼ | $\bar{1}\cdot9986639$ | 52¼ | $\bar{1}\cdot9981294$ |
| 10½ | $\bar{1}\cdot9993723$ | 24½ | $\bar{1}\cdot9989705$ | 38½ | $\bar{1}\cdot9986573$ | 52½ | $\bar{1}\cdot9981160$ |
| 10¾ | $\bar{1}\cdot9993876$ | 24¾ | $\bar{1}\cdot9989650$ | 38¾ | $\bar{1}\cdot9986505$ | 52¾ | $\bar{1}\cdot9981023$ |
| 11 | $\bar{1}\cdot9994010$ | 25 | $\bar{1}\cdot9989595$ | 39 | $\bar{1}\cdot9986438$ | 53 | $\bar{1}\cdot9980884$ |
| 11¼ | $\bar{1}\cdot9994126$ | 25¼ | $\bar{1}\cdot9989542$ | 39¼ | $\bar{1}\cdot9986369$ | 53¼ | $\bar{1}\cdot9980743$ |
| 11½ | $\bar{1}\cdot9994227$ | 25½ | $\bar{1}\cdot9989488$ | 39½ | $\bar{1}\cdot9986299$ | 53½ | $\bar{1}\cdot9980601$ |
| 11¾ | $\bar{1}\cdot9994311$ | 25¾ | $\bar{1}\cdot9989435$ | 39¾ | $\bar{1}\cdot9986230$ | 53¾ | $\bar{1}\cdot9980456$ |
| 12 | $\bar{1}\cdot9994378$ | 26 | $\bar{1}\cdot9989381$ | 40 | $\bar{1}\cdot9986158$ | 54 | $\bar{1}\cdot9978962$ |
| 12¼ | $\bar{1}\cdot9994429$ | 26¼ | $\bar{1}\cdot9989328$ | 40¼ | $\bar{1}\cdot9986087$ | 54¼ | $\bar{1}\cdot9978608$ |
| 12½ | $\bar{1}\cdot9994467$ | 26½ | $\bar{1}\cdot9989275$ | 40½ | $\bar{1}\cdot9986013$ | 54½ | $\bar{1}\cdot9978252$ |
| 12¾ | $\bar{1}\cdot9994490$ | 26¾ | $\bar{1}\cdot9989222$ | 40¾ | $\bar{1}\cdot9985941$ | 54¾ | $\bar{1}\cdot9977893$ |
| 13 | $\bar{1}\cdot9994497$ | 27 | $\bar{1}\cdot9989169$ | 41 | $\bar{1}\cdot9985865$ | 55 | $\bar{1}\cdot9977532$ |
| 13¼ | $\bar{1}\cdot9994493$ | 27¼ | $\bar{1}\cdot9989117$ | 41¼ | $\bar{1}\cdot9985791$ | 55¼ | $\bar{1}\cdot9977166$ |
| 13½ | $\bar{1}\cdot9994474$ | 27½ | $\bar{1}\cdot9989065$ | 41½ | $\bar{1}\cdot9985714$ | 55½ | $\bar{1}\cdot9976797$ |
| 13¾ | $\bar{1}\cdot9994442$ | 27¾ | $\bar{1}\cdot9989011$ | 41¾ | $\bar{1}\cdot9985637$ | 55¾ | $\bar{1}\cdot9976425$ |

**Note.**—$\lambda p_x = \lambda l_{x+\frac{1}{4}} - \lambda l_x$.

## QUARTERLY TABLE:—FEMALES. Interest 3 per Cent.

Logarithms of the Series $p_x = \lambda$ probability of living *a quarter of a year* after Age $x$.

| Age $(x)$ | $\lambda\, p_x$ | Age $(x)$ | $\lambda\, p_x$ | Age $(x)$ | $\lambda\, p_x$ | Age $(x)$ | $\lambda\, p_x$ |
|---|---|---|---|---|---|---|---|
| 56 | $\bar{1}\cdot9976046$ | 70 | $\bar{1}\cdot9934201$ | 84 | $\bar{1}\cdot9801240$ | 98 | $\bar{1}\cdot9502115$ |
| 56¼ | $\bar{1}\cdot9975663$ | 70¼ | $\bar{1}\cdot9932849$ | 84¼ | $\bar{1}\cdot9797578$ | 98¼ | $\bar{1}\cdot9494805$ |
| 56½ | $\bar{1}\cdot9975275$ | 70½ | $\bar{1}\cdot9931467$ | 84½ | $\bar{1}\cdot9793864$ | 98½ | $\bar{1}\cdot9487417$ |
| 56¾ | $\bar{1}\cdot9974880$ | 70¾ | $\bar{1}\cdot9930056$ | 84¾ | $\bar{1}\cdot9790096$ | 98¾ | $\bar{1}\cdot9479952$ |
| 57 | $\bar{1}\cdot9974479$ | 71 | $\bar{1}\cdot9928615$ | 85 | $\bar{1}\cdot9786273$ | 99 | $\bar{1}\cdot9472408$ |
| 57¼ | $\bar{1}\cdot9974071$ | 71¼ | $\bar{1}\cdot9927141$ | 85¼ | $\bar{1}\cdot9782396$ | 99¼ | $\bar{1}\cdot9464785$ |
| 57½ | $\bar{1}\cdot9973656$ | 71½ | $\bar{1}\cdot9925638$ | 85½ | $\bar{1}\cdot9778463$ | 99½ | $\bar{1}\cdot9457085$ |
| 57¾ | $\bar{1}\cdot9973233$ | 71¾ | $\bar{1}\cdot9924103$ | 85¾ | $\bar{1}\cdot9774476$ | 99¾ | $\bar{1}\cdot9449303$ |
| 58 | $\bar{1}\cdot9972803$ | 72 | $\bar{1}\cdot9922535$ | 86 | $\bar{1}\cdot9770431$ | 100 | $\bar{1}\cdot9441443$ |
| 58¼ | $\bar{1}\cdot9972363$ | 72¼ | $\bar{1}\cdot9920936$ | 86¼ | $\bar{1}\cdot9766331$ | 100¼ | $\bar{1}\cdot9433502$ |
| 58½ | $\bar{1}\cdot9971914$ | 72½ | $\bar{1}\cdot9919302$ | 86½ | $\bar{1}\cdot9762174$ | 100½ | $\bar{1}\cdot9425480$ |
| 58¾ | $\bar{1}\cdot9971457$ | 72¾ | $\bar{1}\cdot9917637$ | 86¾ | $\bar{1}\cdot9757959$ | 100¾ | $\bar{1}\cdot9417377$ |
| 59 | $\bar{1}\cdot9970989$ | 73 | $\bar{1}\cdot9915937$ | 87 | $\bar{1}\cdot9753687$ | 101 | $\bar{1}\cdot9409192$ |
| 59¼ | $\bar{1}\cdot9970512$ | 73¼ | $\bar{1}\cdot9914203$ | 87¼ | $\bar{1}\cdot9749357$ | 101¼ | $\bar{1}\cdot9400925$ |
| 59½ | $\bar{1}\cdot9970023$ | 73½ | $\bar{1}\cdot9912434$ | 87½ | $\bar{1}\cdot9744968$ | 101½ | $\bar{1}\cdot9392577$ |
| 59¾ | $\bar{1}\cdot9969523$ | 73¾ | $\bar{1}\cdot9910631$ | 87¾ | $\bar{1}\cdot9740520$ | 101¾ | $\bar{1}\cdot9384144$ |
| 60 | $\bar{1}\cdot9969012$ | 74 | $\bar{1}\cdot9908791$ | 88 | $\bar{1}\cdot9736013$ | 102 | $\bar{1}\cdot9375629$ |
| 60¼ | $\bar{1}\cdot9968488$ | 74¼ | $\bar{1}\cdot9906917$ | 88¼ | $\bar{1}\cdot9731446$ | 102¼ | $\bar{1}\cdot9367029$ |
| 60½ | $\bar{1}\cdot9967954$ | 74½ | $\bar{1}\cdot9905005$ | 88½ | $\bar{1}\cdot9726819$ | 102½ | $\bar{1}\cdot9358347$ |
| 60¾ | $\bar{1}\cdot9967405$ | 74¾ | $\bar{1}\cdot9903057$ | 88¾ | $\bar{1}\cdot9722130$ | 102¾ | $\bar{1}\cdot9349578$ |
| 61 | $\bar{1}\cdot9966843$ | 75 | $\bar{1}\cdot9901072$ | 89 | $\bar{1}\cdot9717382$ | 103 | $\bar{1}\cdot9340726$ |
| 61¼ | $\bar{1}\cdot9966268$ | 75¼ | $\bar{1}\cdot9899049$ | 89¼ | $\bar{1}\cdot9712571$ | 103¼ | $\bar{1}\cdot9331787$ |
| 61½ | $\bar{1}\cdot9965679$ | 75½ | $\bar{1}\cdot9896988$ | 89½ | $\bar{1}\cdot9707699$ | 103½ | $\bar{1}\cdot9322763$ |
| 61¾ | $\bar{1}\cdot9965075$ | 75¾ | $\bar{1}\cdot9894888$ | 89¾ | $\bar{1}\cdot9702764$ | 103¾ | $\bar{1}\cdot9313652$ |
| 62 | $\bar{1}\cdot9964456$ | 76 | $\bar{1}\cdot9892751$ | 90 | $\bar{1}\cdot9697766$ | 104 | $\bar{1}\cdot9304455$ |
| 62¼ | $\bar{1}\cdot9963821$ | 76¼ | $\bar{1}\cdot9890573$ | 90¼ | $\bar{1}\cdot9692705$ | 104¼ | $\bar{1}\cdot9295170$ |
| 62½ | $\bar{1}\cdot9963172$ | 76½ | $\bar{1}\cdot9888356$ | 90½ | $\bar{1}\cdot9687580$ | 104½ | $\bar{1}\cdot9285798$ |
| 62¾ | $\bar{1}\cdot9962505$ | 76¾ | $\bar{1}\cdot9886098$ | 90¾ | $\bar{1}\cdot9682392$ | 104¾ | $\bar{1}\cdot9276338$ |
| 63 | $\bar{1}\cdot9961823$ | 77 | $\bar{1}\cdot9883800$ | 91 | $\bar{1}\cdot9677138$ | 105 | $\bar{1}\cdot9266789$ |
| 63¼ | $\bar{1}\cdot9961123$ | 77¼ | $\bar{1}\cdot9881461$ | 91¼ | $\bar{1}\cdot9671821$ | 105¼ | $\bar{1}\cdot9257152$ |
| 63½ | $\bar{1}\cdot9960405$ | 77½ | $\bar{1}\cdot9879081$ | 91½ | $\bar{1}\cdot9666436$ | 105½ | $\bar{1}\cdot9247424$ |
| 63¾ | $\bar{1}\cdot9959669$ | 77¾ | $\bar{1}\cdot9876658$ | 91¾ | $\bar{1}\cdot9660987$ | 105¾ | $\bar{1}\cdot9237609$ |
| 64 | $\bar{1}\cdot9958916$ | 78 | $\bar{1}\cdot9874194$ | 92 | $\bar{1}\cdot9655472$ | 106 | $\bar{1}\cdot9227701$ |
| 64¼ | $\bar{1}\cdot9958143$ | 78¼ | $\bar{1}\cdot9871686$ | 92¼ | $\bar{1}\cdot9649889$ | 106¼ | $\bar{1}\cdot9217704$ |
| 64½ | $\bar{1}\cdot9957351$ | 78½ | $\bar{1}\cdot9869136$ | 92½ | $\bar{1}\cdot9644240$ | 106½ | $\bar{1}\cdot9207616$ |
| 64¾ | $\bar{1}\cdot9956539$ | 78¾ | $\bar{1}\cdot9866542$ | 92¾ | $\bar{1}\cdot9638523$ | 106¾ | $\bar{1}\cdot9197436$ |
| 65 | $\bar{1}\cdot9955708$ | 79 | $\bar{1}\cdot9863903$ | 93 | $\bar{1}\cdot9632738$ | 107 | $\bar{1}\cdot9187165$ |
| 65¼ | $\bar{1}\cdot9954856$ | 79¼ | $\bar{1}\cdot9861221$ | 93¼ | $\bar{1}\cdot9626885$ | 107¼ | $\bar{1}\cdot9176800$ |
| 65½ | $\bar{1}\cdot9953983$ | 79½ | $\bar{1}\cdot9858493$ | 93½ | $\bar{1}\cdot9620963$ | 107½ | $\bar{1}\cdot9166344$ |
| 65¾ | $\bar{1}\cdot9953089$ | 79¾ | $\bar{1}\cdot9855721$ | 93¾ | $\bar{1}\cdot9614971$ | 107¾ | $\bar{1}\cdot9155794$ |
| 66 | $\bar{1}\cdot9952172$ | 80 | $\bar{1}\cdot9852902$ | 94 | $\bar{1}\cdot9608911$ | 108 | $\bar{1}\cdot9145150$ |
| 66¼ | $\bar{1}\cdot9951234$ | 80¼ | $\bar{1}\cdot9850037$ | 94¼ | $\bar{1}\cdot9602780$ | 108¼ | $\bar{1}\cdot9134413$ |
| 66½ | $\bar{1}\cdot9950272$ | 80½ | $\bar{1}\cdot9847127$ | 94½ | $\bar{1}\cdot9596578$ | 108½ | $\bar{1}\cdot9123581$ |
| 66¾ | $\bar{1}\cdot9949289$ | 80¾ | $\bar{1}\cdot9844168$ | 94¾ | $\bar{1}\cdot9590306$ | 108¾ | $\bar{1}\cdot9112654$ |
| 67 | $\bar{1}\cdot9948281$ | 81 | $\bar{1}\cdot9841162$ | 95 | $\bar{1}\cdot9583962$ | | |
| 67¼ | $\bar{1}\cdot9947249$ | 81¼ | $\bar{1}\cdot9838109$ | 95¼ | $\bar{1}\cdot9577547$ | | |
| 67½ | $\bar{1}\cdot9946194$ | 81½ | $\bar{1}\cdot9835008$ | 95½ | $\bar{1}\cdot9571059$ | | |
| 67¾ | $\bar{1}\cdot9945113$ | 81¾ | $\bar{1}\cdot9831856$ | 95¾ | $\bar{1}\cdot9564498$ | | |
| 68 | $\bar{1}\cdot9944007$ | 82 | $\bar{1}\cdot9828657$ | 96 | $\bar{1}\cdot9557865$ | | |
| 68¼ | $\bar{1}\cdot9942875$ | 82¼ | $\bar{1}\cdot9825408$ | 96¼ | $\bar{1}\cdot9551158$ | | |
| 68½ | $\bar{1}\cdot9941718$ | 82½ | $\bar{1}\cdot9822109$ | 96½ | $\bar{1}\cdot9544377$ | | |
| 68¾ | $\bar{1}\cdot9940533$ | 82¾ | $\bar{1}\cdot9818759$ | 96¾ | $\bar{1}\cdot9537522$ | | |
| 69 | $\bar{1}\cdot9939323$ | 83 | $\bar{1}\cdot9815359$ | 97 | $\bar{1}\cdot9530591$ | | |
| 69¼ | $\bar{1}\cdot9938084$ | 83¼ | $\bar{1}\cdot9811907$ | 97¼ | $\bar{1}\cdot9523587$ | | |
| 69½ | $\bar{1}\cdot9936819$ | 83½ | $\bar{1}\cdot9808403$ | 97½ | $\bar{1}\cdot9516505$ | | |
| 69¾ | $\bar{1}\cdot9935523$ | 83¾ | $\bar{1}\cdot9804848$ | 97¾ | $\bar{1}\cdot9509349$ | | |

## QUARTERLY TABLE:—Males. Interest 3 per Cent.

### Logarithms of the Series $vp_x = \lambda\left(\frac{1}{1+\frac{i}{4}}\cdot\frac{l_{x+\frac{1}{4}}}{l_x}\right)$

| **Age** $(x)$ | $\lambda\ vp_x$ | **Age** $(x)$ | $\lambda\ vp_x$ | **Age** $(x)$ | $\lambda\ vp_x$ | **Age** $(x)$ | $\lambda\ vp_x$ |
|---|---|---|---|---|---|---|---|
| 0 | $\bar{1}$·9584659 | 14 | $\bar{1}$·9962356 | 28 | $\bar{1}$·9957054 | 42 | $\bar{1}$·9952604 |
| 0¼ | $\bar{1}$·9817026 | 14¼ | $\bar{1}$·9962305 | 28¼ | $\bar{1}$·9957004 | 42¼ | $\bar{1}$·9952476 |
| 0½ | $\bar{1}$·9836059 | 14½ | $\bar{1}$·9962239 | 28½ | $\bar{1}$·9956953 | 42½ | $\bar{1}$·9952347 |
| 0¾ | $\bar{1}$·9856616 | 14¾ | $\bar{1}$·9962163 | 28¾ | $\bar{1}$·9956903 | 42¾ | $\bar{1}$·9952215 |
| 1 | $\bar{1}$·9878698 | 15 | $\bar{1}$·9962077 | 29 | $\bar{1}$·9956851 | 43 | $\bar{1}$·9952081 |
| 1¼ | $\bar{1}$·9890657 | 15¼ | $\bar{1}$·9961978 | 29¼ | $\bar{1}$·9956798 | 43¼ | $\bar{1}$·9951944 |
| 1½ | $\bar{1}$·9901372 | 15½ | $\bar{1}$·9961871 | 29½ | $\bar{1}$·9956746 | 43½ | $\bar{1}$·9951805 |
| 1¾ | $\bar{1}$·9910846 | 15¾ | $\bar{1}$·9961754 | 29¾ | $\bar{1}$·9956693 | 43¾ | $\bar{1}$·9951663 |
| 2 | $\bar{1}$·9919075 | 16 | $\bar{1}$·9961628 | 30 | $\bar{1}$·9956638 | 44 | $\bar{1}$·9951519 |
| 2¼ | $\bar{1}$·9926063 | 16¼ | $\bar{1}$·9961494 | 30¼ | $\bar{1}$·9956584 | 44¼ | $\bar{1}$·9951372 |
| 2½ | $\bar{1}$·9931805 | 16½ | $\bar{1}$·9961351 | 30½ | $\bar{1}$·9956528 | 44½ | $\bar{1}$·9951223 |
| 2¾ | $\bar{1}$·9936306 | 16¾ | $\bar{1}$·9961201 | 30¾ | $\bar{1}$·9956472 | 44¾ | $\bar{1}$·9951071 |
| 3 | $\bar{1}$·9938332 | 17 | $\bar{1}$·9961045 | 31 | $\bar{1}$·9956415 | 45 | $\bar{1}$·9950917 |
| 3¼ | $\bar{1}$·9940440 | 17¼ | $\bar{1}$·9960881 | 31¼ | $\bar{1}$·9956356 | 45¼ | $\bar{1}$·9950759 |
| 3½ | $\bar{1}$·9942394 | 17½ | $\bar{1}$·9960713 | 31½ | $\bar{1}$·9956298 | 45½ | $\bar{1}$·9950599 |
| 3¾ | $\bar{1}$·9944199 | 17¾ | $\bar{1}$·9960539 | 31¾ | $\bar{1}$·9956238 | 45¾ | $\bar{1}$·9950437 |
| 4 | $\bar{1}$·9945863 | 18 | $\bar{1}$·9960359 | 32 | $\bar{1}$·9956177 | 46 | $\bar{1}$·9950272 |
| 4¼ | $\bar{1}$·9947391 | 18¼ | $\bar{1}$·9960176 | 32¼ | $\bar{1}$·9956116 | 46¼ | $\bar{1}$·9950103 |
| 4½ | $\bar{1}$·9948790 | 18½ | $\bar{1}$·9959990 | 32½ | $\bar{1}$·9956053 | 46½ | $\bar{1}$·9949932 |
| 4¾ | $\bar{1}$·9950065 | 18¾ | $\bar{1}$·9959798 | 32¾ | $\bar{1}$·9955989 | 46¾ | $\bar{1}$·9949758 |
| 5 | $\bar{1}$·9951224 | 19 | $\bar{1}$·9959606 | 33 | $\bar{1}$·9955925 | 47 | $\bar{1}$·9949582 |
| 5¼ | $\bar{1}$·9952271 | 19¼ | $\bar{1}$·9959410 | 33¼ | $\bar{1}$·9955858 | 47¼ | $\bar{1}$·9949402 |
| 5½ | $\bar{1}$·9953215 | 19½ | $\bar{1}$·9959213 | 33½ | $\bar{1}$·9955792 | 47½ | $\bar{1}$·9949219 |
| 5¾ | $\bar{1}$·9954060 | 19¾ | $\bar{1}$·9959015 | 33¾ | $\bar{1}$·9955723 | 47¾ | $\bar{1}$·9949034 |
| 6 | $\bar{1}$·9954813 | 20 | $\bar{1}$·9958595 | 34 | $\bar{1}$·9955654 | 48 | $\bar{1}$·9948844 |
| 6¼ | $\bar{1}$·9955481 | 20¼ | $\bar{1}$·9958543 | 34¼ | $\bar{1}$·9955583 | 48¼ | $\bar{1}$·9948654 |
| 6½ | $\bar{1}$·9956069 | 20½ | $\bar{1}$·9958491 | 34½ | $\bar{1}$·9955512 | 48½ | $\bar{1}$·9948458 |
| 6¾ | $\bar{1}$·9956583 | 20¾ | $\bar{1}$·9958441 | 34¾ | $\bar{1}$·9955438 | 48¾ | $\bar{1}$·9948260 |
| 7 | $\bar{1}$·9956846 | 21 | $\bar{1}$·9958391 | 35 | $\bar{1}$·9955364 | 49 | $\bar{1}$·9948059 |
| 7¼ | $\bar{1}$·9957339 | 21¼ | $\bar{1}$·9958341 | 35¼ | $\bar{1}$·9955288 | 49¼ | $\bar{1}$·9947855 |
| 7½ | $\bar{1}$·9957807 | 21½ | $\bar{1}$·9958292 | 35½ | $\bar{1}$·9955210 | 49½ | $\bar{1}$·9947647 |
| 7¾ | $\bar{1}$·9958248 | 21¾ | $\bar{1}$·9958243 | 35¾ | $\bar{1}$·9955132 | 49¾ | $\bar{1}$·9947437 |
| 8 | $\bar{1}$·9958665 | 22 | $\bar{1}$·9958194 | 36 | $\bar{1}$·9955052 | 50 | $\bar{1}$·9947222 |
| 8¼ | $\bar{1}$·9959056 | 22¼ | $\bar{1}$·9958146 | 36¼ | $\bar{1}$·9954969 | 50¼ | $\bar{1}$·9947006 |
| 8½ | $\bar{1}$·9959422 | 22½ | $\bar{1}$·9958098 | 36½ | $\bar{1}$·9954887 | 50½ | $\bar{1}$·9946784 |
| 8¾ | $\bar{1}$·9959766 | 22¾ | $\bar{1}$·9958051 | 36¾ | $\bar{1}$·9954802 | 50¾ | $\bar{1}$·9946560 |
| 9 | $\bar{1}$·9960085 | 23 | $\bar{1}$·9958003 | 37 | $\bar{1}$·9954716 | 51 | $\bar{1}$·9945783 |
| 9¼ | $\bar{1}$·9960381 | 23¼ | $\bar{1}$·9957956 | 37¼ | $\bar{1}$·9954627 | 51¼ | $\bar{1}$·9945509 |
| 9½ | $\bar{1}$·9960656 | 23½ | $\bar{1}$·9957909 | 37½ | $\bar{1}$·9954538 | 51½ | $\bar{1}$·9945235 |
| 9¾ | $\bar{1}$·9960908 | 23¾ | $\bar{1}$·9957862 | 37¾ | $\bar{1}$·9954447 | 51¾ | $\bar{1}$·9944958 |
| 10 | $\bar{1}$·9961139 | 24 | $\bar{1}$·9957815 | 38 | $\bar{1}$·9954354 | 52 | $\bar{1}$·9944681 |
| 10¼ | $\bar{1}$·9961349 | 24¼ | $\bar{1}$·9957769 | 38¼ | $\bar{1}$·9954259 | 52¼ | $\bar{1}$·9944402 |
| 10½ | $\bar{1}$·9961540 | 24½ | $\bar{1}$·9957722 | 38½ | $\bar{1}$·9954162 | 52½ | $\bar{1}$·9944119 |
| 10¾ | $\bar{1}$·9961709 | 24¾ | $\bar{1}$·9957675 | 38¾ | $\bar{1}$·9954064 | 52¾ | $\bar{1}$·9943835 |
| 11 | $\bar{1}$·9961861 | 25 | $\bar{1}$·9957628 | 39 | $\bar{1}$·9953963 | 53 | $\bar{1}$·9943546 |
| 11¼ | $\bar{1}$·9961992 | 25¼ | $\bar{1}$·9957582 | 39¼ | $\bar{1}$·9953862 | 53¼ | $\bar{1}$·9943254 |
| 11½ | $\bar{1}$·9962107 | 25½ | $\bar{1}$·9957535 | 39½ | $\bar{1}$·9953757 | 53½ | $\bar{1}$·9942959 |
| 11¾ | $\bar{1}$·9962202 | 25¾ | $\bar{1}$·9957488 | 39¾ | $\bar{1}$·9953651 | 53¾ | $\bar{1}$·9942657 |
| 12 | $\bar{1}$·9962282 | 26 | $\bar{1}$·9957441 | 40 | $\bar{1}$·9953544 | 54 | $\bar{1}$·9942353 |
| 12¼ | $\bar{1}$·9962344 | 26¼ | $\bar{1}$·9957393 | 40¼ | $\bar{1}$·9953433 | 54¼ | $\bar{1}$·9942042 |
| 12½ | $\bar{1}$·9962391 | 26½ | $\bar{1}$·9957346 | 40½ | $\bar{1}$·9953321 | 54½ | $\bar{1}$·9941726 |
| 12¾ | $\bar{1}$·9962420 | 26¾ | $\bar{1}$·9957298 | 40¾ | $\bar{1}$·9953207 | 54¾ | $\bar{1}$·9941403 |
| 13 | $\bar{1}$·9962437 | 27 | $\bar{1}$·9957250 | 41 | $\bar{1}$·9953091 | 55 | $\bar{1}$·9941074 |
| 13¼ | $\bar{1}$·9962437 | 27¼ | $\bar{1}$·9957201 | 41¼ | $\bar{1}$·9952973 | 55¼ | $\bar{1}$·9940739 |
| 13½ | $\bar{1}$·9962423 | 27½ | $\bar{1}$·9957153 | 41½ | $\bar{1}$·9952851 | 55½ | $\bar{1}$·9940395 |
| 13¾ | $\bar{1}$·9962397 | 27¾ | $\bar{1}$·9957104 | 41¾ | $\bar{1}$·9952730 | 55¾ | $\bar{1}$·9940045 |

## QUARTERLY TABLE:—MALES. Interest 3 per Cent.

Logarithms of the Series $vp_x = \lambda\left(\frac{1}{1+\frac{i}{4}}\cdot\frac{l_{x+\frac{1}{4}}}{l_x}\right)$

| Age ($x$) | $\lambda\ vp_x$ | Age ($x$) | $\lambda\ vp_x$ | Age ($x$) | $\lambda\ vp_x$ | Age ($x$) | $\lambda\ vp_x$ |
|---|---|---|---|---|---|---|---|
| 56 | $\bar{1}\cdot9939685$ | 70 | $\bar{1}\cdot9894193$ | 84 | $\bar{1}\cdot9751153$ | 98 | $\bar{1}\cdot9439723$ |
| $56\frac{1}{4}$ | $\bar{1}\cdot9939319$ | $70\frac{1}{4}$ | $\bar{1}\cdot9892705$ | $84\frac{1}{4}$ | $\bar{1}\cdot9747280$ | $98\frac{1}{4}$ | $\bar{1}\cdot9432198$ |
| $56\frac{1}{2}$ | $\bar{1}\cdot9938941$ | $70\frac{1}{2}$ | $\bar{1}\cdot9891185$ | $84\frac{1}{2}$ | $\bar{1}\cdot9743351$ | $98\frac{1}{2}$ | $\bar{1}\cdot9424597$ |
| $56\frac{3}{4}$ | $\bar{1}\cdot9938557$ | $70\frac{3}{4}$ | $\bar{1}\cdot9889633$ | $84\frac{3}{4}$ | $\bar{1}\cdot9739369$ | $98\frac{3}{4}$ | $\bar{1}\cdot9416919$ |
| 57 | $\bar{1}\cdot9938160$ | 71 | $\bar{1}\cdot9888050$ | 85 | $\bar{1}\cdot9735332$ | 99 | $\bar{1}\cdot9409163$ |
| $57\frac{1}{4}$ | $\bar{1}\cdot9937756$ | $71\frac{1}{4}$ | $\bar{1}\cdot9886433$ | $85\frac{1}{4}$ | $\bar{1}\cdot9731240$ | $99\frac{1}{4}$ | $\bar{1}\cdot9401329$ |
| $57\frac{1}{2}$ | $\bar{1}\cdot9937339$ | $71\frac{1}{2}$ | $\bar{1}\cdot9884783$ | $85\frac{1}{2}$ | $\bar{1}\cdot9727090$ | $99\frac{1}{2}$ | $\bar{1}\cdot9393417$ |
| $57\frac{3}{4}$ | $\bar{1}\cdot9936912$ | $71\frac{3}{4}$ | $\bar{1}\cdot9883101$ | $85\frac{3}{4}$ | $\bar{1}\cdot9722887$ | $99\frac{3}{4}$ | $\bar{1}\cdot9385425$ |
| 58 | $\bar{1}\cdot9936474$ | 72 | $\bar{1}\cdot9881383$ | 86 | $\bar{1}\cdot9718625$ | 100 | $\bar{1}\cdot9377356$ |
| $58\frac{1}{4}$ | $\bar{1}\cdot9936024$ | $72\frac{1}{4}$ | $\bar{1}\cdot9879632$ | $86\frac{1}{4}$ | $\bar{1}\cdot9714308$ | $100\frac{1}{4}$ | $\bar{1}\cdot9369207$ |
| $58\frac{1}{2}$ | $\bar{1}\cdot9935561$ | $72\frac{1}{2}$ | $\bar{1}\cdot9877845$ | $86\frac{1}{2}$ | $\bar{1}\cdot9709932$ | $100\frac{1}{2}$ | $\bar{1}\cdot9360977$ |
| $58\frac{3}{4}$ | $\bar{1}\cdot9935087$ | $72\frac{3}{4}$ | $\bar{1}\cdot9876024$ | $86\frac{3}{4}$ | $\bar{1}\cdot9705499$ | $100\frac{3}{4}$ | $\bar{1}\cdot9352667$ |
| 59 | $\bar{1}\cdot9934599$ | 73 | $\bar{1}\cdot9874167$ | 87 | $\bar{1}\cdot9701008$ | 101 | $\bar{1}\cdot9344277$ |
| $59\frac{1}{4}$ | $\bar{1}\cdot9934098$ | $73\frac{1}{4}$ | $\bar{1}\cdot9872275$ | $87\frac{1}{4}$ | $\bar{1}\cdot9696459$ | $101\frac{1}{4}$ | $\bar{1}\cdot9335806$ |
| $59\frac{1}{2}$ | $\bar{1}\cdot9933583$ | $73\frac{1}{2}$ | $\bar{1}\cdot9870345$ | $87\frac{1}{2}$ | $\bar{1}\cdot9691850$ | $101\frac{1}{2}$ | $\bar{1}\cdot9327252$ |
| $59\frac{3}{4}$ | $\bar{1}\cdot9933054$ | $73\frac{3}{4}$ | $\bar{1}\cdot9868379$ | $87\frac{3}{4}$ | $\bar{1}\cdot9687181$ | $101\frac{3}{4}$ | $\bar{1}\cdot9318617$ |
| 60 | $\bar{1}\cdot9932511$ | 74 | $\bar{1}\cdot9866377$ | 88 | $\bar{1}\cdot9682455$ | 102 | $\bar{1}\cdot9309900$ |
| $60\frac{1}{4}$ | $\bar{1}\cdot9931952$ | $74\frac{1}{4}$ | $\bar{1}\cdot9864335$ | $88\frac{1}{4}$ | $\bar{1}\cdot9677666$ | $102\frac{1}{4}$ | $\bar{1}\cdot9301100$ |
| $60\frac{1}{2}$ | $\bar{1}\cdot9931378$ | $74\frac{1}{2}$ | $\bar{1}\cdot9862257$ | $88\frac{1}{2}$ | $\bar{1}\cdot9672818$ | $102\frac{1}{2}$ | $\bar{1}\cdot9292217$ |
| $60\frac{3}{4}$ | $\bar{1}\cdot9930788$ | $74\frac{3}{4}$ | $\bar{1}\cdot9860140$ | $88\frac{3}{4}$ | $\bar{1}\cdot9667909$ | $102\frac{3}{4}$ | $\bar{1}\cdot9283249$ |
| 61 | $\bar{1}\cdot9930183$ | 75 | $\bar{1}\cdot9857985$ | 89 | $\bar{1}\cdot9662938$ | 103 | $\bar{1}\cdot9274200$ |
| $61\frac{1}{4}$ | $\bar{1}\cdot9929560$ | $75\frac{1}{4}$ | $\bar{1}\cdot9855789$ | $89\frac{1}{4}$ | $\bar{1}\cdot9657905$ | $103\frac{1}{4}$ | $\bar{1}\cdot9265063$ |
| $61\frac{1}{2}$ | $\bar{1}\cdot9928920$ | $75\frac{1}{2}$ | $\bar{1}\cdot9853555$ | $89\frac{1}{2}$ | $\bar{1}\cdot9652811$ | $103\frac{1}{2}$ | $\bar{1}\cdot9255844$ |
| $61\frac{3}{4}$ | $\bar{1}\cdot9928264$ | $75\frac{3}{4}$ | $\bar{1}\cdot9851280$ | $89\frac{3}{4}$ | $\bar{1}\cdot9647654$ | $103\frac{3}{4}$ | $\bar{1}\cdot9246540$ |
| 62 | $\bar{1}\cdot9927589$ | 76 | $\bar{1}\cdot9848966$ | 90 | $\bar{1}\cdot9642433$ | 104 | $\bar{1}\cdot9237148$ |
| $62\frac{1}{4}$ | $\bar{1}\cdot9926897$ | $76\frac{1}{4}$ | $\bar{1}\cdot9846610$ | $90\frac{1}{4}$ | $\bar{1}\cdot9637150$ | $104\frac{1}{4}$ | $\bar{1}\cdot9227672$ |
| $62\frac{1}{2}$ | $\bar{1}\cdot9926185$ | $76\frac{1}{2}$ | $\bar{1}\cdot9844213$ | $90\frac{1}{2}$ | $\bar{1}\cdot9631803$ | $104\frac{1}{2}$ | $\bar{1}\cdot9218109$ |
| $62\frac{3}{4}$ | $\bar{1}\cdot9925454$ | $76\frac{3}{4}$ | $\bar{1}\cdot9841774$ | $90\frac{3}{4}$ | $\bar{1}\cdot9626391$ | $104\frac{3}{4}$ | $\bar{1}\cdot9208459$ |
| 63 | $\bar{1}\cdot9924705$ | 77 | $\bar{1}\cdot9839294$ | 91 | $\bar{1}\cdot9620915$ | 105 | $\bar{1}\cdot9198722$ |
| $63\frac{1}{4}$ | $\bar{1}\cdot9923935$ | $77\frac{1}{4}$ | $\bar{1}\cdot9836772$ | $91\frac{1}{4}$ | $\bar{1}\cdot9615374$ | $105\frac{1}{4}$ | $\bar{1}\cdot9188898$ |
| $63\frac{1}{2}$ | $\bar{1}\cdot9923145$ | $77\frac{1}{2}$ | $\bar{1}\cdot9834205$ | $91\frac{1}{2}$ | $\bar{1}\cdot9609767$ | $105\frac{1}{2}$ | $\bar{1}\cdot9178986$ |
| $63\frac{3}{4}$ | $\bar{1}\cdot9922335$ | $77\frac{3}{4}$ | $\bar{1}\cdot9831597$ | $91\frac{3}{4}$ | $\bar{1}\cdot9604095$ | $105\frac{3}{4}$ | $\bar{1}\cdot9168984$ |
| 64 | $\bar{1}\cdot9921503$ | 78 | $\bar{1}\cdot9828945$ | 92 | $\bar{1}\cdot9598356$ | 106 | $\bar{1}\cdot9158895$ |
| $64\frac{1}{4}$ | $\bar{1}\cdot9920651$ | $78\frac{1}{4}$ | $\bar{1}\cdot9826248$ | $92\frac{1}{4}$ | $\bar{1}\cdot9592552$ | $106\frac{1}{4}$ | $\bar{1}\cdot9148717$ |
| $64\frac{1}{2}$ | $\bar{1}\cdot9919775$ | $78\frac{1}{2}$ | $\bar{1}\cdot9823507$ | $92\frac{1}{2}$ | $\bar{1}\cdot9586679$ | $106\frac{1}{2}$ | $\bar{1}\cdot9138447$ |
| $64\frac{3}{4}$ | $\bar{1}\cdot9918879$ | $78\frac{3}{4}$ | $\bar{1}\cdot9820721$ | $92\frac{3}{4}$ | $\bar{1}\cdot9580740$ | $106\frac{3}{4}$ | $\bar{1}\cdot9128089$ |
| 65 | $\bar{1}\cdot9917959$ | 79 | $\bar{1}\cdot9817891$ | 93 | $\bar{1}\cdot9574732$ | 107 | $\bar{1}\cdot9117641$ |
| $65\frac{1}{4}$ | $\bar{1}\cdot9917017$ | $79\frac{1}{4}$ | $\bar{1}\cdot9815013$ | $93\frac{1}{4}$ | $\bar{1}\cdot9568657$ | $107\frac{1}{4}$ | $\bar{1}\cdot9107101$ |
| $65\frac{1}{2}$ | $\bar{1}\cdot9916050$ | $79\frac{1}{2}$ | $\bar{1}\cdot9812092$ | $93\frac{1}{2}$ | $\bar{1}\cdot9562513$ | $107\frac{1}{2}$ | $\bar{1}\cdot9096470$ |
| $65\frac{3}{4}$ | $\bar{1}\cdot9915061$ | $79\frac{3}{4}$ | $\bar{1}\cdot9809122$ | $93\frac{3}{4}$ | $\bar{1}\cdot9556299$ | $107\frac{3}{4}$ | $\bar{1}\cdot9085747$ |
| 66 | $\bar{1}\cdot9914046$ | 80 | $\bar{1}\cdot9806106$ | 94 | $\bar{1}\cdot9550017$ | 108 | $\bar{1}\cdot9074933$ |
| $66\frac{1}{4}$ | $\bar{1}\cdot9913007$ | $80\frac{1}{4}$ | $\bar{1}\cdot9803044$ | $94\frac{1}{4}$ | $\bar{1}\cdot9543664$ | $108\frac{1}{4}$ | $\bar{1}\cdot9064026$ |
| $66\frac{1}{2}$ | $\bar{1}\cdot9911944$ | $80\frac{1}{2}$ | $\bar{1}\cdot9799932$ | $94\frac{1}{2}$ | $\bar{1}\cdot9537242$ | $108\frac{1}{2}$ | $\bar{1}\cdot9053026$ |
| $66\frac{3}{4}$ | $\bar{1}\cdot9910854$ | $80\frac{3}{4}$ | $\bar{1}\cdot9796774$ | $94\frac{3}{4}$ | $\bar{1}\cdot9530748$ | $108\frac{3}{4}$ | $\bar{1}\cdot9041934$ |
| 67 | $\bar{1}\cdot9909739$ | 81 | $\bar{1}\cdot9793566$ | 95 | $\bar{1}\cdot9524184$ | | |
| $67\frac{1}{4}$ | $\bar{1}\cdot9908598$ | $81\frac{1}{4}$ | $\bar{1}\cdot9790311$ | $95\frac{1}{4}$ | $\bar{1}\cdot9517548$ | | |
| $67\frac{1}{2}$ | $\bar{1}\cdot9907429$ | $81\frac{1}{2}$ | $\bar{1}\cdot9787005$ | $95\frac{1}{2}$ | $\bar{1}\cdot9510841$ | | |
| $67\frac{3}{4}$ | $\bar{1}\cdot9906235$ | $81\frac{3}{4}$ | $\bar{1}\cdot9783650$ | $95\frac{3}{4}$ | $\bar{1}\cdot9504060$ | | |
| 68 | $\bar{1}\cdot9905011$ | 82 | $\bar{1}\cdot9780245$ | 96 | $\bar{1}\cdot9497208$ | | |
| $68\frac{1}{4}$ | $\bar{1}\cdot9903761$ | $82\frac{1}{4}$ | $\bar{1}\cdot9776789$ | $96\frac{1}{4}$ | $\bar{1}\cdot9490282$ | | |
| $68\frac{1}{2}$ | $\bar{1}\cdot9902483$ | $82\frac{1}{2}$ | $\bar{1}\cdot9773283$ | $96\frac{1}{2}$ | $\bar{1}\cdot9483283$ | | |
| $68\frac{3}{4}$ | $\bar{1}\cdot9901174$ | $82\frac{3}{4}$ | $\bar{1}\cdot9769725$ | $96\frac{3}{4}$ | $\bar{1}\cdot9476211$ | | |
| 69 | $\bar{1}\cdot9899838$ | 83 | $\bar{1}\cdot9766116$ | 97 | $\bar{1}\cdot9469062$ | | |
| $69\frac{1}{4}$ | $\bar{1}\cdot9898472$ | $83\frac{1}{4}$ | $\bar{1}\cdot9762455$ | $97\frac{1}{4}$ | $\bar{1}\cdot9461841$ | | |
| $69\frac{1}{2}$ | $\bar{1}\cdot9897076$ | $83\frac{1}{2}$ | $\bar{1}\cdot9758740$ | $97\frac{1}{2}$ | $\bar{1}\cdot9454544$ | | |
| $69\frac{3}{4}$ | $\bar{1}\cdot9895650$ | $83\frac{3}{4}$ | $\bar{1}\cdot9754974$ | $97\frac{3}{4}$ | $\bar{1}\cdot9447172$ | | |

## QUARTERLY TABLE:—FEMALES. Interest 3 per Cent.

### Logarithms of the Series $vp_x = \lambda \left( \frac{1}{1 + \frac{i}{4}} \cdot \frac{l_{x+\frac{1}{4}}}{l_x} \right)$

| Age $(x)$ | $\lambda\ vp_x$ | Age $(x)$ | $\lambda\ vp_x$ | Age $(x)$ | $\lambda\ vp_x$ | Age $(x)$ | $\lambda\ vp_x$ |
|---|---|---|---|---|---|---|---|
| 0 | $\bar{1}$·9666575 | 14 | $\bar{1}$·9961949 | 28 | $\bar{1}$·9956509 | 42 | $\bar{1}$·9953107 |
| 0¼ | $\bar{1}$·9844553 | 14¼ | $\bar{1}$·9961894 | 28¼ | $\bar{1}$·9956456 | 42¼ | $\bar{1}$·9953029 |
| 0½ | $\bar{1}$·9860389 | 14½ | $\bar{1}$·9961827 | 28½ | $\bar{1}$·9956405 | 42½ | $\bar{1}$·9952948 |
| 0¾ | $\bar{1}$·9870283 | 14¾ | $\bar{1}$·9961750 | 28¾ | $\bar{1}$·9956351 | 42¾ | $\bar{1}$·9952867 |
| 1 | $\bar{1}$·9874235 | 15 | $\bar{1}$·9961664 | 29 | $\bar{1}$·9956300 | 43 | $\bar{1}$·9952785 |
| 1¼ | $\bar{1}$·9892571 | 15¼ | $\bar{1}$·9961566 | 29¼ | $\bar{1}$·9956247 | 43¼ | $\bar{1}$·9952701 |
| 1½ | $\bar{1}$·9907320 | 15½ | $\bar{1}$·9961460 | 29½ | $\bar{1}$·9956195 | 43½ | $\bar{1}$·9952617 |
| 1¾ | $\bar{1}$·9918480 | 15¾ | $\bar{1}$·9961345 | 29¾ | $\bar{1}$·9956142 | 43¾ | $\bar{1}$·9952532 |
| 2 | $\bar{1}$·9926051 | 16 | $\bar{1}$·9961222 | 30 | $\bar{1}$·9956090 | 44 | $\bar{1}$·9952445 |
| 2¼ | $\bar{1}$·9930035 | 16¼ | $\bar{1}$·9961090 | 30¼ | $\bar{1}$·9956037 | 44¼ | $\bar{1}$·9952357 |
| 2½ | $\bar{1}$·9930429 | 16½ | $\bar{1}$·9960951 | 30½ | $\bar{1}$·9955985 | 44½ | $\bar{1}$·9952268 |
| 2¾ | $\bar{1}$·9927235 | 16¾ | $\bar{1}$·9960805 | 30¾ | $\bar{1}$·9955931 | 44¾ | $\bar{1}$·9952179 |
| 3 | $\bar{1}$·9937689 | 17 | $\bar{1}$·9960654 | 31 | $\bar{1}$·9955879 | 45 | $\bar{1}$·9952087 |
| 3¼ | $\bar{1}$·9940000 | 17¼ | $\bar{1}$·9960495 | 31¼ | $\bar{1}$·9955825 | 45¼ | $\bar{1}$·9951995 |
| 3½ | $\bar{1}$·9942130 | 17½ | $\bar{1}$·9960332 | 31½ | $\bar{1}$·9955772 | 45½ | $\bar{1}$·9951901 |
| 3¾ | $\bar{1}$·9944087 | 17¾ | $\bar{1}$·9960163 | 31¾ | $\bar{1}$·9955718 | 45¾ | $\bar{1}$·9951806 |
| 4 | $\bar{1}$·9945878 | 18 | $\bar{1}$·9959990 | 32 | $\bar{1}$·9955664 | 46 | $\bar{1}$·9951710 |
| 4¼ | $\bar{1}$·9947512 | 18¼ | $\bar{1}$·9959813 | 32¼ | $\bar{1}$·9955610 | 46¼ | $\bar{1}$·9951612 |
| 4½ | $\bar{1}$·9948994 | 18½ | $\bar{1}$·9959632 | 32½ | $\bar{1}$·9955556 | 46½ | $\bar{1}$·9951514 |
| 4¾ | $\bar{1}$·9950335 | 18¾ | $\bar{1}$·9959448 | 32¾ | $\bar{1}$·9955501 | 46¾ | $\bar{1}$·9951414 |
| 5 | $\bar{1}$·9951539 | 19 | $\bar{1}$·9959262 | 33 | $\bar{1}$·9955446 | 47 | $\bar{1}$·9951312 |
| 5¼ | $\bar{1}$·9952617 | 19¼ | $\bar{1}$·9959073 | 33¼ | $\bar{1}$·9955391 | 47¼ | $\bar{1}$·9951210 |
| 5½ | $\bar{1}$·9953573 | 19½ | $\bar{1}$·9958882 | 33½ | $\bar{1}$·9955335 | 47½ | $\bar{1}$·9951106 |
| 5¾ | $\bar{1}$·9954417 | 19¾ | $\bar{1}$·9958691 | 33¾ | $\bar{1}$·9955279 | 47¾ | $\bar{1}$·9951000 |
| 6 | $\bar{1}$·9955157 | 20 | $\bar{1}$·9958304 | 34 | $\bar{1}$·9955223 | 48 | $\bar{1}$·9950893 |
| 6¼ | $\bar{1}$·9955798 | 20¼ | $\bar{1}$·9958242 | 34¼ | $\bar{1}$·9955165 | 48¼ | $\bar{1}$·9950785 |
| 6½ | $\bar{1}$·9956350 | 20½ | $\bar{1}$·9958179 | 34½ | $\bar{1}$·9955109 | 48½ | $\bar{1}$·9950675 |
| 6¾ | $\bar{1}$·9956819 | 20¾ | $\bar{1}$·9958117 | 34¾ | $\bar{1}$·9955051 | 48¾ | $\bar{1}$·9950564 |
| 7 | $\bar{1}$·9956992 | 21 | $\bar{1}$·9958057 | 35 | $\bar{1}$·9954993 | 49 | $\bar{1}$·9950452 |
| 7¼ | $\bar{1}$·9957445 | 21¼ | $\bar{1}$·9957996 | 35¼ | $\bar{1}$·9954934 | 49¼ | $\bar{1}$·9950337 |
| 7½ | $\bar{1}$·9957873 | 21½ | $\bar{1}$·9957937 | 35½ | $\bar{1}$·9954875 | 49½ | $\bar{1}$·9950222 |
| 7¾ | $\bar{1}$·9958278 | 21¾ | $\bar{1}$·9957877 | 35¾ | $\bar{1}$·9954816 | 49¾ | $\bar{1}$·9950104 |
| 8 | $\bar{1}$·9958659 | 22 | $\bar{1}$·9957819 | 36 | $\bar{1}$·9954755 | 50 | $\bar{1}$·9949985 |
| 8¼ | $\bar{1}$·9959017 | 22¼ | $\bar{1}$·9957760 | 36¼ | $\bar{1}$·9954695 | 50¼ | $\bar{1}$·9949866 |
| 8½ | $\bar{1}$·9959351 | 22½ | $\bar{1}$·9957702 | 36½ | $\bar{1}$·9954634 | 50½ | $\bar{1}$·9949743 |
| 8¾ | $\bar{1}$·9959665 | 22¾ | $\bar{1}$·9957644 | 36¾ | $\bar{1}$·9954572 | 50¾ | $\bar{1}$·9949620 |
| 9 | $\bar{1}$·9959955 | 23 | $\bar{1}$·9957588 | 37 | $\bar{1}$·9954509 | 51 | $\bar{1}$·9949495 |
| 9¼ | $\bar{1}$·9960225 | 23¼ | $\bar{1}$·9957531 | 37¼ | $\bar{1}$·9954447 | 51¼ | $\bar{1}$·9949367 |
| 9½ | $\bar{1}$·9960474 | 23½ | $\bar{1}$·9957475 | 37½ | $\bar{1}$·9954382 | 51½ | $\bar{1}$·9949240 |
| 9¾ | $\bar{1}$·9960703 | 23¾ | $\bar{1}$·9957419 | 37¾ | $\bar{1}$·9954319 | 51¾ | $\bar{1}$·9949109 |
| 10 | $\bar{1}$·9960912 | 24 | $\bar{1}$·9957364 | 38 | $\bar{1}$·9954253 | 52 | $\bar{1}$·9948978 |
| 10¼ | $\bar{1}$·9961101 | 24¼ | $\bar{1}$·9957308 | 38¼ | $\bar{1}$·9954188 | 52¼ | $\bar{1}$·9948843 |
| 10½ | $\bar{1}$·9961272 | 24½ | $\bar{1}$·9957254 | 38½ | $\bar{1}$·9954122 | 52½ | $\bar{1}$·9948709 |
| 10¾ | $\bar{1}$·9961425 | 24¾ | $\bar{1}$·9957199 | 38¾ | $\bar{1}$·9954054 | 52¾ | $\bar{1}$·9948572 |
| 11 | $\bar{1}$·9961559 | 25 | $\bar{1}$·9957144 | 39 | $\bar{1}$·9953987 | 53 | $\bar{1}$·9948433 |
| 11¼ | $\bar{1}$·9961675 | 25¼ | $\bar{1}$·9957091 | 39¼ | $\bar{1}$·9953918 | 53¼ | $\bar{1}$·9948292 |
| 11½ | $\bar{1}$·9961776 | 25½ | $\bar{1}$·9957037 | 39½ | $\bar{1}$·9953848 | 53½ | $\bar{1}$·9948150 |
| 11¾ | $\bar{1}$·9961860 | 25¾ | $\bar{1}$·9956984 | 39¾ | $\bar{1}$·9953779 | 53¾ | $\bar{1}$·9948005 |
| 12 | $\bar{1}$·9961927 | 26 | $\bar{1}$·9956930 | 40 | $\bar{1}$·9953707 | 54 | $\bar{1}$·9946511 |
| 12¼ | $\bar{1}$·9961978 | 26¼ | $\bar{1}$·9956877 | 40¼ | $\bar{1}$·9953636 | 54¼ | $\bar{1}$·9946157 |
| 12½ | $\bar{1}$·9962016 | 26½ | $\bar{1}$·9956824 | 40½ | $\bar{1}$·9953562 | 54½ | $\bar{1}$·9945801 |
| 12¾ | $\bar{1}$·9962039 | 26¾ | $\bar{1}$·9956771 | 40¾ | $\bar{1}$·9953490 | 54¾ | $\bar{1}$·9945442 |
| 13 | $\bar{1}$·9962046 | 27 | $\bar{1}$·9956718 | 41 | $\bar{1}$·9953414 | 55 | $\bar{1}$·9945081 |
| 13¼ | $\bar{1}$·9962042 | 27¼ | $\bar{1}$·9956666 | 41¼ | $\bar{1}$·9953340 | 55¼ | $\bar{1}$·9944715 |
| 13½ | $\bar{1}$·9962023 | 27½ | $\bar{1}$·9956614 | 41½ | $\bar{1}$·9953263 | 55½ | $\bar{1}$·9944346 |
| 13¾ | $\bar{1}$·9961991 | 27¾ | $\bar{1}$·9956560 | 41¾ | $\bar{1}$·9953186 | 55¾ | $\bar{1}$·9943974 |

## QUARTERLY TABLE:—Females. Interest 3 per Cent.

### Logarithms of the Series $vp_x = \lambda\left(\frac{1}{1+\frac{i}{4}}\cdot\frac{l_{x+\frac{1}{4}}}{l_x}\right)$

| Age ($x$) | $\lambda\ vp_x$ | Age ($x$) | $\lambda\ vp_x$ | Age ($x$) | $\lambda\ vp_x$ | Age ($x$) | $\lambda\ vp_x$ |
|---|---|---|---|---|---|---|---|
| 56 | $\bar{1}\cdot9943595$ | 70 | $\bar{1}\cdot9901750$ | 84 | $\bar{1}\cdot9768789$ | 98 | $\bar{1}\cdot9469664$ |
| 56¼ | $\bar{1}\cdot9943212$ | 70¼ | $\bar{1}\cdot9900398$ | 84¼ | $\bar{1}\cdot9765127$ | 98¼ | $\bar{1}\cdot9462354$ |
| 56½ | $\bar{1}\cdot9942824$ | 70½ | $\bar{1}\cdot9899016$ | 84½ | $\bar{1}\cdot9761413$ | 98½ | $\bar{1}\cdot9454966$ |
| 56¾ | $\bar{1}\cdot9942429$ | 70¾ | $\bar{1}\cdot9897605$ | 84¾ | $\bar{1}\cdot9757645$ | 98¾ | $\bar{1}\cdot9447501$ |
| 57 | $\bar{1}\cdot9942028$ | 71 | $\bar{1}\cdot9896164$ | 85 | $\bar{1}\cdot9753822$ | 99 | $\bar{1}\cdot9439957$ |
| 57¼ | $\bar{1}\cdot9941620$ | 71¼ | $\bar{1}\cdot9894690$ | 85¼ | $\bar{1}\cdot9749945$ | 99¼ | $\bar{1}\cdot9432334$ |
| 57½ | $\bar{1}\cdot9941205$ | 71½ | $\bar{1}\cdot9893187$ | 85½ | $\bar{1}\cdot9746012$ | 99½ | $\bar{1}\cdot9424634$ |
| 57¾ | $\bar{1}\cdot9940782$ | 71¾ | $\bar{1}\cdot9891652$ | 85¾ | $\bar{1}\cdot9742025$ | 99¾ | $\bar{1}\cdot9416852$ |
| 58 | $\bar{1}\cdot9940352$ | 72 | $\bar{1}\cdot9890084$ | 86 | $\bar{1}\cdot9737980$ | 100 | $\bar{1}\cdot9408992$ |
| 58¼ | $\bar{1}\cdot9939912$ | 72¼ | $\bar{1}\cdot9888485$ | 86¼ | $\bar{1}\cdot9733880$ | 100¼ | $\bar{1}\cdot9401051$ |
| 58½ | $\bar{1}\cdot9939463$ | 72½ | $\bar{1}\cdot9886851$ | 86½ | $\bar{1}\cdot9729723$ | 100½ | $\bar{1}\cdot9393029$ |
| 58¾ | $\bar{1}\cdot9939006$ | 72¾ | $\bar{1}\cdot9885186$ | 86¾ | $\bar{1}\cdot9725508$ | 100¾ | $\bar{1}\cdot9384926$ |
| 59 | $\bar{1}\cdot9938538$ | 73 | $\bar{1}\cdot9883486$ | 87 | $\bar{1}\cdot9721236$ | 101 | $\bar{1}\cdot9376741$ |
| 59¼ | $\bar{1}\cdot9938061$ | 73¼ | $\bar{1}\cdot9881752$ | 87¼ | $\bar{1}\cdot9716906$ | 101¼ | $\bar{1}\cdot9368474$ |
| 59½ | $\bar{1}\cdot9937572$ | 73½ | $\bar{1}\cdot9879983$ | 87½ | $\bar{1}\cdot9712517$ | 101½ | $\bar{1}\cdot9360126$ |
| 59¾ | $\bar{1}\cdot9937072$ | 73¾ | $\bar{1}\cdot9878180$ | 87¾ | $\bar{1}\cdot9708069$ | 101¾ | $\bar{1}\cdot9351693$ |
| 60 | $\bar{1}\cdot9936561$ | 74 | $\bar{1}\cdot9876340$ | 88 | $\bar{1}\cdot9703562$ | 102 | $\bar{1}\ 9343178$ |
| 60¼ | $\bar{1}\cdot9936037$ | 74¼ | $\bar{1}\cdot9874466$ | 88¼ | $\bar{1}\cdot9698995$ | 102¼ | $\bar{1}\cdot9334578$ |
| 60½ | $\bar{1}\cdot9935503$ | 74½ | $\bar{1}\cdot9872554$ | 88½ | $\bar{1}\cdot9694368$ | 102½ | $\bar{1}\cdot9325896$ |
| 60¾ | $\bar{1}\cdot9934954$ | 74¾ | $\bar{1}\cdot9870606$ | 88¾ | $\bar{1}\cdot9689679$ | 102¾ | $\bar{1}\cdot9317127$ |
| 61 | $\bar{1}\cdot9934392$ | 75 | $\bar{1}\cdot9868621$ | 89 | $\bar{1}\cdot9684931$ | 103 | $\bar{1}\cdot9308275$ |
| 61¼ | $\bar{1}\cdot9933817$ | 75¼ | $\bar{1}\cdot9866598$ | 89¼ | $\bar{1}\cdot9680120$ | 103¼ | $\bar{1}\cdot9299336$ |
| 61½ | $\bar{1}\cdot9933228$ | 75½ | $\bar{1}\cdot9864537$ | 89½ | $\bar{1}\cdot9675248$ | 103½ | $\bar{1}\cdot9290312$ |
| 61¾ | $\bar{1}\cdot9932624$ | 75¾ | $\bar{1}\cdot9862437$ | 89¾ | $\bar{1}\cdot9670313$ | 103¾ | $\bar{1}\cdot9281201$ |
| 62 | $\bar{1}\cdot9932005$ | 76 | $\bar{1}\cdot9860300$ | 90 | $\bar{1}\cdot9665315$ | 104 | $\bar{1}\cdot9272004$ |
| 62¼ | $\bar{1}\cdot9931370$ | 76¼ | $\bar{1}\cdot9858122$ | 90¼ | $\bar{1}\cdot9660254$ | 104¼ | $\bar{1}\cdot9262719$ |
| 62½ | $\bar{1}\cdot9930721$ | 76½ | $\bar{1}\cdot9855905$ | 90½ | $\bar{1}\cdot9655129$ | 104½ | $\bar{1}\cdot9253347$ |
| 62¾ | $\bar{1}\cdot9930054$ | 76¾ | $\bar{1}\cdot9853647$ | 90¾ | $\bar{1}\cdot9649941$ | 104¾ | $\bar{1}\cdot9243887$ |
| 63 | $\bar{1}\cdot9929372$ | 77 | $\bar{1}\cdot9851349$ | 91 | $\bar{1}\cdot9644687$ | 105 | $\bar{1}\cdot9234338$ |
| 63¼ | $\bar{1}\cdot9928672$ | 77¼ | $\bar{1}\cdot9849010$ | 91¼ | $\bar{1}\cdot9639370$ | 105¼ | $\bar{1}\cdot9224701$ |
| 63½ | $\bar{1}\cdot9927954$ | 77½ | $\bar{1}\cdot9846630$ | 91½ | $\bar{1}\cdot9633985$ | 105½ | $\bar{1}\cdot9214973$ |
| 63¾ | $\bar{1}\cdot9927218$ | 77¾ | $\bar{1}\cdot9844207$ | 91¾ | $\bar{1}\cdot9628536$ | 105¾ | $\bar{1}\cdot9205158$ |
| 64 | $\bar{1}\cdot9926465$ | 78 | $\bar{1}\cdot9841743$ | 92 | $\bar{1}\cdot9623021$ | 106 | $\bar{1}\cdot9195250$ |
| 64¼ | $\bar{1}\cdot9925692$ | 78¼ | $\bar{1}\cdot9839235$ | 92¼ | $\bar{1}\cdot9617438$ | 106¼ | $\bar{1}\cdot9185253$ |
| 64½ | $\bar{1}\cdot9924900$ | 78½ | $\bar{1}\cdot9836685$ | 92½ | $\bar{1}\cdot9611789$ | 106½ | $\bar{1}\cdot9175165$ |
| 64¾ | $\bar{1}\cdot9924088$ | 78¾ | $\bar{1}\cdot9834091$ | 92¾ | $\bar{1}\cdot9606072$ | 106¾ | $\bar{1}\cdot9164985$ |
| 65 | $\bar{1}\cdot9923257$ | 79 | $\bar{1}\cdot9831452$ | 93 | $\bar{1}\cdot9600287$ | 107 | $\bar{1}\cdot9154714$ |
| 65¼ | $\bar{1}\cdot9922405$ | 79¼ | $\bar{1}\cdot9828770$ | 93¼ | $\bar{1}\cdot9594434$ | 107¼ | $\bar{1}\cdot9144349$ |
| 65½ | $\bar{1}\cdot9921532$ | 79½ | $\bar{1}\cdot9826042$ | 93½ | $\bar{1}\cdot9588512$ | 107½ | $\bar{1}\cdot9133893$ |
| 65¾ | $\bar{1}\cdot9920638$ | 79¾ | $\bar{1}\cdot9823270$ | 93¾ | $\bar{1}\cdot9582520$ | 107¾ | $\bar{1}\cdot9123343$ |
| 66 | $\bar{1}\cdot9919721$ | 80 | $\bar{1}\cdot9820451$ | 94 | $\bar{1}\cdot9576460$ | 108 | $\bar{1}\cdot9112699$ |
| 66¼ | $\bar{1}\cdot9918783$ | 80¼ | $\bar{1}\cdot9817586$ | 94¼ | $\bar{1}\cdot9570329$ | 108¼ | $\bar{1}\cdot9101962$ |
| 66½ | $\bar{1}\cdot9917821$ | 80½ | $\bar{1}\cdot9814676$ | 94½ | $\bar{1}\cdot9564127$ | 108½ | $\bar{1}\cdot9091130$ |
| 66¾ | $\bar{1}\cdot9916838$ | 80¾ | $\bar{1}\cdot9811717$ | 94¾ | $\bar{1}\cdot9557855$ | 108¾ | $\bar{1}\cdot9080203$ |
| 67 | $\bar{1}\cdot9915830$ | 81 | $\bar{1}\cdot9808711$ | 95 | $\bar{1}\cdot9551511$ | | |
| 67¼ | $\bar{1}\cdot9914798$ | 81¼ | $\bar{1}\cdot9805658$ | 95¼ | $\bar{1}\cdot9545096$ | | |
| 67½ | $\bar{1}\cdot9913743$ | 81½ | $\bar{1}\cdot9802557$ | 95½ | $\bar{1}\cdot9538608$ | | |
| 67¾ | $\bar{1}\cdot9912662$ | 81¾ | $\bar{1}\cdot9799405$ | 95¾ | $\bar{1}\cdot9532047$ | | |
| 68 | $\bar{1}\cdot9911556$ | 82 | $\bar{1}\cdot9796206$ | 96 | $\bar{1}\cdot9525414$ | | |
| 68¼ | $\bar{1}\cdot9910424$ | 82¼ | $\bar{1}\cdot9792957$ | 96¼ | $\bar{1}\cdot9518707$ | | |
| 68½ | $\bar{1}\cdot9909267$ | 82½ | $\bar{1}\cdot9789658$ | 96½ | $\bar{1}\cdot9511926$ | | |
| 68¾ | $\bar{1}\cdot9908082$ | 82¾ | $\bar{1}\cdot9786308$ | 96¾ | $\bar{1}\cdot9505071$ | | |
| 69 | $\bar{1}\cdot9906872$ | 83 | $\bar{1}\cdot9782908$ | 97 | $\bar{1}\cdot9498140$ | | |
| 69¼ | $\bar{1}\cdot9905633$ | 83¼ | $\bar{1}\cdot9779456$ | 97¼ | $\bar{1}\cdot9491136$ | | |
| 69½ | $\bar{1}\cdot9904368$ | 83½ | $\bar{1}\cdot9775952$ | 97½ | $\bar{1}\cdot9484054$ | | |
| 69¾ | $\bar{1}\cdot9903072$ | 83¾ | $\bar{1}\cdot9772397$ | 97¾ | $\bar{1}\cdot9476898$ | | |

## QUARTERLY TABLE:—MALES.

## Logarithms of the Series $D_x$; Rate of Interest 3 per Cent.

**MALES.**

| Age ($x$) Quarter Years. | λ $D_x$ | Age ($x$) Quarter Years. | λ $D_x$ | Age ($x$) Quarter Years. | λ $D_x$ | Age ($x$) Quarter Years. | λ $D_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 5·7090538 | 55 | 5·3610747 | 110 | 5·1373030 | 165 | 4·8921363 |
| 1 | 5·6675197 | 56 | 5·3573144 | 111 | 5·1330183 | 166 | 4·8874336 |
| 2 | 5·6492224 | 57 | 5·3535501 | 112 | 5·1287287 | 167 | 4·8827188 |
| 3 | 5·6328283 | 58 | 5·3497806 | 113 | 5·1244342 | 168 | 4·8779917 |
| 4 | 5·6184900 | 59 | 5·3460046 | 114 | 5·1201346 | 169 | 4·8732522 |
| 5 | 5·6063598 | 60 | 5·3422210 | 115 | 5·1158300 | 170 | 4·8684999 |
| 6 | 5·5954255 | 61 | 5·3384286 | 116 | 5·1115203 | 171 | 4·8637346 |
| 7 | 5·5855628 | 62 | 5·3346265 | 117 | 5·1072054 | 172 | 4·8589562 |
| 8 | 5·5766475 | 63 | 5·3308137 | 118 | 5·1028854 | 173 | 4·8541643 |
| 9 | 5·5685551 | 64 | 5·3269891 | 119 | 5·0985600 | 174 | 4·8493588 |
| 10 | 5·5611613 | 65 | 5·3231519 | 120 | 5·0942293 | 175 | 4·8445393 |
| 11 | 5·5543419 | 66 | 5·3193013 | 121 | 5·0898932 | 176 | 4·8397056 |
| 12 | 5·5479725 | 67 | 5·3154365 | 122 | 5·0855516 | 177 | 4·8348576 |
| 13 | 5·5418058 | 68 | 5·3115567 | 123 | 5·0812045 | 178 | 4·8299948 |
| 14 | 5·5358498 | 69 | 5·3076612 | 124 | 5·0768517 | 179 | 4·8251172 |
| 15 | 5·5300892 | 70 | 5·3037494 | 125 | 5·0724932 | 180 | 4·8202243 |
| 16 | 5·5245092 | 71 | 5·2998207 | 126 | 5·0681289 | 181 | 4·8153160 |
| 17 | 5·5190956 | 72 | 5·2958746 | 127 | 5·0637587 | 182 | 4·8103920 |
| 18 | 5·5138347 | 73 | 5·2919106 | 128 | 5·0593826 | 183 | 4·8054520 |
| 19 | 5·5087137 | 74 | 5·2879283 | 129 | 5·0550004 | 184 | 4·8004957 |
| 20 | 5·5037203 | 75 | 5·2839272 | 130 | 5·0506120 | 185 | 4·7955229 |
| 21 | 5·4988427 | 76 | 5·2799072 | 131 | 5·0462173 | 186 | 4·7905333 |
| 22 | 5·4940699 | 77 | 5·2758678 | 132 | 5·0418163 | 187 | 4·7855266 |
| 23 | 5·4893914 | 78 | 5·2718080 | 133 | 5·0374088 | 188 | 4·7805024 |
| 24 | 5·4847975 | 79 | 5·2677302 | 134 | 5·0329947 | 189 | 4·7754606 |
| 25 | 5·4802788 | 80 | 5·2636317 | 135 | 5·0285739 | 190 | 4·7704009 |
| 26 | 5·4758269 | 81 | 5·2594912 | 136 | 5·0241463 | 191 | 4·7653228 |
| 27 | 5·4714339 | 82 | 5·2553456 | 137 | 5·0197117 | 192 | 4·7602262 |
| 28 | 5·4670923 | 83 | 5·2511948 | 138 | 5·0152701 | 193 | 4·7551108 |
| 29 | 5·4627769 | 84 | 5·2470389 | 139 | 5·0108213 | 194 | 4·7499761 |
| 30 | 5·4585109 | 85 | 5·2428780 | 140 | 5·0063651 | 195 | 4·7448220 |
| 31 | 5·4542916 | 86 | 5·2387122 | 141 | 5·0019015 | 196 | 4·7396481 |
| 32 | 5·4501165 | 87 | 5·2345414 | 142 | 4·9974304 | 197 | 4·7344540 |
| 33 | 5·4459830 | 88 | 5·2303657 | 143 | 4·9929515 | 198 | 4·7292396 |
| 34 | 5·4418886 | 89 | 5·2261852 | 144 | 4·9884647 | 199 | 4·7240043 |
| 35 | 5·4378309 | 90 | 5·2219999 | 145 | 4·9839699 | 200 | 4·7187480 |
| 36 | 5·4338075 | 91 | 5·2178097 | 146 | 4·9794669 | 201 | 4·7134703 |
| 37 | 5·4298160 | 92 | 5·2136148 | 147 | 4·9749557 | 202 | 4·7081709 |
| 38 | 5·4258542 | 93 | 5·2094152 | 148 | 4·9704359 | 203 | 4·7028494 |
| 39 | 5·4219198 | 94 | 5·2052108 | 149 | 4·9659075 | 204 | 4·6975054 |
| 40 | 5·4180107 | 95 | 5·2010018 | 150 | 4·9613703 | 205 | 4·6920838 |
| 41 | 5·4141246 | 96 | 5·1967880 | 151 | 4·9568242 | 206 | 4·6866347 |
| 42 | 5·4102596 | 97 | 5·1925696 | 152 | 4·9522689 | 207 | 4·6811582 |
| 43 | 5·4064136 | 98 | 5·1883465 | 153 | 4·9477043 | 208 | 4·6756541 |
| 44 | 5·4025846 | 99 | 5·1841187 | 154 | 4·9431302 | 209 | 4·6701223 |
| 45 | 5·3987707 | 100 | 5·1798863 | 155 | 4·9385465 | 210 | 4·6645625 |
| 46 | 5·3949700 | 101 | 5·1756492 | 156 | 4·9339529 | 211 | 4·6589745 |
| 47 | 5·3911807 | 102 | 5·1714074 | 157 | 4·9293493 | 212 | 4·6533579 |
| 48 | 5·3874010 | 103 | 5·1671609 | 158 | 4·9247355 | 213 | 4·6477126 |
| 49 | 5·3836292 | 104 | 5·1629098 | 159 | 4·9201113 | 214 | 4·6420381 |
| 50 | 5·3798637 | 105 | 5·1586539 | 160 | 4·9154765 | 215 | 4·6363340 |
| 51 | 5·3761028 | 106 | 5·1543933 | 161 | 4·9108308 | 216 | 4·6305998 |
| 52 | 5·3723449 | 107 | 5·1501279 | 162 | 4·9061742 | 217 | 4·6248351 |
| 53 | 5·3685886 | 108 | 5·1458578 | 163 | 4·9015064 | 218 | 4·6190393 |
| 54 | 5·3648323 | 109 | 5·1415828 | 164 | 4·8968272 | 219 | 4·6132120 |

## QUARTERLY TABLE :—MALES.

## Logarithms of the Series $D_x$; Rate of Interest 3 per Cent.

MALES.

| Age ($x$) Quarter Years. | λ $D_x$ | Age ($x$) Quarter Years. | λ $D_x$ | Age ($x$) Quarter Years. | λ $D_x$ | Age ($x$) Quarter Years. | λ $D_x$ |
|---|---|---|---|---|---|---|---|
| 220 | 4·6073523 | 275 | 4·2004753 | 330 | 3·3673231 | 385 | 1·4427237 |
| 221 | 4·6014598 | 276 | 4·1905928 | 331 | 3·3446515 | 386 | 1·3917520 |
| 222 | 4·5955337 | 277 | 4·1805767 | 332 | 3·3216240 | 387 | 1·3400803 |
| 223 | 4·5895733 | 278 | 4·1704239 | 333 | 3·2982357 | 388 | 1·2877014 |
| 224 | 4·5835778 | 279 | 4·1601315 | 334 | 3·2744811 | 389 | 1·2346077 |
| 225 | 4·5775464 | 280 | 4·1496966 | 335 | 3·2503552 | 390 | 1·1807919 |
| 226 | 4·5714783 | 281 | 4·1391159 | 336 | 3·2258526 | 391 | 1·1262463 |
| 227 | 4·5653725 | 282 | 4·1283864 | 337 | 3·2009680 | 392 | 1·0709635 |
| 228 | 4·5592282 | 283 | 4·1175049 | 338 | 3·1756960 | 393 | 1·0149358 |
| 229 | 4·5530443 | 284 | 4·1064683 | 339 | 3·1500312 | 394 | 0·9581557 |
| 230 | 4·5468199 | 285 | 4·0952734 | 340 | 3·1239682 | 395 | 0·9006155 |
| 231 | 4·5405538 | 286 | 4·0839167 | 341 | 3·0975014 | 396 | 0·8423074 |
| 232 | 4·5342451 | 287 | 4·0723951 | 342 | 3·0706254 | 397 | 0·7832237 |
| 233 | 4·5278925 | 288 | 4·0607052 | 343 | 3·0433345 | 398 | 0·7233567 |
| 234 | 4·5214949 | 289 | 4·0488435 | 344 | 3·0156232 | 399 | 0·6626984 |
| 235 | 4·5150511 | 290 | 4·0368068 | 345 | 2·9874858 | 400 | 0·6012410 |
| 236 | 4·5085599 | 291 | 4·0245914 | 346 | 2·9589166 | 401 | 0·5389767 |
| 237 | 4·5020198 | 292 | 4·0121938 | 347 | 2·9299099 | 402 | 0·4758974 |
| 238 | 4·4954296 | 293 | 3·9996106 | 348 | 2·9004598 | 403 | 0·4119951 |
| 239 | 4·4887880 | 294 | 3·9868381 | 349 | 2·8705607 | 404 | 0·3472619 |
| 240 | 4·4820935 | 295 | 3·9738726 | 350 | 2·8402066 | 405 | 0·2816896 |
| 241 | 4·4753446 | 296 | 3·9607106 | 351 | 2·8093916 | 406 | 0·2152702 |
| 242 | 4·4685398 | 297 | 3·9473483 | 352 | 2·7781099 | 407 | 0·1479955 |
| 243 | 4·4616777 | 298 | 3·9337819 | 353 | 2·7463553 | 408 | 0·0798573 |
| 244 | 4·4547565 | 299 | 3·9200076 | 354 | 2·7141220 | 409 | 0·0108473 |
| 245 | 4·4477748 | 300 | 3·9060217 | 355 | 2·6814039 | 410 | 9·9409573 |
| 246 | 4·4407309 | 301 | 3·8918202 | 356 | 2·6481948 | 411 | 9·8701790 |
| 247 | 4·4336230 | 302 | 3·8773991 | 357 | 2·6144886 | 412 | 9·7985041 |
| 248 | 4·4264494 | 303 | 3·8627547 | 358 | 2·5802792 | 413 | 9·7259240 |
| 249 | 4·4192084 | 304 | 3·8478827 | 359 | 2·5455603 | 414 | 9·6524305 |
| 250 | 4·4118981 | 305 | 3·8327793 | 360 | 2·5103257 | 415 | 9·5780149 |
| 251 | 4·4045166 | 306 | 3·8174404 | 361 | 2·4745691 | 416 | 9·5026689 |
| 252 | 4·3970621 | 307 | 3·8018617 | 362 | 2·4382842 | 417 | 9·4263837 |
| 253 | 4·3895326 | 308 | 3·7860392 | 363 | 2·4014645 | 418 | 9·3491510 |
| 254 | 4·3819262 | 309 | 3·7699687 | 364 | 2·3641036 | 419 | 9·2709619 |
| 255 | 4·3742408 | 310 | 3·7536459 | 365 | 2·3261952 | 420 | 9·1918079 |
| 256 | 4·3664743 | 311 | 3·7370665 | 366 | 2·2877326 | 421 | 9·1116802 |
| 257 | 4·3586247 | 312 | 3·7202262 | 367 | 2·2487094 | 422 | 9·0305700 |
| 258 | 4·3506897 | 313 | 3·7031207 | 368 | 2·2091189 | 423 | 8·9484686 |
| 259 | 4·3426674 | 314 | 3·6857456 | 369 | 2·1689546 | 424 | 8·8653671 |
| 260 | 4·3345553 | 315 | 3·6680963 | 370 | 2·1282098 | 425 | 8·7812566 |
| 261 | 4·3263512 | 316 | 3·6501685 | 371 | 2·0868778 | 426 | 8·6961283 |
| 262 | 4·3180529 | 317 | 3·6319576 | 372 | 2·0449518 | 427 | 8·6099731 |
| 263 | 4·3096580 | 318 | 3·6134590 | 373 | 2·0024251 | 428 | 8·5227821 |
| 264 | 4·3011641 | 319 | 3·5946682 | 374 | 1·9592908 | 429 | 8·4345462 |
| 265 | 4·2925688 | 320 | 3·5755805 | 375 | 1·9155421 | 430 | 8·3452563 |
| 266 | 4·2838695 | 321 | 3·5561911 | 376 | 1·8711721 | 431 | 8·2549033 |
| 267 | 4·2750640 | 322 | 3·5364955 | 377 | 1·8261738 | 432 | 8·1634781 |
| 268 | 4·2661494 | 323 | 3·5164888 | 378 | 1·7805403 | 433 | 8·0709715 |
| 269 | 4·2571234 | 324 | 3·4961662 | 379 | 1·7342645 | 434 | 7·9773741 |
| 270 | 4·2479832 | 325 | 3·4755229 | 380 | 1·6873394 | 435 | 7·8826768 |
| 271 | 4·2387262 | 326 | 3·4545540 | 381 | 1·6397578 | 436 | 7·7868702 |
| 272 | 4·2293496 | 327 | 3·4332546 | 382 | 1·5915127 | | |
| 273 | 4·2198509 | 328 | 3·4116196 | 383 | 1·5425968 | | |
| 274 | 4·2102270 | 329 | 3·3896441 | 384 | 1·4930029 | | |

## QUARTERLY TABLE:—FEMALES.

## Logarithms of the Series $D_x$; Rate of Interest 3 per Cent.

FEMALES.

| Age ($x$) Quarter Years. | λ $D_x$ | Age ($x$) Quarter Years. | λ $D_x$ | Age ($x$) Quarter Years. | λ $D_x$ | Age ($x$) Quarter Years. | λ $D_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 5·6886465 | 55 | 5·3561828 | 110 | 5·1301617 | 165 | 4·8832877 |
| 1 | 5·6553040 | 56 | 5·3523821 | 111 | 5·1258231 | 166 | 4·8786217 |
| 2 | 5·6397594 | 57 | 5·3485770 | 112 | 5·1214792 | 167 | 4·8739480 |
| 3 | 5·6257983 | 58 | 5·3447664 | 113 | 5·1171301 | 168 | 4·8692667 |
| 4 | 5·6128267 | 59 | 5·3409492 | 114 | 5·1127758 | 169 | 4·8645775 |
| 5 | 5·6002502 | 60 | 5·3371243 | 115 | 5·1084163 | 170 | 4·8598804 |
| 6 | 5·5895074 | 61 | 5·3332906 | 116 | 5·1040515 | 171 | 4·8551752 |
| 7 | 5·5802394 | 62 | 5·3294473 | 117 | 5·0996815 | 172 | 4·8504620 |
| 8 | 5·5720875 | 63 | 5·3255934 | 118 | 5·0953062 | 173 | 4·8457405 |
| 9 | 5·5646926 | 64 | 5·3217279 | 119 | 5·0909258 | 174 | 4·8410107 |
| 10 | 5·5576961 | 65 | 5·3178501 | 120 | 5·0865400 | 175 | 4·8362724 |
| 11 | 5·5507391 | 66 | 5·3139591 | 121 | 5·0821491 | 176 | 4·8315256 |
| 12 | 5·5434626 | 67 | 5·3100543 | 122 | 5·0777528 | 177 | 4·8267702 |
| 13 | 5·5372316 | 68 | 5·3061349 | 123 | 5·0733513 | 178 | 4·8220060 |
| 14 | 5·5312316 | 69 | 5·3022003 | 124 | 5·0689445 | 179 | 4·8172328 |
| 15 | 5·5254447 | 70 | 5·2982499 | 125 | 5·0645324 | 180 | 4·8124507 |
| 16 | 5·5198534 | 71 | 5·2942831 | 126 | 5·0601150 | 181 | 4·8076595 |
| 17 | 5·5144413 | 72 | 5·2902995 | 127 | 5·0556922 | 182 | 4·8028590 |
| 18 | 5·5091925 | 73 | 5·2862985 | 128 | 5·0512641 | 183 | 4·7980491 |
| 19 | 5·5040920 | 74 | 5·2822798 | 129 | 5·0468305 | 184 | 4·7932298 |
| 20 | 5·4991255 | 75 | 5·2782431 | 130 | 5·0423916 | 185 | 4·7884008 |
| 21 | 5·4942795 | 76 | 5·2741879 | 131 | 5·0379472 | 186 | 4·7835621 |
| 22 | 5·4895412 | 77 | 5·2701142 | 132 | 5·0334974 | 187 | 4·7787135 |
| 23 | 5·4848985 | 78 | 5·2660215 | 133 | 5·0290420 | 188 | 4·7738550 |
| 24 | 5·4803403 | 79 | 5·2619098 | 134 | 5·0245811 | 189 | 4·7689863 |
| 25 | 5·4758560 | 80 | 5·2577790 | 135 | 5·0201147 | 190 | 4·7641073 |
| 26 | 5·4714359 | 81 | 5·2536094 | 136 | 5·0156426 | 191 | 4·7592179 |
| 27 | 5·4670709 | 82 | 5·2494336 | 137 | 5·0111649 | 192 | 4·7543179 |
| 28 | 5·4627529 | 83 | 5·2452515 | 138 | 5·0066816 | 193 | 4·7494073 |
| 29 | 5·4584521 | 84 | 5·2410633 | 139 | 5·0021925 | 194 | 4·7444859 |
| 30 | 5·4541967 | 85 | 5·2368691 | 140 | 4·9976976 | 195 | 4·7395534 |
| 31 | 5·4499840 | 86 | 5·2326687 | 141 | 4·9931969 | 196 | 4·7346099 |
| 32 | 5·4458119 | 87 | 5·2284624 | 142 | 4·9886904 | 197 | 4·7296551 |
| 33 | 5·4416778 | 88 | 5·2242502 | 143 | 4·9841780 | 198 | 4·7246888 |
| 34 | 5·4375795 | 89 | 5·2200321 | 144 | 4·9796596 | 199 | 4·7197110 |
| 35 | 5·4335147 | 90 | 5·2158081 | 145 | 4·9751352 | 200 | 4·7147215 |
| 36 | 5·4294812 | 91 | 5·2115784 | 146 | 4·9706047 | 201 | 4·7097201 |
| 37 | 5·4254768 | 92 | 5·2073429 | 147 | 4·9660681 | 202 | 4·7047067 |
| 38 | 5·4214993 | 93 | 5·2031017 | 148 | 4·9615253 | 203 | 4·6996811 |
| 39 | 5·4175468 | 94 | 5·1988549 | 149 | 4·9569763 | 204 | 4·6946431 |
| 40 | 5·4136171 | 95 | 5·1946024 | 150 | 4·9524210 | 205 | 4·6895926 |
| 41 | 5·4097084 | 96 | 5·1903444 | 151 | 4·9478594 | 206 | 4·6845294 |
| 42 | 5·4058185 | 97 | 5·1860808 | 152 | 4·9432913 | 207 | 4·6794534 |
| 43 | 5·4019458 | 98 | 5·1818116 | 153 | 4·9387167 | 208 | 4·6743644 |
| 44 | 5·3980883 | 99 | 5·1775370 | 154 | 4·9341355 | 209 | 4·6692622 |
| 45 | 5·3942442 | 100 | 5·1732570 | 155 | 4·9295477 | 210 | 4·6641466 |
| 46 | 5·3904118 | 101 | 5·1689715 | 156 | 4·9249532 | 211 | 4·6590175 |
| 47 | 5·3865895 | 102 | 5·1646806 | 157 | 4·9203519 | 212 | 4·6538747 |
| 48 | 5·3827754 | 103 | 5·1603844 | 158 | 4·9157437 | 213 | 4·6487181 |
| 49 | 5·3789682 | 104 | 5·1560828 | 159 | 4·9111286 | 214 | 4·6435473 |
| 50 | 5·3751661 | 105 | 5·1517758 | 160 | 4·9065065 | 215 | 4·6383624 |
| 51 | 5·3713677 | 106 | 5·1474636 | 161 | 4·9018773 | 216 | 4·6331630 |
| 52 | 5·3675716 | 107 | 5·1431460 | 162 | 4·8972409 | 217 | 4·6278141 |
| 53 | 5·3637763 | 108 | 5·1388232 | 163 | 4·8925972 | 218 | 4·6224299 |
| 54 | 5·3599805 | 109 | 5·1344950 | 164 | 4·8879462 | 219 | 4·6170100 |

## QUARTERLY TABLE:—FEMALES.

## Logarithms of the Series $D_x$; Rate of Interest 3 per Cent.

FEMALES.

| Age ($x$) Quarter Years. | λ $D_x$ | Age ($x$) Quarter Years. | λ $D_x$ | Age ($x$) Quarter Years. | λ $D_x$ | Age ($x$) Quarter Years. | λ $D_x$ |
|---|---|---|---|---|---|---|---|
| 220 | 4·6115543 | 275 | 4·2306256 | 330 | 3·4589318 | 385 | 1·6566572 |
| 221 | 4·6060624 | 276 | 4·2214339 | 331 | 3·4378976 | 386 | 1·6085279 |
| 222 | 4·6005339 | 277 | 4·2121211 | 332 | 3·4165285 | 387 | 1·5597206 |
| 223 | 4·5949686 | 278 | 4·2026845 | 333 | 3·3948193 | 388 | 1·5102277 |
| 224 | 4·5893660 | 279 | 4·1931213 | 334 | 3·3727649 | 389 | 1·4600418 |
| 225 | 4·5837256 | 280 | 4·1834286 | 335 | 3·3503602 | 390 | 1·4091554 |
| 226 | 4·5780468 | 281 | 4·1736036 | 336 | 3·3276000 | 391 | 1·3575609 |
| 227 | 4·5723292 | 282 | 4·1636434 | 337 | 3·3044789 | 392 | 1·3052507 |
| 228 | 4·5665722 | 283 | 4·1535451 | 338 | 3·2809917 | 393 | 1·2522172 |
| 229 | 4·5607750 | 284 | 4·1433057 | 339 | 3·2571331 | 394 | 1·1984526 |
| 230 | 4·5549371 | 285 | 4·1329220 | 340 | 3·2328976 | 395 | 1·1439493 |
| 231 | 4·5490576 | 286 | 4·1223911 | 341 | 3·2082798 | 396 | 1·0886994 |
| 232 | 4·5431359 | 287 | 4·1117099 | 342 | 3·1832744 | 397 | 1·0326951 |
| 233 | 4·5371711 | 288 | 4·1008751 | 343 | 3·1578756 | 398 | 0·9759286 |
| 234 | 4·5311623 | 289 | 4·0898836 | 344 | 3·1320781 | 399 | 0·9183920 |
| 235 | 4·5251087 | 290 | 4·0787321 | 345 | 3·1058762 | 400 | 0·8600773 |
| 236 | 4·5190094 | 291 | 4·0674173 | 346 | 3·0792642 | 401 | 0·8009765 |
| 237 | 4·5128632 | 292 | 4·0559359 | 347 | 3·0522365 | 402 | 0·7410816 |
| 238 | 4·5066693 | 293 | 4·0442845 | 348 | 3·0247874 | 403 | 0·6803846 |
| 239 | 4·5004266 | 294 | 4·0324598 | 349 | 2·9969111 | 404 | 0·6188772 |
| 240 | 4·4941338 | 295 | 4·0204581 | 350 | 2·9686017 | 405 | 0·5565514 |
| 241 | 4·4877900 | 296 | 4·0082761 | 351 | 2·9398534 | 406 | 0·4933989 |
| 242 | 4·4813938 | 297 | 3·9959102 | 352 | 2·9106604 | 407 | 0·4294114 |
| 243 | 4·4749441 | 298 | 3·9833568 | 353 | 2·8810166 | 408 | 0·3645808 |
| 244 | 4·4684395 | 299 | 3·9706123 | 354 | 2·8509162 | 409 | 0·2988987 |
| 245 | 4·4618788 | 300 | 3·9576729 | 355 | 2·8203530 | 410 | 0·2323566 |
| 246 | 4·4552605 | 301 | 3·9445351 | 356 | 2·7893210 | 411 | 0·1649462 |
| 247 | 4·4485833 | 302 | 3·9311949 | 357 | 2·7578142 | 412 | 0·0966590 |
| 248 | 4·4418458 | 303 | 3·9176487 | 358 | 2·7258262 | 413 | 0·0274865 |
| 249 | 4·4350463 | 304 | 3·9038925 | 359 | 2·6933510 | 414 | 9·9574201 |
| 250 | 4·4281834 | 305 | 3·8899225 | 360 | 2·6603824 | 415 | 9·8864513 |
| 251 | 4·4212555 | 306 | 3·8757347 | 361 | 2·6269139 | 416 | 9·8145715 |
| 252 | 4·4142610 | 307 | 3·8613252 | 362 | 2·5929394 | 417 | 9·7417719 |
| 253 | 4·4071982 | 308 | 3·8466900 | 363 | 2·5584523 | 418 | 9·6680439 |
| 254 | 4·4000654 | 309 | 3·8318250 | 364 | 2·5234464 | 419 | 9·5933786 |
| 255 | 4·3928609 | 310 | 3·8167260 | 365 | 2·4879152 | 420 | 9·5177674 |
| 256 | 4·3855828 | 311 | 3·8013891 | 366 | 2·4518522 | 421 | 9·4412012 |
| 257 | 4·3782293 | 312 | 3·7858098 | 367 | 2·4152508 | 422 | 9·3636713 |
| 258 | 4·3707985 | 313 | 3·7699842 | 368 | 2·3781045 | 423 | 9·2851688 |
| 259 | 4·3632886 | 314 | 3·7539077 | 369 | 2·3404066 | 424 | 9·2056845 |
| 260 | 4·3556975 | 315 | 3·7375762 | 370 | 2·3021504 | 425 | 9·1252096 |
| 261 | 4·3480232 | 316 | 3·7209853 | 371 | 2·2633293 | 426 | 9·0437350 |
| 262 | 4·3402638 | 317 | 3·7041306 | 372 | 2·2239366 | 427 | 8·9612515 |
| 263 | 4·3324170 | 318 | 3·6870077 | 373 | 2·1839653 | 428 | 8·8777501 |
| 264 | 4·3244808 | 319 | 3·6696119 | 374 | 2·1434088 | 429 | 8·7932215 |
| 265 | 4·3164530 | 320 | 3·6519389 | 375 | 2·1022600 | 430 | 8·7076564 |
| 266 | 4·3083313 | 321 | 3·6339841 | 376 | 2·0605121 | 431 | 8·6210458 |
| 267 | 4·3001135 | 322 | 3·6157428 | 377 | 2·0181581 | 432 | 8·5333801 |
| 268 | 4·2917973 | 323 | 3·5972104 | 378 | 1·9751911 | 433 | 8·4446501 |
| 269 | 4·2833804 | 324 | 3·5783821 | 379 | 1·9316038 | 434 | 8·3548463 |
| 270 | 4·2748602 | 325 | 3·5592533 | 380 | 1·8873894 | 435 | 8·2639594 |
| 271 | 4·2662345 | 326 | 3·5398192 | 381 | 1·8425405 | 436 | 8·1719798 |
| 272 | 4·2575008 | 327 | 3·5200748 | 382 | 1·7970501 | | |
| 273 | 4·2486564 | 328 | 3·5000154 | 383 | 1·7509110 | | |
| 274 | 4·2396989 | 329 | 3·4796361 | 384 | 1·7041158 | | |

## QUARTERLY TABLE:—MALES.

The **Numbers Born,** and **Living** at each Age ($l_x$).

| Age ($x$) | $l_x$ | Age ($x$) | $l_x$ | Age ($x$) | $l_x$ | Age ($x$) | $l_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 511,745 | 14 | 345,969 | 28 | 310,581 | 42 | 264,948 |
| 0¼ | 468,560 | 14¼ | 345,556 | 28¼ | 309,831 | 42¼ | 264,038 |
| 0½ | 452,597 | 14½ | 345,139 | 28½ | 309,080 | 42½ | 263,123 |
| 0¾ | 439,100 | 14¾ | 344,717 | 28¾ | 308,327 | 42¾ | 262,204 |
| 1 | 428,026 | 15 | 344,290 | 29 | 307,572 | 43 | 261,280 |
| 1¼ | 419,358 | 15¼ | 343,856 | 29¼ | 306,815 | 43¼ | 260,351 |
| 1½ | 411,999 | 15½ | 343,415 | 29½ | 306,057 | 43½ | 259,417 |
| 1¾ | 405,768 | 15¾ | 342,967 | 29¾ | 305,296 | 43¾ | 258,478 |
| 2 | 400,505 | 16 | 342,509 | 30 | 304,534 | 44 | 257,534 |
| 2¼ | 396,060 | 16¼ | 342,043 | 30¼ | 303,770 | 44¼ | 256,586 |
| 2½ | 392,294 | 16½ | 341,566 | 30½ | 303,004 | 44½ | 255,632 |
| 2¾ | 389,079 | 16¾ | 341,079 | 30¾ | 302,236 | 44¾ | 254,672 |
| 3 | 386,290 | 17 | 340,581 | 31 | 301,466 | 45 | 253,708 |
| 3¼ | 383,700 | 17¼ | 340,071 | 31¼ | 300.694 | 45¼ | 252,738 |
| 3½ | 381,312 | 17½ | 339,550 | 31½ | 299,920 | 45½ | 251,763 |
| 3¾ | 379,110 | 17¾ | 339,016 | 31¾ | 299,144 | 45¾ | 250,782 |
| 4 | 377,077 | 18 | 338,469 | 32 | 298,366 | 46 | 249,796 |
| 4¼ | 375,199 | 18¼ | 337,909 | 32¼ | 297,586 | 46¼ | 248,804 |
| 4½ | 373,461 | 18½ | 337,336 | 32½ | 296,804 | 46½ | 247,807 |
| 4¾ | 371,852 | 18¾ | 336,749 | 32¾ | 296,019 | 46¾ | 246,804 |
| 5 | 370,358 | 19 | 336,149 | 33 | 295,232 | 47 | 245,795 |
| 5¼ | 368,968 | 19¼ | 335,534 | 33¼ | 294,443 | 47¼ | 244,780 |
| 5½ | 367,672 | 19½ | 334,906 | 33½ | 293,651 | 47½ | 243,759 |
| 5¾ | 366,461 | 19¾ | 334,264 | 33¾ | 292,857 | 47¾ | 242,733 |
| 6 | 365,325 | 20 | 333,608 | 34 | 292,061 | 48 | 241,700 |
| 6¼ | 364,255 | 20¼ | 332,921 | 34¼ | 291,262 | 48¼ | 240,661 |
| 6½ | 363,244 | 20½ | 332,231 | 34½ | 290,461 | 48½ | 239,617 |
| 6¾ | 362,285 | 20¾ | 331,539 | 34¾ | 289,657 | 48¾ | 238,566 |
| 7 | 361,372 | 21 | 330,844 | 35 | 288,850 | 49 | 237,508 |
| 7¼ | 360,482 | 21¼ | 330,147 | 35¼ | 288,041 | 49¼ | 236,445 |
| 7½ | 359,635 | 21½ | 329,448 | 35½ | 287,229 | 49½ | 235,375 |
| 7¾ | 358,830 | 21¾ | 328,747 | 35¾ | 286,414 | 49¾ | 234,299 |
| 8 | 358,062 | 22 | 328,043 | 36 | 285,596 | 50 | 233,216 |
| 8¼ | 357,330 | 22¼ | 327,337 | 36¼ | 284,776 | 50¼ | 232,127 |
| 8½ | 356,632 | 22½ | 326,629 | 36½ | 283,952 | 50½ | 231,032 |
| 8¾ | 355,965 | 22¾ | 325,919 | 36¾ | 283,125 | 50¾ | 229,930 |
| 9 | 355,328 | 23 | 325,207 | 37 | 282,296 | 51 | 228,821 |
| 9¼ | 354,718 | 23¼ | 324,493 | 37¼ | 281,463 | 51¼ | 227,677 |
| 9½ | 354,133 | 23½ | 323,777 | 37½ | 280,626 | 51½ | 226,525 |
| 9¾ | 353,571 | 23¾ | 323,059 | 37¾ | 279,787 | 51¾ | 225,364 |
| 10 | 353,031 | 24 | 322,339 | 38 | 278,944 | 52 | 224,195 |
| 10¼ | 352,510 | 24¼ | 321,618 | 38¼ | 278,098 | 52¼ | 223,017 |
| 10½ | 352,007 | 24½ | 320,894 | 38½ | 277,248 | 52½ | 221,832 |
| 10¾ | 351,521 | 24¾ | 320,169 | 38¾ | 276,395 | 52¾ | 220,638 |
| 11 | 351,048 | 25 | 319,442 | 39 | 275,538 | 53 | 219,437 |
| 11¼ | 350,589 | 25¼ | 318,713 | 39¼ | 274,677 | 53¼ | 218,227 |
| 11½ | 350,141 | 25½ | 317,982 | 39½ | 273,813 | 53½ | 217,010 |
| 11¾ | 349,702 | 25¾ | 317,250 | 39¾ | 272,945 | 53¾ | 215,785 |
| 12 | 349,272 | 26 | 316,516 | 40 | 272,073 | 54 | 214,552 |
| 12¼ | 348,849 | 26¼ | 315,780 | 40¼ | 271,197 | 54¼ | 213,310 |
| 12½ | 348,431 | 26½ | 315,042 | 40½ | 270,317 | 54½ | 212,061 |
| 12¾ | 348,017 | 26¾ | 314,303 | 40¾ | 269,433 | 54¾ | 210,804 |
| 13 | 347,606 | 27 | 313,562 | 41 | 268,544 | 55 | 209,539 |
| 13¼ | 347,197 | 27¼ | 312,820 | 41¼ | 267,652 | 55¼ | 208,265 |
| 13½ | 346,789 | 27½ | 312,075 | 41½ | 266,755 | 55½ | 206,984 |
| 13¾ | 346,380 | 27¾ | 311,329 | 41¾ | 265,854 | 55¾ | 205,693 |

## QUARTERLY TABLE:—Males.

The Numbers Born, and Living at each Age ($l_x$).

| Age ($x$) | $l_x$ | Age ($x$) | $l_x$ | Age ($x$) | $l_x$ | Age ($x$) | $l_x$ |
|---|---|---|---|---|---|---|---|
| 56 | 204,395 | 70 | 114,370 | 84 | 20,711 | 98 | 220 |
| 56¼ | 203,088 | 70¼ | 112,454 | 84¼ | 19,704 | 98¼ | 195 |
| 56½ | 201,772 | 70½ | 110,533 | 84½ | 18,729 | 98½ | 172 |
| 56¾ | 200,447 | 70¾ | 108,606 | 84¾ | 17,787 | 98¾ | 152 |
| 57 | 199,114 | 71 | 106,675 | 85 | 16,877 | 99 | 134 |
| 57¼ | 197,771 | 71¼ | 104,740 | 85¼ | 15,998 | 99¼ | 118 |
| 57½ | 196,419 | 71½ | 102,802 | 85½ | 15,151 | 99½ | 103 |
| 57¾ | 195,057 | 71¾ | 100,862 | 85¾ | 14,335 | 99¾ | 91 |
| 58 | 193,686 | 72 | 98,919 | 86 | 13,549 | 100 | 79 |
| 58¼ | 192,305 | 72¼ | 96,976 | 86¼ | 12,795 | 100¼ | 69 |
| 58½ | 190,914 | 72½ | 95,033 | 86½ | 12,070 | 100½ | 60 |
| 58¾ | 189,513 | 72¾ | 93,090 | 86¾ | 11,375 | 100¾ | 52 |
| 59 | 188,102 | 73 | 91,149 | 87 | 10,709 | 101 | 46 |
| 59¼ | 186,680 | 73¼ | 89,210 | 87¼ | 10,071 | 101¼ | 39 |
| 59½ | 185,248 | 73½ | 87,274 | 87½ | 9,462 | 101½ | 34 |
| 59¾ | 183,805 | 73¾ | 85,342 | 87¾ | 8,880 | 101¾ | 29 |
| 60 | 182,350 | 74 | 83,416 | 88 | 8,325 | 102 | 25 |
| 60¼ | 180,885 | 74¼ | 81,495 | 88¼ | 7,796 | 102¼ | 22 |
| 60½ | 179,409 | 74½ | 79,581 | 88½ | 7,292 | 102½ | 19 |
| 60¾ | 177,920 | 74¾ | 77,675 | 88¾ | 6,814 | 102¾ | 16 |
| 61 | 176,421 | 75 | 75,777 | 89 | 6,360 | 103 | 14 |
| 61¼ | 174,909 | 75¼ | 73,889 | 89¼ | 5,929 | 103¼ | 12 |
| 61½ | 173,386 | 75½ | 72,012 | 89½ | 5,521 | 103½ | 10 |
| 61¾ | 171,851 | 75¾ | 70,147 | 89¾ | 5,135 | 103¾ | 8 |
| 62 | 170,303 | 76 | 68,294 | 90 | 4,770 | 104 | 7 |
| 62¼ | 168,744 | 76¼ | 66,454 | 90¼ | 4,426 | 104¼ | 6 |
| 62½ | 167,171 | 76½ | 64,629 | 90½ | 4,102 | 104½ | 5 |
| 62¾ | 165,587 | 76¾ | 62,819 | 90¾ | 3,797 | 104¾ | 4 |
| 63 | 163,989 | 77 | 61,026 | 91 | 3,510 | 105 | 4 |
| 63¼ | 162,380 | 77¼ | 59,250 | 91¼ | 3,241 | 105¼ | 3 |
| 63½ | 160,757 | 77½ | 57,493 | 91½ | 2,988 | 105½ | 3 |
| 63¾ | 159,122 | 77¾ | 55,754 | 91¾ | 2,752 | 105¾ | 2 |
| 64 | 157,474 | 78 | 54,036 | 92 | 2,531 | 106 | 2 |
| 64¼ | 155,813 | 78¼ | 52,[illegible]39 | 92¼ | 2,325 | 106¼ | 1 |
| 64½ | 154,139 | 78½ | 50,663 | 92½ | 2,132 | 106½ | 1 |
| 64¾ | 152,453 | 78¾ | 49,010 | 92¾ | 1,953 | 106¾ | 1 |
| 65 | 150,754 | 79 | 47,381 | 93 | 1,787 | 107 | 1 |
| 65¼ | 149,043 | 79¼ | 45,776 | 93¼ | 1,632 | 107¼ | 1 |
| 65½ | 147,319 | 79½ | 44,196 | 93½ | 1,489 | 107½ | 1 |
| 65¾ | 145,582 | 79¾ | 42,642 | 93¾ | 1,357 | 107¾ | ... |
| 66 | 143,833 | 80 | 41,115 | 94 | 1,234 | | |
| 66¼ | 142,072 | 80¼ | 39,614 | 94¼ | 1,121 | | |
| 66½ | 140,299 | 80½ | 38,142 | 94½ | 1,017 | | |
| 66¾ | 138,514 | 80¾ | 36,698 | 94¾ | 921 | | |
| 67 | 136,718 | 81 | 35,283 | 95 | 833 | | |
| 67¼ | 134,910 | 81¼ | 33,897 | 95¼ | 752 | | |
| 67½ | 133,091 | 81½ | 32,542 | 95½ | 678 | | |
| 67¾ | 131,261 | 81¾ | 31,217 | 95¾ | 610 | | |
| 68 | 129,421 | 82 | 29,922 | 96 | 548 | | |
| 68¼ | 127,571 | 82¼ | 28,659 | 96¼ | 492 | | |
| 68½ | 125,711 | 82½ | 27,428 | 96½ | 441 | | |
| 68¾ | 123,841 | 82¾ | 26,228 | 96¾ | 394 | | |
| 69 | 121,963 | 83 | 25,060 | 97 | 352 | | |
| 69¼ | 120,076 | 83¼ | 23,924 | 97¼ | 314 | | |
| 69½ | 118,181 | 83½ | 22,821 | 97½ | 279 | | |
| 69¾ | 116,279 | 83¾ | 21,749 | 97¾ | 248 | | |

## QUARTERLY TABLE:—Females.

The **Numbers Born**, and **Living** at each Age ($l_x$).

| Age ($x$) | $l_x$ | Age ($x$) | $l_x$ | Age ($x$) | $l_x$ | Age ($x$) | $l_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 488,255 | 14 | 342,062 | 28 | 305,440 | 42 | 259,678 |
| 0¼ | 455,564 | 14¼ | 341,621 | 28¼ | 304,664 | 42¼ | 258,816 |
| 0½ | 442,843 | 14½ | 341,177 | 28½ | 303,887 | 42½ | 257,952 |
| 0¾ | 432,050 | 14¾ | 340,728 | 28¾ | 303,108 | 42¾ | 257,087 |
| 1 | 422,481 | 15 | 340,273 | 29 | 302,328 | 43 | 256,219 |
| 1¼ | 413,500 | 15¼ | 339,812 | 29¼ | 301,546 | 43¼ | 255,349 |
| 1½ | 406,422 | 15½ | 339,344 | 29½ | 300,762 | 43½ | 254,478 |
| 1¾ | 400,825 | 15¾ | 338,869 | 29¾ | 299,977 | 43¾ | 253,605 |
| 2 | 396,322 | 16 | 338,385 | 30 | 299,190 | 44 | 252,729 |
| 2¼ | 392,553 | 16¼ | 337,893 | 30¼ | 298,401 | 44¼ | 251,852 |
| 2½ | 389,177 | 16½ | 337.390 | 30½ | 297,611 | 44½ | 250,972 |
| 2¾ | 385,864 | 16¾ | 336,878 | 30¾ | 296,820 | 44¾ | 250,091 |
| 3 | 382,299 | 17 | 336,356 | 31 | 296,027 | 45 | 249,207 |
| 3¼ | 379,680 | 17¼ | 335,822 | 31¼ | 295,233 | 45¼ | 248,322 |
| 3½ | 377,279 | 17½ | 335,277 | 31½ | 294,437 | 45½ | 247,434 |
| 3¾ | 375,077 | 17¾ | 334,720 | 31¾ | 293,639 | 45¾ | 246,544 |
| 4 | 373,056 | 18 | 334,151 | 32 | 292,840 | 46 | 245,652 |
| 4¼ | 371,199 | 18¼ | 333,570 | 32¼ | 292,040 | 46¼ | 244,758 |
| 4½ | 369,491 | 18½ | 332,977 | 32½ | 291,238 | 46½ | 243,861 |
| 4¾ | 367,915 | 18¾ | 332,370 | 32¾ | 290,435 | 46¾ | 242,962 |
| 5 | 366,460 | 19 | 331,751 | 33 | 289,631 | 47 | 242,061 |
| 5¼ | 365,112 | 19¼ | 331,118 | 33¼ | 288,825 | 47¼ | 241,158 |
| 5½ | 363,858 | 19½ | 330,473 | 33½ | 288,017 | 47½ | 240,252 |
| 5¾ | 362,689 | 19¾ | 329,814 | 33¾ | 287,208 | 47¾ | 239,344 |
| 6 | 361,594 | 20 | 329,142 | 34 | 286,398 | 48 | 238,434 |
| 6¼ | 360,564 | 20¼ | 328,442 | 34¼ | 285,586 | 48¼ | 237,521 |
| 6½ | 359,590 | 20½ | 327,739 | 34½ | 284,773 | 48½ | 236,606 |
| 6¾ | 358,664 | 20¾ | 327,033 | 34¾ | 283,959 | 48¾ | 235,689 |
| 7 | 357,779 | 21 | 326,323 | 35 | 283,143 | 49 | 234,769 |
| 7¼ | 356,910 | 21¼ | 325,611 | 35¼ | 282,325 | 49¼ | 233,846 |
| 7½ | 356,081 | 21½ | 324,895 | 35½ | 281,506 | 49½ | 232,922 |
| 7¾ | 355,288 | 21¾ | 324,177 | 35¾ | 280,686 | 49¾ | 231,994 |
| 8 | 354,530 | 22 | 323,456 | 36 | 279,864 | 50 | 231,064 |
| 8¼ | 353,805 | 22¼ | 322,732 | 36¼ | 279,041 | 50¼ | 230,132 |
| 8½ | 353,111 | 22½ | 322,005 | 36½ | 278,216 | 50½ | 229,196 |
| 8¾ | 352,445 | 22¾ | 321,276 | 36¾ | 277,390 | 50¾ | 228,259 |
| 9 | 351,806 | 23 | 320,544 | 37 | 276,563 | 51 | 227,318 |
| 9¼ | 351,191 | 23¼ | 319,810 | 37¼ | 275,734 | 51¼ | 226,375 |
| 9½ | 350,600 | 23½ | 319,073 | 37½ | 274,903 | 51½ | 225,430 |
| 9¾ | 350,029 | 23¾ | 318,334 | 37¾ | 274,071 | 51¾ | 224,481 |
| 10 | 349,478 | 24 | 317,592 | 38 | 273,237 | 52 | 223,530 |
| 10¼ | 348,944 | 24¼ | 316,848 | 38¼ | 272,402 | 52¼ | 222,576 |
| 10½ | 348,426 | 24½ | 316,102 | 38½ | 271,565 | 52½ | 221,620 |
| 10¾ | 347,923 | 24¾ | 315,353 | 38¾ | 270,727 | 52¾ | 220,660 |
| 11 | 347,433 | 25 | 314,603 | 39 | 269,887 | 53 | 219,698 |
| 11¼ | 346,954 | 25¼ | 313,850 | 39¼ | 269,045 | 53¼ | 218,733 |
| 11½ | 346,485 | 25½ | 313,095 | 39½ | 268,202 | 53½ | 217,766 |
| 11¾ | 346,025 | 25¾ | 312,338 | 39¾ | 267,357 | 53¾ | 216,795 |
| 12 | 345,572 | 26 | 311,579 | 40 | 266,511 | 54 | 215,822 |
| 12¼ | 345,125 | 26¼ | 310,818 | 40¼ | 265,663 | 54¼ | 214,779 |
| 12½ | 344,682 | 26½ | 310,056 | 40½ | 264,813 | 54½ | 213,723 |
| 12¾ | 344,243 | 26¾ | 309,291 | 40¾ | 263,962 | 54¾ | 212,656 |
| 13 | 343,807 | 27 | 308,524 | 41 | 263,109 | 55 | 211,576 |
| 13¼ | 343,371 | 27¼ | 307,756 | 41¼ | 262,254 | 55¼ | 210,484 |
| 13½ | 342,936 | 27½ | 306,985 | 41½ | 261,397 | 55½ | 209,380 |
| 13¾ | 342.500 | 27¾ | 306,213 | 41¾ | 260,539 | 55¾ | 208,265 |

## QUARTERLY TABLE:—FEMALES.

### The Numbers Born, and Living at each Age ($l_x$).

| Age ($x$) | $l_x$ | Age ($x$) | $l_x$ | Age ($x$) | $l_x$ | Age ($x$) | $l_x$ |
|---|---|---|---|---|---|---|---|
| 56 | 207,137 | 70 | 123,607 | 84 | 26,178 | 98 | 378 |
| 56¼ | 205,998 | 70¼ | 121,749 | 84¼ | 25,007 | 98¼ | 337 |
| 56½ | 204,847 | 70½ | 119,881 | 84½ | 23,868 | 98½ | 300 |
| 56¾ | 203,684 | 70¾ | 118,004 | 84¾ | 22,762 | 98¾ | 267 |
| 57 | 202,509 | 71 | 116,118 | 85 | 21,688 | 99 | 236 |
| 57¼ | 201,323 | 71¼ | 114,225 | 85¼ | 20,646 | 99¼ | 209 |
| 57½ | 200,124 | 71½ | 112,325 | 85½ | 19,637 | 99½ | 185 |
| 57¾ | 198,914 | 71¾ | 110,418 | 85¾ | 18,661 | 99¾ | 163 |
| 58 | 197,692 | 72 | 108,505 | 86 | 17,716 | 100 | 144 |
| 58¼ | 196,458 | 72¼ | 106,587 | 86¼ | 16,804 | 100¼ | 127 |
| 58½ | 195,211 | 72½ | 104,664 | 86½ | 15,924 | 100½ | 111 |
| 58¾ | 193,953 | 72¾ | 102,737 | 86¾ | 15,075 | 100¾ | 97 |
| 59 | 192,683 | 73 | 100,807 | 87 | 14,258 | 101 | 85 |
| 59¼ | 191,400 | 73¼ | 98,875 | 87¼ | 13,472 | 101¼ | 74 |
| 59½ | 190,105 | 73½ | 96,941 | 87½ | 12,717 | 101½ | 65 |
| 59¾ | 188,797 | 73¾ | 95,006 | 87¾ | 11,991 | 101¾ | 56 |
| 60 | 187,477 | 74 | 93,071 | 88 | 11,296 | 102 | 49 |
| 60¼ | 186,144 | 74¼ | 91,136 | 88¼ | 10,630 | 102¼ | 42 |
| 60½ | 184,798 | 74½ | 89,204 | 88½ | 9,992 | 102½ | 37 |
| 60¾ | 183,439 | 74¾ | 87,274 | 88¾ | 9,383 | 102¾ | 32 |
| 61 | 182,068 | 75 | 85,347 | 89 | 8,802 | 103 | 27 |
| 61¼ | 180,683 | 75¼ | 83,425 | 89¼ | 8,247 | 103¼ | 23 |
| 61½ | 179,285 | 75½ | 81,508 | 89½ | 7,719 | 103½ | 20 |
| 61¾ | 177,874 | 75¾ | 79,598 | 89¾ | 7,216 | 103¾ | 17 |
| 62 | 176,449 | 76 | 77,694 | 90 | 6,739 | 104 | 15 |
| 62¼ | 175,011 | 76¼ | 75,799 | 90¼ | 6,286 | 104¼ | 12 |
| 62½ | 173,559 | 76½ | 73,913 | 90½ | 5,857 | 104½ | 11 |
| 62¾ | 172,093 | 76¾ | 72,037 | 90¾ | 5,450 | 104¾ | 9 |
| 63 | 170,614 | 77 | 70,173 | 91 | 5,066 | 105 | 8 |
| 63¼ | 169,121 | 77¼ | 68,320 | 91¼ | 4,703 | 105¼ | 6 |
| 63½ | 167,614 | 77½ | 66,480 | 91½ | 4,361 | 105½ | 5 |
| 63¾ | 166,092 | 77¾ | 64,655 | 91¾ | 4,038 | 105¾ | 5 |
| 64 | 164,557 | 78 | 62,844 | 92 | 3,735 | 106 | 4 |
| 64¼ | 163,008 | 78¼ | 61,050 | 92¼ | 3,450 | 106¼ | 3 |
| 64½ | 161,444 | 78½ | 59,273 | 92½ | 3,183 | 106½ | 3 |
| 64¾ | 159,867 | 78¾ | 57,513 | 92¾ | 2,933 | 106¾ | 2 |
| 65 | 158,275 | 79 | 55,773 | 93 | 2,698 | 107 | 2 |
| 65¼ | 156,669 | 79¼ | 54,052 | 93¼ | 2,480 | 107¼ | 2 |
| 65½ | 155,049 | 79½ | 52,352 | 93½ | 2,275 | 107½ | 1 |
| 65¾ | 153,414 | 79¾ | 50,674 | 93¾ | 2,085 | 107¾ | 1 |
| 66 | 151,766 | 80 | 49,018 | 94 | 1,908 | 108 | 1 |
| 66¼ | 150,104 | 80¼ | 47,386 | 94¼ | 1.744 | 108¼ | 1 |
| 66½ | 148,428 | 80½ | 45,777 | 94½ | 1,592 | 108½ | 1 |
| 66¾ | 146,738 | 80¾ | 44,194 | 94¾ | 1,450 | 108¾ | ... |
| 67 | 145,035 | 81 | 42,636 | 95 | 1,320 | | |
| 67¼ | 143,318 | 81¼ | 41,105 | 95¼ | 1,199 | | |
| 67½ | 141,588 | 81½ | 39,601 | 95½ | 1,088 | | |
| 67¾ | 139,844 | 81¾ | 38,125 | 95¾ | 986 | | |
| 68 | 138,088 | 82 | 36,677 | 96 | 892 | | |
| 68¼ | 136,319 | 82¼ | 35,258 | 96¼ | 805 | | |
| 68½ | 134,538 | 82½ | 33,869 | 96½ | 726 | | |
| 68¾ | 132,744 | 82¾ | 32,510 | 96¾ | 654 | | |
| 69 | 130,939 | 83 | 31,181 | 97 | 588 | | |
| 69¼ | 129,122 | 83¼ | 29,883 | 97¼ | 528 | | |
| 69½ | 127,295 | 83½ | 28,616 | 97½ | 473 | | |
| 69¾ | 125,456 | 83¾ | 27,381 | 97¾ | 423 | | |

## QUARTERLY TABLE :—MALES. Interest 3 per Cent.

| Age $(x)$ | $D_x$ | $N_x$ | $\lambda N_x$ | Age $(x)$ | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 511,745 | 38,110,610 | 7·5810457 | 14 | 227,675 | 20,770,892 | 7·3174553 |
| 0¼ | 465,072 | 37,598,865 | 7·5751751 | 14¼ | 225,710 | 20,543,217 | 7·3126681 |
| 0½ | 445,885 | 37,133,793 | 7·5697694 | 14½ | 223,759 | 20,317,507 | 7·3078703 |
| 0¾ | 429,367 | 36,687,908 | 7·5645228 | 14¾ | 221,822 | 20,093,748 | 7·3030599 |
| 1 | 415,422 | 36,258,541 | 7·5594098 | 15 | 219,898 | 19,871,926 | 7·2982394 |
| 1¼ | 403,980 | 35,843,119 | 7·5544056 | 15¼ | 217,986 | 19,652,028 | 7·2934068 |
| 1½ | 393,936 | 35,439,139 | 7·5494827 | 15½ | 216,086 | 19,434,042 | 7·2885622 |
| 1¾ | 385,091 | 35,045,203 | 7·5446286 | 15¾ | 214,197 | 19,217,956 | 7·2837082 |
| 2 | 377,266 | 34,660,112 | 7·5398299 | 16 | 212,319 | 19,003,759 | 7·2788404 |
| 2¼ | 370,301 | 34,282,846 | 7·5350763 | 16¼ | 210,451 | 18,791,440 | 7·2739591 |
| 2½ | 364,050 | 33,912,545 | 7·5303598 | 16½ | 208,594 | 18,580,989 | 7·2690691 |
| 2¾ | 358,378 | 33,548,495 | 7·5256731 | 16¾ | 206,746 | 18,372,395 | 7·2641659 |
| 3 | 353,161 | 33,190,117 | 7·5210086 | 17 | 204,907 | 18,165,649 | 7·2592497 |
| 3¼ | 348,182 | 32,836,956 | 7·5163635 | 17¼ | 203,077 | 17,960,742 | 7·2543232 |
| 3½ | 343,439 | 32,488,774 | 7·5117336 | 17½ | 201,256 | 17,757,665 | 7·2493868 |
| 3¾ | 338,914 | 32,145,335 | 7·5071175 | 17¾ | 199,444 | 17,556,409 | 7·2444355 |
| 4 | 334,587 | 31,806,421 | 7·5025145 | 18 | 197,640 | 17,356,965 | 7·2394747 |
| 4¼ | 330,442 | 31,471,834 | 7·4979215 | 18¼ | 195,844 | 17,159,325 | 7·2344996 |
| 4½ | 326,464 | 31,141,392 | 7·4933382 | 18½ | 194,057 | 16,963,481 | 7·2295155 |
| 4¾ | 322,637 | 30,814,928 | 7·4887608 | 18¾ | 192,277 | 16,769,424 | 7·2245176 |
| 5 | 318,948 | 30,492,291 | 7·4841902 | 19 | 190,505 | 16,577,147 | 7·2195085 |
| 5¼ | 315,386 | 30,173,343 | 7·4796228 | 19¼ | 188,742 | 16,386,642 | 7·2144889 |
| 5½ | 311,939 | 29,857,957 | 7·4750607 | 19½ | 186,986 | 16,197,900 | 7·2094587 |
| 5¾ | 308,597 | 29,546,018 | 7·4704987 | 19¾ | 185,238 | 16,010,914 | 7·2044158 |
| 6 | 305,350 | 29,237,421 | 7·4659388 | 20 | 183,498 | 15,825,676 | 7·1993630 |
| 6¼ | 302,189 | 28,932,071 | 7·4613800 | 20¼ | 181,757 | 15,642,178 | 7·1942978 |
| 6½ | 299,107 | 28,629,882 | 7·4568198 | 20½ | 180,030 | 15,460,421 | 7·1892207 |
| 6¾ | 296,097 | 28,330,775 | 7·4522588 | 20¾ | 178,318 | 15,280,391 | 7·1841348 |
| 7 | 293,152 | 28,034,678 | 7·4476960 | 21 | 176,620 | 15,102,073 | 7·1790374 |
| 7¼ | 290,253 | 27,741,526 | 7·4431300 | 21¼ | 174,936 | 14,925,453 | 7·1739289 |
| 7½ | 287,416 | 27,451,273 | 7·4385629 | 21½ | 173,266 | 14,750,517 | 7·1688068 |
| 7¾ | 284,637 | 27,163,857 | 7·4339921 | 21¾ | 171,610 | 14,577,251 | 7·1636771 |
| 8 | 281,914 | 26,879,220 | 7·4294163 | 22 | 169,967 | 14,405,641 | 7·1585314 |
| 8¼ | 279,243 | 26,597,306 | 7·4248376 | 22¼ | 168,339 | 14,235,674 | 7·1533789 |
| 8½ | 276,623 | 26,318,063 | 7·4202546 | 22½ | 166,725 | 14,067,335 | 7·1482108 |
| 8¾ | 274,051 | 26,041,440 | 7·4156643 | 22¾ | 165,124 | 13,900,610 | 7·1430335 |
| 9 | 271,524 | 25,767,389 | 7·4110706 | 23 | 163,537 | 13,735,486 | 7·1378445 |
| 9¼ | 269,039 | 25,495,865 | 7·4064704 | 23¼ | 161,963 | 13,571,949 | 7·1326407 |
| 9½ | 266,596 | 25,226,826 | 7·4018622 | 23½ | 160,402 | 13,409,986 | 7·1274288 |
| 9¾ | 264,192 | 24,960,230 | 7·3972481 | 23¾ | 158,855 | 13,249,584 | 7·1222028 |
| 10 | 261,825 | 24,696,038 | 7·3926266 | 24 | 157,321 | 13,090,729 | 7·1169628 |
| 10¼ | 259,492 | 24,434,213 | 7·3879981 | 24¼ | 155,801 | 12,933,408 | 7·1117127 |
| 10½ | 257,193 | 24,174,721 | 7·3833611 | 24½ | 154,293 | 12,777,607 | 7·1064493 |
| 10¾ | 254,926 | 23,917,528 | 7·3787158 | 24¾ | 152,798 | 12,623,314 | 7·1011729 |
| 11 | 252,688 | 23,662,602 | 7·3740625 | 25 | 151,317 | 12,470,516 | 7·0958840 |
| 11¼ | 250,479 | 23,409,914 | 7·3693996 | 25¼ | 149,847 | 12,319,199 | 7·0905826 |
| 11½ | 248,296 | 23,159,435 | 7·3647273 | 25½ | 148,391 | 12,169,352 | 7·0852692 |
| 11¾ | 246,139 | 22,911,139 | 7·3600459 | 25¾ | 146,947 | 12,020,961 | 7·0799406 |
| 12 | 244,006 | 22,665,000 | 7·3553557 | 26 | 145,516 | 11,874,014 | 7·0745970 |
| 12¼ | 241,896 | 22,420,994 | 7·3506550 | 26¼ | 144,097 | 11,728,498 | 7·0692426 |
| 12½ | 239,808 | 22,179,098 | 7·3459440 | 26½ | 142,690 | 11,584,401 | 7·0638735 |
| 12¾ | 237,740 | 21,939,290 | 7·3412227 | 26¾ | 141,295 | 11,441,711 | 7·0584905 |
| 13 | 235,692 | 21,701,550 | 7·3364918 | 27 | 139,913 | 11,300,416 | 7·0530938 |
| 13¼ | 233,662 | 21,465,858 | 7·3317491 | 27¼ | 138,542 | 11,160,503 | 7·0476837 |
| 13½ | 231,650 | 21,232,196 | 7·3269950 | 27½ | 137,184 | 11,021,961 | 7·0422604 |
| 13¾ | 229,654 | 21,000,546 | 7·3222297 | 27¾ | 135,837 | 10,884,777 | 7·0368204 |

## QUARTERLY TABLE:—MALES. Interest 3 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 28 | 134,502 | 10,748,940 | 7·0313642 | 42 | 75,508 | 4,970,978 | 6·6964420 |
| 28¼ | 133,179 | 10,614,438 | 7·0258955 | 42¼ | 74,688 | 4,895,470 | 6·6897944 |
| 28½ | 131,866 | 10,481,259 | 7·0204152 | 42½ | 73,875 | 4,820,782 | 6·6831173 |
| 28¾ | 130,566 | 10,349,393 | 7·0149152 | 42¾ | 73,069 | 4,746,907 | 6·6764110 |
| 29 | 129,277 | 10,218,827 | 7·0093999 | 43 | 72,270 | 4,673,838 | 6·6696738 |
| 29¼ | 127,999 | 10,089,550 | 7·0038740 | 43¼ | 71,477 | 4,601,568 | 6·6629061 |
| 29½ | 126,732 | 9,961,551 | 6·9983269 | 43½ | 70,690 | 4,530,091 | 6·6561068 |
| 29¾ | 125,476 | 9,834,819 | 6·9927664 | 43¾ | 69,910 | 4,459,401 | 6·6492764 |
| 30 | 124,231 | 9,709,343 | 6·9871897 | 44 | 69,136 | 4,389,491 | 6·6424141 |
| 30¼ | 122,997 | 9,585,112 | 6·9815971 | 44¼ | 68,369 | 4,320,355 | 6·6355200 |
| 30½ | 121,773 | 9,462,115 | 6·9759884 | 44½ | 67,607 | 4,251,986 | 6·6285923 |
| 30¾ | 120,560 | 9,340,342 | 6·9703627 | 44¾ | 66,852 | 4,184,379 | 6·6216311 |
| 31 | 119,358 | 9,219,782 | 6·9647206 | 45 | 66,103 | 4,117,527 | 6·6146368 |
| 31¼ | 118,166 | 9,100,424 | 6·9590615 | 45¼ | 65,361 | 4,051,424 | 6·6076072 |
| 31½ | 116,985 | 8,982,258 | 6·9533856 | 45½ | 64,624 | 3,986,063 | 6·6005438 |
| 31¾ | 115,813 | 8,865,273 | 6·9476919 | 45¾ | 63,893 | 3,921,439 | 6·5934455 |
| 32 | 114,652 | 8,749,460 | 6·9419812 | 46 | 63,168 | 3,857,546 | 6·5863116 |
| 32¼ | 113,501 | 8,634,808 | 6·9362528 | 46¼ | 62,449 | 3,794,378 | 6·5791408 |
| 32½ | 112,360 | 8,521,307 | 6·9305064 | 46½ | 61,735 | 3,731,929 | 6·5719335 |
| 32¾ | 111,229 | 8,408,947 | 6·9247418 | 46¾ | 61,028 | 3,670,194 | 6·5646885 |
| 33 | 110,107 | 8,297,718 | 6·9189588 | 47 | 60,326 | 3,609,166 | 6·5574073 |
| 33¼ | 108,996 | 8,187,611 | 6·9131571 | 47¼ | 59,629 | 3,548,840 | 6·5500864 |
| 33½ | 107,893 | 8,078,615 | 6·9073372 | 47½ | 58,939 | 3,489,211 | 6·5427271 |
| 33¾ | 106,801 | 7,970,722 | 6·9014976 | 47¾ | 58,254 | 3,430,272 | 6·5353283 |
| 34 | 105,717 | 7,863,921 | 6·8956391 | 48 | 57,574 | 3,372,018 | 6·5278902 |
| 34¼ | 104,643 | 7,758,204 | 6·8897610 | 48¼ | 56,900 | 3,314,444 | 6·5204101 |
| 34½ | 103,579 | 7,653,561 | 6·8838635 | 48½ | 56,231 | 3,257,544 | 6·5128898 |
| 34¾ | 102,523 | 7,549,982 | 6·8779458 | 48¾ | 55,568 | 3,201,313 | 6·5053278 |
| 35 | 101,476 | 7,447,459 | 6·8720082 | 49 | 54,910 | 3,145,745 | 6·4977242 |
| 35¼ | 100,439 | 7,345,983 | 6·8660497 | 49¼ | 54,257 | 3,090,835 | 6·4900765 |
| 35½ | 99,410 | 7,245,544 | 6·8600708 | 49½ | 53,609 | 3,036,578 | 6·4823847 |
| 35¾ | 98,390 | 7,146,134 | 6·8540709 | 49¾ | 52,967 | 2,982,969 | 6·4746489 |
| 36 | 97,379 | 7,047,744 | 6·8480499 | 50 | 52,330 | 2,930,002 | 6·4668676 |
| 36¼ | 96,376 | 6,950,365 | 6·8420079 | 50¼ | 51,698 | 2,877,672 | 6·4590410 |
| 36½ | 95,382 | 6,853,989 | 6·8359435 | 50½ | 51,071 | 2,825,974 | 6·4511676 |
| 36¾ | 94,396 | 6,758,607 | 6·8298574 | 50¾ | 50,449 | 2,774,903 | 6·4432473 |
| 37 | 93,419 | 6,664,211 | 6·8237487 | 51 | 49,832 | 2,724,454 | 6·4352789 |
| 37¼ | 92,450 | 6,570,792 | 6·8176175 | 51¼ | 49,213 | 2,674,622 | 6·4272621 |
| 37½ | 91,489 | 6,478,342 | 6·8114638 | 51½ | 48,600 | 2,625,409 | 6·4191972 |
| 37¾ | 90,537 | 6,386,853 | 6·8052867 | 51¾ | 47,991 | 2,576,809 | 6·4110824 |
| 38 | 89,592 | 6,296,316 | 6·7990868 | 52 | 47,386 | 2,528,818 | 6·4029179 |
| 38¼ | 88,655 | 6,206,724 | 6·7928622 | 52¼ | 46,787 | 2,481,432 | 6·3947021 |
| 38½ | 87,726 | 6,118,069 | 6·7866145 | 52½ | 46,192 | 2,434,645 | 6·3864366 |
| 38¾ | 86,805 | 6,030,343 | 6·7803418 | 52¾ | 45,601 | 2,388,453 | 6·3781162 |
| 39 | 85,892 | 5,943,538 | 6·7740452 | 53 | 45,015 | 2,342,852 | 6·3697445 |
| 39¼ | 84,986 | 5,857,646 | 6·7677234 | 53¼ | 44,434 | 2,297,837 | 6·3613198 |
| 39½ | 84,088 | 5,772,660 | 6·7613760 | 53½ | 43,857 | 2,253,403 | 6·3528383 |
| 39¾ | 83,198 | 5,688,572 | 6·7550031 | 53¾ | 43,285 | 2,209,546 | 6·3443039 |
| 40 | 82,315 | 5,605,374 | 6·7486043 | 54 | 42,717 | 2,166,261 | 6·3357106 |
| 40¼ | 81,439 | 5,523,059 | 6·7421797 | 54¼ | 42,154 | 2,123,544 | 6·3270605 |
| 40½ | 80,570 | 5,441,620 | 6·7357282 | 54½ | 41,595 | 2,081,390 | 6·3183535 |
| 40¾ | 79,709 | 5,361,050 | 6·7292499 | 54¾ | 41,040 | 2,039,795 | 6·3095876 |
| 41 | 78,855 | 5,281,341 | 6·7227441 | 55 | 40,490 | 1,998,755 | 6·3007606 |
| 41¼ | 78,007 | 5,202,486 | 6·7162113 | 55¼ | 39,945 | 1,958,265 | 6·2918725 |
| 41½ | 77,167 | 5,124,479 | 6·7096498 | 55½ | 39,403 | 1,918,320 | 6·2829210 |
| 41¾ | 76,234 | 5,047,312 | 6·7030600 | 55¾ | 38,866 | 1,878,917 | 6·2739083 |

## QUARTERLY TABLE :—MALES. Interest 3 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 56 | 38.333 | 1,840,051 | 6·2648296 | 70 | 14,116 | 407,341 | 5·6099582 |
| 56¼ | 37,805 | 1,801,718 | 6·2556873 | 70¼ | 13,776 | 393,225 | 5·5946411 |
| 56½ | 37,280 | 1,763,913 | 6·2464765 | 70½ | 13,440 | 379,449 | 5·5791535 |
| 56¾ | 36,760 | 1,726,633 | 6·2371993 | 70¾ | 13,107 | 366,009 | 5·5634918 |
| 57 | 36,243 | 1,689,873 | 6·2278533 | 71 | 12,778 | 352,902 | 5·5476542 |
| 57¼ | 35,731 | 1,653,630 | 6·2184384 | 71¼ | 12,453 | 340,124 | 5·5316373 |
| 57½ | 35,222 | 1,617,899 | 6·2089517 | 71½ | 12,132 | 327,671 | 5·5154380 |
| 57¾ | 34,718 | 1,582,677 | 6·1993931 | 71¾ | 11,814 | 315,539 | 5·4990530 |
| 58 | 34,217 | 1,547,959 | 6·1897598 | 72 | 11,500 | 303,725 | 5·4824806 |
| 58¼ | 33,720 | 1,513,742 | 6·1800513 | 72¼ | 11,190 | 292,225 | 5·4657174 |
| 58½ | 33,227 | 1,480,022 | 6·1702676 | 72½ | 10,884 | 281,035 | 5·4487604 |
| 58¾ | 32,738 | 1,446,795 | 6·1604085 | 72¾ | 10,583 | 270,151 | 5·4316066 |
| 59 | 32,252 | 1,414,057 | 6·1504678 | 73 | 10,285 | 259,568 | 5·4142512 |
| 59¼ | 31,770 | 1,381,805 | 6·1404483 | 73¼ | 9,991·0 | 249,282·9 | 5·3966927 |
| 59½ | 31,292 | 1.350,035 | 6·1303466 | 73½ | 9,701·5 | 239,291·9 | 5·3789281 |
| 59¾ | 30,817 | 1,318,743 | 6·1201592 | 73¾ | 9,416·1 | 229,590·4 | 5·3609530 |
| 60 | 30.345 | 1,287,926 | 6·1098922 | 74 | 9,135·0 | 220,174·3 | 5·3427660 |
| 60¼ | 29,878 | 1,257,581 | 6·0995356 | 74¼ | 8,858·3 | 211,039·3 | 5·3243627 |
| 60½ | 29,413 | 1,227,703 | 6·0890923 | 74½ | 8,585·8 | 202,181·0 | 5·3057404 |
| 60¾ | 28,952 | 1,198,290 | 6·0785620 | 74¾ | 8,317·8 | 193,595·2 | 5·2868942 |
| 61 | 28,494 | 1,169,338 | 6·0679408 | 75 | 8,054·2 | 185,277·4 | 5·2678215 |
| 61¼ | 28,040 | 1,140,844 | 6·0572247 | 75¼ | 7,795·1 | 177,223·2 | 5·2485201 |
| 61½ | 27,589 | 1,112,804 | 6·0464171 | 75½ | 7,540·5 | 169,428·1 | 5·2289852 |
| 61¾ | 27,141 | 1,085,215 | 6·0355178 | 75¾ | 7,290·5 | 161,887·6 | 5·2092146 |
| 62 | 26,696 | 1,058,074 | 6·0245145 | 76 | 7,045·0 | 154,597·1 | 5·1892011 |
| 62¼ | 26,255 | 1,031,378 | 6·0134187 | 76¼ | 6,804·2 | 147,552·1 | 5·1689451 |
| 62½ | 25,817 | 1,005,123 | 6·0022180 | 76½ | 6.568·1 | 140,747·9 | 5·1484422 |
| 62¾ | 25,381 | 979,306 | 5·9909184 | 76¾ | 6,336·7 | 134,179·8 | 5·1276878 |
| 63 | 24,950 | 953,925 | 5·9795143 | 77 | 6,110·0 | 127,843·1 | 5·1066770 |
| 63¼ | 24,521 | 928,975 | 5·9680041 | 77¼ | 5,888·0 | 121,733·1 | 5·0854083 |
| 63½ | 24,095 | 904,454 | 5·9563865 | 77½ | 5,670·8 | 115,845·1 | 5·0638773 |
| 63¾ | 23,672 | 880,359 | 5·9446598 | 77¾ | 5,458·4 | 110,174·3 | 5·0420791 |
| 64 | 23,253 | 856,687 | 5·9328222 | 78 | 5,250·8 | 104,715·9 | 5·0200131 |
| 64¼ | 22,836 | 833,434 | 5·9208712 | 78¼ | 5,048·0 | 99,465·1 | 4·9976707 |
| 64½ | 22,423 | 810,598 | 5·9088055 | 78½ | 4,850·0 | 94,417·1 | 4·9750507 |
| 64¾ | 22,012 | 788,175 | 5·8966227 | 78¾ | 4,656·9 | 89,567·1 | 4·9521485 |
| 65 | 21,605 | 766,163 | 5·8843212 | 79 | 4,468·6 | 84,910·2 | 4·9289598 |
| 65¼ | 21,201 | 744,558 | 5·8718985 | 79¼ | 4,285·1 | 80,441·6 | 4·9054807 |
| 65½ | 20,800 | 723,357 | 5·8593527 | 79½ | 4,106·4 | 76,156·5 | 4·8817070 |
| 65¾ | 20,401 | 702,557 | 5·8466815 | 79¾ | 3,932·5 | 72,050·1 | 4·8576346 |
| 66 | 20,006 | 682,156 | 5·8338837 | 80 | 3,763·4 | 68,117·6 | 4·8332593 |
| 66¼ | 19,614 | 662,150 | 5·8209564 | 80¼ | 3,599·1 | 64,354·2 | 4·8085769 |
| 66½ | 19,225 | 642,536 | 5·8078975 | 80½ | 3,439·5 | 60,755·1 | 4·7835827 |
| 66¾ | 18,839 | 623,311 | 5·7947048 | 80¾ | 3,284·6 | 57,315·6 | 4·7582729 |
| 67 | 18,457 | 604,472 | 5·7813762 | 81 | 3,134·5 | 54,031·0 | 4·7326430 |
| 67¼ | 18,077 | 586,015 | 5·7679087 | 81¼ | 2,989·0 | 50,896·5 | 4·7066880 |
| 67½ | 17,700 | 567,938 | 5·7543010 | 81½ | 2,848·1 | 47,907·5 | 4·6804035 |
| 67¾ | 17,327 | 550,238 | 5·7405506 | 81¾ | 2,711·8 | 45,059·4 | 4·6537854 |
| 68 | 16,957 | 532,911 | 5·7266547 | 82 | 2,580·0 | 42,347·6 | 4·6268288 |
| 68¼ | 16,590 | 515,954 | 5·7126110 | 82¼ | 2,452·7 | 39,767·6 | 4·5995294 |
| 68½ | 16,227 | 499,364 | 5·6984172 | 82½ | 2,329·8 | 37,314·9 | 4·5718822 |
| 68¾ | 15,866 | 483,137 | 5·6840703 | 82¾ | 2,211·3 | 34,985·1 | 4·5438831 |
| 69 | 15,599 | 467,271 | 5·6695688 | 83 | 2,097·1 | 32,773·8 | 4·5155268 |
| 69¼ | 15,156 | 451,762 | 5·6549097 | 83¼ | 1,987·2 | 30,676·7 | 4·4868086 |
| 69½ | 14,806 | 436,606 | 5·6400897 | 83½ | 1,881·4 | 28,689·5 | 4·4577230 |
| 69¾ | 14,459 | 421,800 | 5·6251066 | 83¾ | 1,779·7 | 26.808·1 | 4·4282660 |

## QUARTERLY TABLE:—MALES. Interest 3 per Cent.

| Age $(x)$ | $D_x$ | $N_x$ | $\lambda N_x$ | Age $(x)$ | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 84 | 1,682·1 | 25,028·4 | 4·3984331 | 97 | 19·396 | 155·063 | 2·1905082 |
| 84¼ | 1,588·4 | 23,346·3 | 4·3682181 | 97¼ | 17·164 | 135·667 | 2·1324742 |
| 84½ | 1,498·6 | 21,757·9 | 4·3376170 | 97½ | 15·163 | 118·503 | 2·0737294 |
| 84¾ | 1,412·6 | 20,259·3 | 4·3066244 | 97¾ | 13·374 | 103·340 | 2·0142685 |
| 85 | 1,330·4 | 18,846·7 | 4·2752353 | 98 | 11·775 | 89·966 | 1·9540784 |
| 85¼ | 1,251·7 | 17,516·3 | 4·2434423 | 98¼ | 10·350 | 78·191 | 1·8931568 |
| 85½ | 1,176·6 | 16,264·6 | 4·2112434 | 98½ | 9·0815 | 67·8411 | 1·8314928 |
| 85¾ | 1,104·9 | 15,088·0 | 4·1786317 | 98¾ | 7·9545 | 58·7596 | 1·7690788 |
| 86 | 1,036·6 | 13,983·1 | 4·1456035 | 99 | 6·9552 | 50·8051 | 1·7059074 |
| 86¼ | 971·60 | 12,946·46 | 4·1121524 | 99¼ | 6·0705 | 43·8499 | 1·6419686 |
| 86½ | 909·74 | 11,974·86 | 4·0782720 | 99½ | 5·2888 | 37·7794 | 1·5772551 |
| 86¾ | 850·96 | 11,065·12 | 4·0439553 | 99¾ | 4·5994 | 32·4906 | 1·5117577 |
| 87 | 795·17 | 10,214·16 | 4·0092044 | 100 | 3·9925 | 27·8912 | 1·4454672 |
| 87¼ | 742·27 | 9,418·99 | 3·9740043 | 100¼ | 3·4592 | 23·8987 | 1·3783743 |
| 87½ | 692·16 | 8,676·72 | 3·9383556 | 100½ | 2·9916 | 20·4395 | 1·3104703 |
| 87¾ | 644·75 | 7,984·56 | 3·9022510 | 100¾ | 2·5822 | 17·4479 | 1·2417432 |
| 88 | 599·94 | 7,339·81 | 3·8656848 | 101 | 2·2247 | 14·8657 | 1·1721853 |
| 88¼ | 557·64 | 6,739·87 | 3·8286516 | 101¼ | 1·9129 | 12·6410 | 1·1017814 |
| 88½ | 517·75 | 6,182·23 | 3·7911452 | 101½ | 1·6416 | 10·7281 | 1·0305229 |
| 88¾ | 480·18 | 5,664·48 | 3·7531601 | 101¾ | 1·4060 | 9·0865 | 0·9583966 |
| 89 | 444·83 | 5,184·30 | 3·7146901 | 102 | 1·2019 | 7·6805 | 0·8853895 |
| 89¼ | 411·61 | 4,739·47 | 3·6757298 | 102¼ | 1·0253 | 6·4786 | 0·8114812 |
| 89½ | 380·43 | 4,327·86 | 3·6362732 | 102½ | ·8729 | 5·4533 | 0·7366594 |
| 89¾ | 351·20 | 3,947·43 | 3·5963144 | 102¾ | ·7416 | 4·5804 | 0·6609034 |
| 90 | 323·84 | 3,596·23 | 3·5558474 | 103 | ·6288 | 3·8388 | 0·5841955 |
| 90¼ | 298·24 | 3,272·39 | 3·5148651 | 103¼ | ·5320 | 3·2100 | 0·5065050 |
| 90½ | 274·34 | 2,974·15 | 3·4733629 | 103½ | ·4492 | 2·6780 | 0·4278106 |
| 90¾ | 252·04 | 2,699·81 | 3·4313332 | 103¾ | ·3785 | 2·2288 | 0·3480711 |
| 91 | 231·26 | 2,447·77 | 3·3887706 | 104 | ·3182 | 1·8503 | 0·2672421 |
| 91¼ | 211·93 | 2,216·51 | 3·3456697 | 104¼ | ·2669 | 1·5321 | 0·1852871 |
| 91½ | 193·97 | 2,004·58 | 3·3020234 | 104½ | ·2234 | 1·2652 | 0·1021592 |
| 91¾ | 177·30 | 1,810·61 | 3·2578249 | 104¾ | ·1866 | 1·0418 | 0·0177844 |
| 92 | 161·85 | 1,633·31 | 3·2130687 | 105 | ·1555 | ·8552 | $\bar{1}$·9320677 |
| 92¼ | 147·56 | 1,471·46 | 3·1677485 | 105¼ | ·1293 | ·6997 | $\bar{1}$·8449119 |
| 92½ | 134·34 | 1,323·90 | 3·1218552 | 105½ | ·1073 | ·5704 | $\bar{1}$·7561795 |
| 92¾ | 122·15 | 1,189·56 | 3·0753864 | 105¾ | ·0888 | ·4631 | $\bar{1}$·6656748 |
| 93 | 110·91 | 1,067·41 | 3·0283313 | 106 | ·0733 | ·3743 | $\bar{1}$·5732198 |
| 93¼ | 100·56 | 956·50 | 2·9806850 | 106¼ | ·0604 | ·3010 | $\bar{1}$·4785665 |
| 93½ | 91·052 | 855·941 | 2·9324438 | 106½ | ·0497 | ·2406 | $\bar{1}$·3812956 |
| 93¾ | 82·327 | 764·889 | 2·8835984 | 106¾ | ·0407 | ·1909 | $\bar{1}$·2808059 |
| 94 | 74·331 | 682·562 | 2·8341421 | 107 | ·0333 | ·1502 | $\bar{1}$·1766699 |
| 94¼ | 67·015 | 608·231 | 2·7840685 | 107¼ | ·0272 | ·1169 | $\bar{1}$·0678145 |
| 94½ | 60·331 | 541·216 | 2·7333706 | 107½ | ·0221 | ·0897 | $\bar{2}$·9527924 |
| 94¾ | 54·233 | 480·885 | 2·6820412 | 107¾ | ·0180 | ·0676 | $\bar{2}$·8299467 |
| 95 | 48·679 | 426·652 | 2·6300737 | 108 | ·0146 | ·0496 | $\bar{2}$·6954817 |
| 95¼ | 43·627 | 377·973 | 2·5774608 | 108¼ | ·0118 | ·0350 | $\bar{2}$·5440680 |
| 95½ | 39·040 | 334·346 | 2·5241961 | 108½ | ·0095 | ·0232 | $\bar{2}$·3654880 |
| 95¾ | 34·882 | 295·306 | 2·4702723 | 108¾ | ·0076 | ·0137 | $\bar{2}$·1367206 |
| 96 | 31·117 | 260·424 | 2·4156810 | 109 | ·0061 | ·0061 | $\bar{3}$·7853298 |
| 96¼ | 27·716 | 229·307 | 2·3604173 | | | | |
| 96½ | 24·646 | 201·591 | 2·3044712 | | | | |
| 96¾ | 21·882 | 176·945 | 2·2478383 | | | | |

## QUARTERLY TABLE:—FEMALES. Interest 3 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 0 | 488,255 | 37,727,582 | 7·5766592 | 14 | 225,103 | 20,603,185 | 7·3139347 |
| 0¼ | 452,172 | 37,239,327 | 7·5710015 | 14¼ | 223,140 | 20,378,082 | 7·3091637 |
| 0½ | 436,274 | 36,787,155 | 7·5656968 | 14½ | 221,190 | 20,154,942 | 7·3043807 |
| 0¾ | 422,472 | 36,350,881 | 7·5605152 | 14¾ | 219,255 | 19,933,752 | 7·2995901 |
| 1 | 410,040 | 35,928,409 | 7·5554378 | 15 | 217,332 | 19,714,497 | 7·2947858 |
| 1¼ | 398,337 | 35,518,369 | 7·5504534 | 15¼ | 215,422 | 19,497,165 | 7·2899723 |
| 1½ | 388,604 | 35,120,032 | 7·5455545 | 15½ | 213,524 | 19,281,743 | 7·2851454 |
| 1¾ | 380,399 | 34,731,428 | 7·5407223 | 15¾ | 211,638 | 19,068,219 | 7·2803097 |
| 2 | 373,325 | 34,351,029 | 7·5359394 | 16 | 209,763 | 18,856,581 | 7·2754634 |
| 2¼ | 367,022 | 33,977,704 | 7·5311940 | 16¼ | 207,898 | 18,646,818 | 7·2706043 |
| 2½ | 361,157 | 33,610,682 | 7·5264775 | 16½ | 206,044 | 18,438,920 | 7·2657350 |
| 2¾ | 355,418 | 33,249,525 | 7·5217851 | 16¾ | 204,199 | 18,232,876 | 7·2608557 |
| 3 | 349,512 | 32,894,107 | 7·5171180 | 17 | 202,365 | 18,028,677 | 7·2559644 |
| 3¼ | 344,534 | 32,544,595 | 7·5124789 | 17¼ | 200,540 | 17,826,312 | 7·2510612 |
| 3½ | 339,806 | 32,200,061 | 7·5078573 | 17½ | 198,724 | 17,625,772 | 7·2461489 |
| 3¾ | 335,309 | 31,860,255 | 7·5032499 | 17¾ | 196,917 | 17,427,048 | 7·2412226 |
| 4 | 331,019 | 31,524,946 | 7·4986537 | 18 | 195,119 | 17,230,131 | 7·2362878 |
| 4¼ | 326,920 | 31,193,927 | 7·4940697 | 18¼ | 193,330 | 17,035,012 | 7·2313421 |
| 4½ | 322,993 | 30,867,007 | 7·4894944 | 18½ | 191,549 | 16,841,682 | 7·2263860 |
| 4¾ | 319,221 | 30,544,014 | 7·4849259 | 18¾ | 189,777 | 16,650,133 | 7·2214168 |
| 5 | 315,592 | 30,224,793 | 7·4803634 | 19 | 188,013 | 16,460,356 | 7·2164404 |
| 5¼ | 312,090 | 29,909,201 | 7·4758048 | 19¼ | 186,258 | 16,272,343 | 7·2114489 |
| 5½ | 308,703 | 29,597,111 | 7·4712492 | 19½ | 184,511 | 16,086,085 | 7·2064508 |
| 5¾ | 305,421 | 29,288,408 | 7·4666956 | 19¾ | 182,772 | 15,901,574 | 7·2014408 |
| 6 | 302,232 | 28,982,987 | 7·4621433 | 20 | 181,042 | 15,718,802 | 7·1964194 |
| 6¼ | 299,127 | 28,680,755 | 7·4575913 | 20¼ | 179,312 | 15,537,760 | 7·1913895 |
| 6½ | 296,098 | 28,381,628 | 7·4530369 | 20½ | 177,596 | 15,358,448 | 7·1863460 |
| 6¾ | 293,137 | 28,085,530 | 7·4484822 | 20¾ | 175,894 | 15,180,852 | 7·1812975 |
| 7 | 290,237 | 27,792,393 | 7·4439260 | 21 | 174,206 | 15,004,958 | 7·1762360 |
| 7¼ | 287,377 | 27,502,156 | 7·4393675 | 21¼ | 172,532 | 14,830,752 | 7·1711646 |
| 7½ | 284,575 | 27,214,779 | 7·4348051 | 21½ | 170,871 | 14,658,220 | 7·1660806 |
| 7¾ | 281,828 | 26,930,204 | 7·4302396 | 21¾ | 169,224 | 14,487,349 | 7·1609875 |
| 8 | 279,133 | 26,648,376 | 7·4256711 | 22 | 167,591 | 14,318,125 | 7·1558854 |
| 8¼ | 276,489 | 26,369,243 | 7·4210970 | 22¼ | 165,971 | 14,150,534 | 7·1507718 |
| 8½ | 273,892 | 26,092,754 | 7·4165207 | 22½ | 164,365 | 13,984,563 | 7·1456501 |
| 8¾ | 271,341 | 25,818,862 | 7·4119377 | 22¾ | 162,771 | 13,820,198 | 7·1405143 |
| 9 | 268,832 | 25,547,521 | 7·4073484 | 23 | 161,192 | 13,657,427 | 7·1353680 |
| 9¼ | 266,365 | 25,278,689 | 7·4027547 | 23¼ | 159,625 | 13,496,235 | 7·1302115 |
| 9½ | 263,936 | 25,012,324 | 7·3981536 | 23½ | 158,072 | 13,336,610 | 7·1250452 |
| 9¾ | 261,545 | 24,748,388 | 7·3935471 | 23¾ | 156,532 | 13,178,538 | 7·1198660 |
| 10 | 259,189 | 24,486,843 | 7·3889320 | 24 | 155,005 | 13,022,006 | 7·1146777 |
| 10¼ | 256,867 | 24,227,654 | 7·3843122 | 24¼ | 153,490 | 12,867,001 | 7·1094773 |
| 10½ | 254,577 | 23,970,787 | 7·3796826 | 24½ | 151,989 | 12,713,511 | 7·1042651 |
| 10¾ | 252,317 | 23,716,210 | 7·3750451 | 24¾ | 150,500 | 12,561,522 | 7·0990416 |
| 11 | 250,085 | 23,463,893 | 7·3704002 | 25 | 149,024 | 12,411,022 | 7·0938068 |
| 11¼ | 247,882 | 23,213,808 | 7·3657463 | 25¼ | 147,561 | 12,261,998 | 7·0885613 |
| 11½ | 245,704 | 22,965,926 | 7·3610835 | 25½ | 146,110 | 12,114,437 | 7·0833020 |
| 11¾ | 243,551 | 22,720,222 | 7·3564121 | 25¾ | 144,672 | 11,968,327 | 7·0780325 |
| 12 | 241,421 | 22,476,671 | 7·3517325 | 26 | 143,246 | 11,823,655 | 7·0727534 |
| 12¼ | 239,314 | 22,235,250 | 7·3470430 | 26¼ | 141,833 | 11,680,409 | 7·0674577 |
| 12½ | 237,228 | 21,995,936 | 7·3423417 | 26½ | 140,431 | 11,538,576 | 7·0621531 |
| 12¾ | 235,162 | 21,758,708 | 7·3376329 | 26¾ | 139,042 | 11,398,145 | 7·0568325 |
| 13 | 233,116 | 21,523,546 | 7·3329129 | 27 | 137,665 | 11,259,103 | 7·0515037 |
| 13¼ | 231,087 | 21,290,430 | 7·3281839 | 27¼ | 136,300 | 11,121,438 | 7·0461594 |
| 13½ | 229,076 | 21,059,343 | 7·3234439 | 27½ | 134,946 | 10,985,138 | 7·0408041 |
| 13¾ | 227,082 | 20,830,267 | 7·3186955 | 27¾ | 133,605 | 10,850,192 | 7·0354377 |

QUARTERLY TABLE:—FEMALES. Interest 3 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | λ $N_x$ | Age ($x$) | $D_x$ | $N_x$ | λ $N_x$ |
|---|---|---|---|---|---|---|---|
| 28 | 132,275 | 10,716,587 | 7·0300570 | 42 | 74,006 | 5,048,593 | 6·7031701 |
| 28¼ | 130,957 | 10,584,312 | 7·0246621 | 42¼ | 73,211 | 4,974,587 | 6·6967573 |
| 28½ | 129,651 | 10,453,355 | 7·0192576 | 42½ | 72,424 | 4,901,376 | 6·6903183 |
| 28¾ | 128,356 | 10,323,704 | 7·0138354 | 42¾ | 71,643 | 4,828,952 | 6·6838527 |
| 29 | 127,072 | 10,195,348 | 7·0084000 | 43 | 70,870 | 4,757,309 | 6·6773614 |
| 29¼ | 125,800 | 10,068,276 | 7·0029561 | 43¼ | 70,104 | 4,686,439 | 6·6708431 |
| 29½ | 124,539 | 9,942,476 | 6·9974947 | 43½ | 69,344 | 4,616,335 | 6·6642978 |
| 29¾ | 123,289 | 9,817,937 | 6·9920204 | 43¾ | 68,592 | 4,546,991 | 6·6577240 |
| 30 | 122,051 | 9,694,648 | 6·9865322 | 44 | 67,846 | 4,478,399 | 6·6511229 |
| 30¼ | 120,823 | 9,572,597 | 6·9810299 | 44¼ | 67,107 | 4,410,553 | 6·6444928 |
| 30½ | 119,606 | 9,451,774 | 6·9755131 | 44½ | 66,375 | 4,343,446 | 6·6378348 |
| 30¾ | 118,400 | 9,332,168 | 6·9699826 | 44¾ | 65,650 | 4,277,071 | 6·6311464 |
| 31 | 117,205 | 9,213,768 | 6·9644374 | 45 | 64,931 | 4,211,421 | 6·6244286 |
| 31¼ | 116,020 | 9,096,563 | 6·9588772 | 45¼ | 64,218 | 4,146,490 | 6·6176807 |
| 31½ | 114,846 | 8,980,543 | 6·9533025 | 45½ | 63,512 | 4,082,272 | 6·6109017 |
| 31¾ | 113,682 | 8,865,697 | 6·9477130 | 45¾ | 62,813 | 4,018,760 | 6·6040921 |
| 32 | 112,529 | 8,752,015 | 6·9421083 | 46 | 62,120 | 3,955,947 | 6·5972508 |
| 32¼ | 111,386 | 8,639,486 | 6·9364881 | 46¼ | 61,433 | 3,893,827 | 6·5903770 |
| 32½ | 110,253 | 8,528,100 | 6·9308523 | 46½ | 60,752 | 3,832,394 | 6·5834697 |
| 32¾ | 109,131 | 8,417,847 | 6·9252012 | 46¾ | 60,078 | 3,771,642 | 6·5765302 |
| 33 | 108,018 | 8,308,716 | 6·9195341 | 47 | 59,409 | 3,711,564 | 6·5695565 |
| 33¼ | 106,916 | 8,200,698 | 6·9138509 | 47¼ | 58,747 | 3,652,155 | 6·5625498 |
| 33½ | 105,823 | 8,093,782 | 6·9081514 | 47½ | 58,091 | 3,593,408 | 6·5555068 |
| 33¾ | 104,741 | 7,987,959 | 6·9024359 | 47¾ | 57,440 | 3,535,317 | 6·5484288 |
| 34 | 103,668 | 7,883,218 | 6·8967036 | 48 | 56,796 | 3,477,877 | 6·5413146 |
| 34¼ | 102,604 | 7,779,550 | 6·8909545 | 48¼ | 56,157 | 3,421,081 | 6·5341633 |
| 34½ | 101,550 | 7,676,946 | 6·8851887 | 48½ | 55,525 | 3,364,924 | 6·5269748 |
| 34¾ | 100,506 | 7,575,396 | 6·8794056 | 48¾ | 54,898 | 3,309,399 | 6·5197493 |
| 35 | 99,471 | 7,474,890 | 6·8736048 | 49 | 54,276 | 3,254,501 | 6·5124843 |
| 35¼ | 98,446 | 7,375,419 | 6·8677868 | 49¼ | 53,661 | 3,200,225 | 6·5051812 |
| 35½ | 97,429 | 7,276,973 | 6·8619506 | 49½ | 53,050 | 3,146,564 | 6·4978360 |
| 35¾ | 96,422 | 7,179,544 | 6·8560966 | 49¾ | 52,446 | 3,093,514 | 6·4904515 |
| 36 | 95,424 | 7,083,122 | 6·8502246 | 50 | 51,847 | 3,041,068 | 6·4830264 |
| 36¼ | 94,435 | 6,987,698 | 6·8443343 | 50¼ | 51,253 | 2,989,221 | 6·4755579 |
| 36½ | 93,455 | 6,893,263 | 6·8384247 | 50½ | 50,665 | 2,937,968 | 6·4680474 |
| 36¾ | 92,484 | 6,799,808 | 6·8324967 | 50¾ | 50,082 | 2,887,303 | 6·4604919 |
| 37 | 91,522 | 6,707,324 | 6·8265490 | 51 | 49,504 | 2,837,221 | 6·4528931 |
| 37¼ | 90,568 | 6,615,802 | 6·8205824 | 51¼ | 48,932 | 2,787,717 | 6·4452491 |
| 37½ | 89,623 | 6,525,234 | 6·8145958 | 51½ | 48,365 | 2,738,785 | 6·4375587 |
| 37¾ | 88,687 | 6,435,611 | 6·8085897 | 51¾ | 47,803 | 2,690,420 | 6·4298201 |
| 38 | 87,759 | 6,346,924 | 6·8025631 | 52 | 47,246 | 2,642,617 | 6·4220347 |
| 38¼ | 86,839 | 6,259,165 | 6·7965167 | 52¼ | 46,694 | 2,595,371 | 6·4141993 |
| 38½ | 85,928 | 6,172,326 | 6·7904491 | 52½ | 46,147 | 2,548,677 | 6·4063153 |
| 38¾ | 85,025 | 6,086,398 | 6·7843605 | 52¾ | 45,606 | 2,502,530 | 6·3983793 |
| 39 | 84,130 | 6,001,373 | 6·7782504 | 53 | 45,069 | 2,456,924 | 6·3903910 |
| 39¼ | 83,244 | 5,917,243 | 6·7721192 | 53¼ | 44,537 | 2,411,855 | 6·3823521 |
| 39½ | 82,365 | 5,833,999 | 6·7659664 | 53½ | 44,010 | 2,367,318 | 6·3742570 |
| 39¾ | 81,495 | 5,751,634 | 6·7597910 | 53¾ | 43,487 | 2,323,308 | 6·3661072 |
| 40 | 80,632 | 5,670,139 | 6·7535938 | 54 | 42,970 | 2,279,821 | 6·3579005 |
| 40¼ | 79,777 | 5,589,507 | 6·7473738 | 54¼ | 42,444 | 2,236,851 | 6·3496369 |
| 40½ | 78,930 | 5,509,730 | 6·7411303 | 54½ | 41,921 | 2,194,407 | 6·3413178 |
| 40¾ | 78,090 | 5,430,800 | 6·7348638 | 54¾ | 41,401 | 2,152,486 | 6·3329412 |
| 41 | 77,258 | 5,352,710 | 6·7285737 | 55 | 40,884 | 2,111,085 | 6·3245067 |
| 41¼ | 76,434 | 5,275,452 | 6·7222595 | 55¼ | 40,370 | 2,070,201 | 6·3160123 |
| 41½ | 75,617 | 5,199,018 | 6·7159215 | 55½ | 39,860 | 2,029,831 | 6·3074596 |
| 41¾ | 74,808 | 5,123,401 | 6·7095583 | 55¾ | 39,352 | 1,989,971 | 6·2988466 |

## QUARTERLY TABLE:—Females. Interest 3 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 56 | 38,848 | 1,950,619 | 6·2901727 | 70 | 15,256 | 464,976 | 5·6674305 |
| 56¼ | 38,346 | 1,911,771 | 6·2814357 | 70¼ | 14,914 | 449,720 | 5·6529422 |
| 56½ | 37,848 | 1,873,425 | 6·2726375 | 70½ | 14,576 | 434,806 | 5·6382955 |
| 56¾ | 37,353 | 1,835,577 | 6·2637733 | 70¾ | 14,241 | 420,230 | 5·6234871 |
| 57 | 36,861 | 1,798,224 | 6·2548428 | 71 | 13,909 | 405,989 | 5·6085142 |
| 57¼ | 36,373 | 1,761,363 | 6·2458481 | 71¼ | 13,581 | 392,080 | 5·5933747 |
| 57½ | 35,887 | 1,724,990 | 6·2367866 | 71½ | 13,255 | 378,499 | 5·5780648 |
| 57¾ | 35,404 | 1,689,103 | 6·2276554 | 71¾ | 12,933 | 365,244 | 5·5625831 |
| 58 | 34,925 | 1,653,699 | 6·2184567 | 72 | 12,615 | 352,311 | 5·5469262 |
| 58¼ | 34,449 | 1,618,774 | 6·2091852 | 72¼ | 12,299 | 339,696 | 5·5310904 |
| 58½ | 33,975 | 1,584,325 | 6·1998456 | 72½ | 11,988 | 327,397 | 5·5150747 |
| 58¾ | 33,505 | 1,550,350 | 6·1904298 | 72¾ | 11,679 | 315,409 | 5·4988741 |
| 59 | 33,038 | 1,516,845 | 6·1809427 | 73 | 11,375 | 303,730 | 5·4824877 |
| 59¼ | 32,573 | 1,483,807 | 6·1713783 | 73¼ | 11,073 | 292,355 | 5·4659106 |
| 59½ | 32,112 | 1,451,234 | 6·1617363 | 73½ | 10,776 | 281,282 | 5·4491420 |
| 59¾ | 31,654 | 1,419,122 | 6·1520191 | 73¾ | 10,482 | 270,506 | 5·4321769 |
| 60 | 31,199 | 1,387,468 | 6·1422236 | 74 | 10,192 | 260,024 | 5·4150135 |
| 60¼ | 30,746 | 1,356,269 | 6·1323462 | 74¼ | 9,906·3 | 249,831·8 | 5·3976481 |
| 60½ | 30,297 | 1,325,523 | 6·1223863 | 74½ | 9,624·0 | 239,925·5 | 5·3800774 |
| 60¾ | 29,850 | 1,295,226 | 6·1123469 | 74¾ | 9,345·7 | 230,301·5 | 5·3622977 |
| 61 | 29,406 | 1,265,376 | 6·1022209 | 75 | 9,071·4 | 220,955·8 | 5·3443058 |
| 61¼ | 28,965 | 1,235,970 | 6·0920080 | 75¼ | 8,801·1 | 211,884·4 | 5·3260982 |
| 61½ | 28,527 | 1,207,005 | 6·0817109 | 75½ | 8,534·8 | 203,083·3 | 5·3076736 |
| 61¾ | 28,092 | 1,178,478 | 6·0713222 | 75¾ | 8,272·7 | 194,548·5 | 5·2890290 |
| 62 | 27,660 | 1,150,386 | 6·0608452 | 76 | 8,014·8 | 186,275·8 | 5·2701569 |
| 62¼ | 27,230 | 1,122,726 | 6·0502753 | 76¼ | 7,761·1 | 178,261·0 | 5·2510563 |
| 62½ | 26,803 | 1,095,496 | 6·0396124 | 76½ | 7,511·6 | 170,499·9 | 5·2317244 |
| 62¾ | 26,379 | 1,068,693 | 6·0288518 | 76¾ | 7,266·5 | 162,988·3 | 5·2121557 |
| 63 | 25,957 | 1,042,314 | 6·0179969 | 77 | 7,025·7 | 155,721·8 | 5·1923500 |
| 63¼ | 25,539 | 1,016,357 | 6·0070476 | 77¼ | 6,789·3 | 148,696·1 | 5·1722993 |
| 63½ | 25,123 | 990,818 | 5·9959939 | 77½ | 6,557·3 | 141,906·8 | 5·1520038 |
| 63¾ | 24,709 | 965,695 | 5·9848400 | 77¾ | 6,329·8 | 135,349·5 | 5·1314583 |
| 64 | 24,299 | 940,986 | 5·9735832 | 78 | 6,106·7 | 129,019·7 | 5·1106570 |
| 64¼ | 23,891 | 916,687 | 5·9622211 | 78¼ | 5,888·2 | 122,913·0 | 5·0895979 |
| 64½ | 23,485 | 892,796 | 5·9507522 | 78½ | 5,674·2 | 117,024·8 | 5·0682787 |
| 64¾ | 23,083 | 869,311 | 5·9391752 | 78¾ | 5,464·8 | 111,350·6 | 5·0466941 |
| 65 | 22,683 | 846,228 | 5·9274874 | 79 | 5,260·0 | 105,885·8 | 5·0248386 |
| 65¼ | 22,286 | 823,545 | 5·9156874 | 79¼ | 5,059·8 | 100,625·8 | 5·0027103 |
| 65½ | 21,891 | 801,259 | 5·9037730 | 79½ | 4,864·2 | 95,566·0 | 4·9803034 |
| 65¾ | 21,499 | 779,368 | 5·8917426 | 79¾ | 4,673·2 | 90,701·8 | 4·9576159 |
| 66 | 21,110 | 757,869 | 5·8795941 | 80 | 4,486·8 | 86,028·6 | 4·9346429 |
| 66¼ | 20,723 | 736,759 | 5·8673254 | 80¼ | 4,305·1 | 81,541·8 | 4·9113803 |
| 66½ | 20,339 | 716,036 | 5·8549349 | 80½ | 4,128·0 | 77,236·7 | 4·8878237 |
| 66¾ | 19,958 | 695,697 | 5·8424201 | 80¾ | 3,955·6 | 73,108·7 | 4·8639690 |
| 67 | 19,579 | 675,739 | 5·8297790 | 81 | 3,787·8 | 69,153·1 | 4·8398116 |
| 67¼ | 19,204 | 656,160 | 5·8170098 | 81¼ | 3,624·5 | 65,365·3 | 4·8153473 |
| 67½ | 18,830 | 636,956 | 5·8041094 | 81½ | 3,465·9 | 61,740·8 | 4·7905723 |
| 67¾ | 18,460 | 618,126 | 5·7910770 | 81¾ | 3,311·9 | 58,274·9 | 4·7654816 |
| 68 | 18,093 | 599,666 | 5·7779094 | 82 | 3,162·4 | 54,963·0 | 4·7400704 |
| 68¼ | 17,728 | 581,573 | 5·7646043 | 82¼ | 3,017·4 | 51,800·6 | 4·7143348 |
| 68½ | 17,366 | 563,845 | 5·7511598 | 82½ | 2,876·9 | 48,783·2 | 4·6882703 |
| 68¾ | 17,007 | 546,479 | 5·7375735 | 82¾ | 2,740·9 | 45,906·3 | 4·6618723 |
| 69 | 16,651 | 529,472 | 5·7238430 | 83 | 2,609·3 | 43,165·4 | 4·6351357 |
| 69¼ | 16,298 | 512,821 | 5·7099658 | 83¼ | 2,482·1 | 40,556·1 | 4·6080562 |
| 69½ | 15,947 | 496,523 | 5·6959393 | 83½ | 2,359·2 | 38,074·0 | 4·5806285 |
| 69¾ | 15,600 | 480,576 | 5·6817621 | 83¾ | 2,240·6 | 35,714·8 | 4·5528483 |

## QUARTERLY TABLE:—Females. Interest 3 per Cent.

| Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ | Age ($x$) | $D_x$ | $N_x$ | $\lambda N_x$ |
|---|---|---|---|---|---|---|---|
| 84 | 2,126·2 | 33,474·2 | 4·5247102 | 97 | 32·376 | 271·074 | 2·4330879 |
| 84¼ | 2,015·9 | 31,348·0 | 4·4962098 | 97¼ | 28·843 | 238·698 | 2·3778488 |
| 84½ | 1,909·8 | 29,332·1 | 4·4673432 | 97½ | 25·654 | 209·855 | 2·3219194 |
| 84¾ | 1,807·7 | 27,422·3 | 4·4381039 | 97¾ | 22·780 | 184·201 | 2·2652920 |
| 85 | 1,709·6 | 25,614·6 | 4·4084876 | 98 | 20·195 | 161·421 | 2·2079600 |
| 85¼ | 1,615·4 | 23,905·0 | 4·3784887 | 98¼ | 17·874 | 141·226 | 2·1499147 |
| 85½ | 1,525·0 | 22,289·6 | 4·3481023 | 98½ | 15·793 | 123·352 | 2·0911463 |
| 85¾ | 1,438·4 | 20,764·6 | 4·3173235 | 98¾ | 13·930 | 107·559 | 2·0316469 |
| 86 | 1,355·4 | 19,326·2 | 4·2861465 | 99 | 12·266 | 93·629 | 1 9714104 |
| 86¼ | 1,276·1 | 17,970·8 | 4·2545674 | 99¼ | 10·782 | 81·363 | 1·9104270 |
| 86½ | 1,200·2 | 16,694·7 | 4·2225786 | 99½ | 9·4608 | 70·5809 | 1·8486872 |
| 86¾ | 1,127·8 | 15,494·5 | 4·1901776 | 99¾ | 8·2869 | 61·1201 | 1·7861840 |
| 87 | 1,058·7 | 14,366·7 | 4·1573570 | 100 | 7·2456 | 52·8332 | 1·7229069 |
| 87¼ | 992·91 | 13,308·02 | 4·1241128 | 100¼ | 6·3238 | 45·5876 | 1·6588467 |
| 87½ | 930·25 | 12,315·11 | 4·0904379 | 100½ | 5·5091 | 39·2638 | 1·5939923 |
| 87¾ | 870·67 | 11,384·86 | 4·0563292 | 100¾ | 4·7905 | 33·7547 | 1·5283342 |
| 88 | 814·07 | 10,514·19 | 4·0217763 | 101 | 4·1579 | 28·9642 | 1·4618615 |
| 88¼ | 760·36 | 9,700·12 | 3·9867771 | 101¼ | 3·6021 | 24·8063 | 1·3945620 |
| 88½ | 709·44 | 8,939·76 | 3·9513258 | 101½ | 3·1146 | 21·2042 | 1·3264219 |
| 88¾ | 661·23 | 8,230·32 | 3·9154167 | 101¾ | 2·6879 | 18·0896 | 1·2574290 |
| 89 | 615·63 | 7,569·09 | 3·8790436 | 102 | 2·3152 | 15·4017 | 1·1875686 |
| 89¼ | 572·55 | 6,953·46 | 3·8422010 | 102¼ | 1·9902 | 13·0865 | 1·1168235 |
| 89½ | 531·90 | 6,380·91 | 3·8048826 | 102½ | 1·7075 | 11·0963 | 1·0451782 |
| 89¾ | 493·57 | 5,849·01 | 3·7670823 | 102¾ | 1·4620 | 9·3888 | 0·9726101 |
| 90 | 457·49 | 5,355·44 | 3·7287951 | 103 | 1·2493 | 7·9268 | 0·8990979 |
| 90¼ | 423·56 | 4,897·95 | 3·6900144 | 103¼ | 1·0653 | 6·6775 | 0·8246139 |
| 90½ | 391·69 | 4,474·39 | 3·6507338 | 103½ | ·9066 | 5·6122 | 0·7491331 |
| 90¾ | 361·79 | 4,082·70 | 3·6109475 | 103¾ | ·7699 | 4·7056 | 0·6726150 |
| 91 | 333·77 | 3,720·91 | 3·5706492 | 104 | ·6525 | 3·9357 | 0·5950220 |
| 91¼ | 307·55 | 3,387·14 | 3·5298331 | 104¼ | ·5518 | 3·2832 | 0·5162973 |
| 91½ | 283·04 | 3,079·59 | 3·4884929 | 104½ | ·4656 | 2·7314 | 0·4363853 |
| 91¾ | 260·17 | 2,796·55 | 3·4466226 | 104¾ | ·3921 | 2·2658 | 0·3552216 |
| 92 | 238·84 | 2,536·38 | 3·4042143 | 105 | ·3294 | 1·8737 | 0·2727001 |
| 92¼ | 218·98 | 2,297·54 | 3·3612631 | 105¼ | ·2762 | 1·5443 | 0·1887317 |
| 92½ | 200·52 | 2,078·56 | 3·3177625 | 105½ | ·2310 | 1·2681 | 0·1031535 |
| 92¾ | 183·37 | 1,878·04 | 3·2737048 | 105¾ | ·1928 | 1·0371 | 0·0158206 |
| 93 | 167·47 | 1,694·67 | 3·2290851 | 106 | ·1606 | ·8443 | $\bar{1}$·9264968 |
| 93¼ | 152·74 | 1,527·20 | 3·1838959 | 106¼ | ·1334 | ·6837 | $\bar{1}$·8348656 |
| 93½ | 139·13 | 1,374·46 | 3·1381321 | 106½ | ·1106 | ·5503 | $\bar{1}$·7405995 |
| 93¾ | 126·55 | 1,235·33 | 3·0917830 | 106¾ | ·0915 | ·4397 | $\bar{1}$·6431565 |
| 94 | 114·95 | 1,108·78 | 3·0448454 | 107 | ·0755 | ·3482 | $\bar{1}$·5418288 |
| 94¼ | 104·27 | 993·83 | 2·9973121 | 107¼ | ·0621 | ·2727 | $\bar{1}$·4356851 |
| 94½ | 94·448 | 889·559 | 2·9491747 | 107½ | ·0510 | ·2106 | $\bar{1}$·3234584 |
| 94¾ | 85·429 | 795·111 | 2·9004278 | 107¾ | ·0418 | ·1596 | $\bar{1}$·2030329 |
| 95 | 77·160 | 709·682 | 2·8510638 | 108 | ·0341 | ·1178 | $\bar{1}$·0711453 |
| 95¼ | 69·589 | 632·522 | 2·8010757 | 108¼ | ·0278 | ·0837 | $\bar{2}$·9227255 |
| 95½ | 62·669 | 562·933 | 2·7504567 | 108½ | ·0226 | ·0559 | $\bar{2}$·7474118 |
| 95¾ | 56·352 | 500·264 | 2·6991993 | 108¾ | ·0184 | ·0333 | $\bar{2}$·5224442 |
| 96 | 50·596 | 443·912 | 2·6472969 | 109 | ·0149 | ·0149 | $\bar{2}$·1731863 |
| 96¼ | 45·358 | 393·316 | 2·5947416 | | | | |
| 96½ | 40·600 | 347·958 | 2·5415268 | | | | |
| 96¾ | 36·284 | 507·358 | 2·4876445 | | | | |

## QUARTERLY TABLE :—**Males.** Interest 3 per Cent.

### Values of Annuities.* Single and Quarterly Premiums which insure £1 on the Life of a Male.

| **Age** | **Present Value** of an **Annuity** of £1 payable every **Quarter** of a Year. | **Annuity** payable every **Quarter** of a Year which £1 will purchase. | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Quarterly Premium** which will insure £1 over the **Whole Term of Life.** | $\lambda\left(\frac{N_x}{D_x}\right)$ $=\lambda A_x$ | $\lambda\,\Pi_x$ | $\lambda\,\pi_x$ | **Age** |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1-d\,A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 0 | 74·4718 | ·013428 | ·44562 | ·005984 | 1·8719919 | $\bar{1}$·6489647 | $\bar{3}$·7769916 | 0 |
| 0¼ | 80·8454 | ·012369 | ·39817 | ·004925 | 1·9076554 | $\bar{1}$·6000685 | $\bar{3}$·6924062 | 0¼ |
| 0½ | 83·2812 | ·012008 | ·38004 | ·004564 | 1·9205470 | $\bar{1}$·5798293 | $\bar{3}$·6593456 | 0½ |
| 0¾ | 85·4465 | ·011703 | ·36392 | ·004259 | 1·9316945 | $\bar{1}$·5610059 | $\bar{3}$·6293076 | 0¾ |
| 1 | 87·2810 | ·011457 | ·35027 | ·004013 | 1·9409198 | $\bar{1}$·5444029 | $\bar{3}$·6034692 | 1 |
| 1¼ | 88·7250 | ·011271 | ·33952 | ·003827 | 1·9480458 | $\bar{1}$·5308654 | $\bar{3}$·5828585 | 1¼ |
| 1½ | 89·9616 | ·011116 | ·33031 | ·003672 | 1·9540572 | $\bar{1}$·5189217 | $\bar{3}$·5649027 | 1½ |
| 1¾ | 91·0051 | ·010988 | ·32254 | ·003544 | 1·9590658 | $\bar{1}$·5085836 | $\bar{3}$·5494937 | 1¾ |
| 2 | 91·8718 | ·010885 | ·31609 | ·003441 | 1·9631824 | $\bar{1}$·4998108 | $\bar{3}$·5366847 | 2 |
| 2¼ | 92·5808 | ·010801 | ·31081 | ·003357 | 1·9665212 | $\bar{1}$·4924950 | $\bar{3}$·5259513 | 2¼ |
| 2½ | 93·1534 | ·010735 | ·30655 | ·003291 | 1·9691985 | $\bar{1}$·4865013 | $\bar{3}$·5173279 | 2½ |
| 2¾ | 93·6119 | ·010682 | ·30314 | ·003238 | 1·9713312 | $\bar{1}$·4816432 | $\bar{3}$·5102768 | 2¾ |
| 3 | 93·9801 | ·010641 | ·30040 | ·003197 | 1·9730361 | $\bar{1}$·4776999 | $\bar{3}$·5047426 | 3 |
| 3¼ | 94·3100 | ·010603 | ·29794 | ·003159 | 1·9745577 | $\bar{1}$·4741288 | $\bar{3}$·4995496 | 3¼ |
| 3½ | 94·5984 | ·010571 | ·29579 | ·003127 | 1·9758838 | $\bar{1}$·4709835 | $\bar{3}$·4951279 | 3½ |
| 3¾ | 94·8480 | ·010543 | ·29394 | ·003099 | 1·9770283 | $\bar{1}$·4682587 | $\bar{3}$·4912216 | 3¾ |
| 4 | 95·0616 | ·010519 | ·29234 | ·003075 | 1·9780053 | $\bar{1}$·4658882 | $\bar{3}$·4878451 | 4 |
| 4¼ | 95·2414 | ·010500 | ·29101 | ·003056 | 1·9788259 | $\bar{1}$·4639079 | $\bar{3}$·4851533 | 4¼ |
| 4½ | 95·3901 | ·010483 | ·28990 | ·003039 | 1·9795035 | $\bar{1}$·4622482 | $\bar{3}$·4827307 | 4½ |
| 4¾ | 95·5096 | ·010470 | ·28901 | ·003026 | 1·9800471 | $\bar{1}$·4609129 | $\bar{3}$·4808689 | 4¾ |
| 5 | 95·6026 | ·010460 | ·28832 | ·003016 | 1·9804699 | $\bar{1}$·4598748 | $\bar{3}$·4794313 | 5 |
| 5¼ | 95·6709 | ·010452 | ·28781 | ·003008 | 1·9807801 | $\bar{1}$·4591059 | $\bar{3}$·4782778 | 5¼ |
| 5½ | 95·7174 | ·010447 | ·28746 | ·003003 | 1·9809908 | $\bar{1}$·4585774 | $\bar{3}$·4775553 | 5½ |
| 5¾ | 95·7431 | ·010445 | ·28727 | ·003001 | 1·9811073 | $\bar{1}$·4582903 | $\bar{3}$·4772660 | 5¾ |
| 6 | 95·7505 | ·010444 | ·28722 | ·003000 | 1·9811413 | $\bar{1}$·4582147 | $\bar{3}$·4771213 | 6 |
| 6¼ | 95·7417 | ·010445 | ·28728 | ·003001 | 1·9811012 | $\bar{1}$·4583054 | $\bar{3}$·4772660 | 6¼ |
| 6½ | 95·7178 | ·010447 | ·28746 | ·003003 | 1·9809929 | $\bar{1}$·4585774 | $\bar{3}$·4775553 | 6½ |
| 6¾ | 95·6808 | ·010451 | ·28774 | ·003007 | 1·9808249 | $\bar{1}$·4590002 | $\bar{3}$·4781334 | 6¾ |
| 7 | 95·6321 | ·010457 | ·28810 | ·003013 | 1·9806037 | $\bar{1}$·4595433 | $\bar{3}$·4789991 | 7 |
| 7¼ | 95·5769 | ·010463 | ·28851 | ·003019 | 1·9803531 | $\bar{1}$·4601609 | $\bar{3}$·4798631 | 7¼ |
| 7½ | 95·5107 | ·010470 | ·28900 | ·003026 | 1·9800520 | $\bar{1}$·4608978 | $\bar{3}$·4808689 | 7½ |
| 7¾ | 95·4334 | ·010479 | ·28958 | ·003035 | 1·9797005 | $\bar{1}$·4617686 | $\bar{3}$·4821587 | 7¾ |
| 8 | 95·3454 | ·010488 | ·29023 | ·003044 | 1·9792998 | $\bar{1}$·4627423 | $\bar{3}$·4834446 | 8 |
| 8¼ | 95·2477 | ·010499 | ·29096 | ·003055 | 1·9788546 | $\bar{1}$·4638333 | $\bar{3}$·4850112 | 8¼ |
| 8½ | 95·1406 | ·010511 | ·29176 | ·003067 | 1·9783660 | $\bar{1}$·4650258 | $\bar{3}$·4867138 | 8½ |
| 8¾ | 95·0240 | ·010524 | ·29262 | ·003080 | 1·9778334 | $\bar{1}$·4663040 | $\bar{3}$·4885507 | 8¾ |
| 9 | 94·8993 | ·010537 | ·29355 | ·003093 | 1·9772631 | $\bar{1}$·4676821 | $\bar{3}$·4903799 | 9 |
| 9¼ | 94·7664 | ·010552 | ·29454 | ·003108 | 1·9766544 | $\bar{1}$·4691443 | $\bar{3}$·4924810 | 9¼ |
| 9½ | 94·6255 | ·010568 | ·29559 | ·003124 | 1·9760080 | $\bar{1}$·4706897 | $\bar{3}$·4947110 | 9½ |
| 9¾ | 94·4775 | ·010585 | ·29669 | ·003141 | 1·9753283 | $\bar{1}$·4723029 | $\bar{3}$·4970679 | 9¾ |
| 10 | 94·3226 | ·010602 | ·29785 | ·003158 | 1·9746159 | $\bar{1}$·4739976 | $\bar{3}$·4994121 | 10 |
| 10¼ | 94·1615 | ·010620 | ·29905 | ·003176 | 1·9738735 | $\bar{1}$·4757438 | $\bar{3}$·5018805 | 10¼ |
| 10½ | 93·9943 | ·010639 | ·30029 | ·003195 | 1·9731015 | $\bar{1}$·4775409 | $\bar{3}$·5044709 | 10½ |
| 10¾ | 93·8215 | ·010659 | ·30158 | ·003215 | 1·9723022 | $\bar{1}$·4794025 | $\bar{3}$·5071810 | 10¾ |
| 11 | 93·6435 | ·010679 | 30290 | ·003235 | 1·9714779 | $\bar{1}$·4812993 | $\bar{3}$·5098743 | 11 |
| 11¼ | 93·4607 | ·010700 | ·30426 | ·003256 | 1·9706289 | $\bar{1}$·4832449 | $\bar{3}$·5126844 | 11¼ |
| 11½ | 93·2733 | ·010721 | ·30566 | ·003277 | 1·9697573 | $\bar{1}$·4852386 | $\bar{3}$·5154764 | 11½ |
| 11¾ | 93·0819 | ·010743 | ·30708 | ·003299 | 1·9688652 | $\bar{1}$·4872515 | $\bar{3}$·5183823 | 11¾ |
| 12 | 92·8869 | ·010766 | ·30853 | ·003322 | 1·9679547 | $\bar{1}$·4892974 | $\bar{3}$·5213996 | 12 |
| 12¼ | 92·6885 | ·010789 | ·31001 | ·003345 | 1·9670258 | $\bar{1}$·4913757 | $\bar{3}$·5243961 | 12¼ |
| 12½ | 92·4869 | ·010812 | ·31151 | ·003368 | 1·9660803 | $\bar{1}$·4934720 | $\bar{3}$·5273721 | 12½ |
| 12¾ | 92·2826 | ·010836 | ·31303 | ·003392 | 1·9651199 | $\bar{1}$·4955860 | $\bar{3}$·5304558 | 12¾ |
| 13 | 92·0761 | ·010861 | ·31457 | ·003417 | 1·9641469 | $\bar{1}$·4977173 | $\bar{3}$·5336450 | 13 |
| 13¼ | 91·8672 | ·010885 | ·31612 | ·003441 | 1·9631605 | $\bar{1}$·4998520 | $\bar{3}$·5366847 | 13¼ |
| 13½ | 91·6564 | ·010910 | ·31769 | ·003466 | 1·9621627 | $\bar{1}$·5020035 | $\bar{3}$·5398286 | 13½ |
| 13¾ | 91·4440 | ·010936 | ·31928 | ·003492 | 1·9611550 | $\bar{1}$·5041717 | $\bar{3}$·5430742 | 13¾ |

* **Note.**—The value of an Annuity of £·250 payable at the commencement of every **Quarter** of a Year that the Annuitant lives, making £1 a Year, is obtained by dividing the Number in Column 2. by *four*. The **Sum Insured** is payable at the end of the **Quarter** of a Year of Age in which death happens.

## QUARTERLY TABLE :—MALES. Interest 3 per Cent.

VALUES OF ANNUITIES. SINGLE and QUARTERLY PREMIUMS which insure £1 on the LIFE of a MALE.

| Age | Present Value of an Annuity of £1 payable every Quarter of a Year. | Annuity payable every Quarter of a Year which £1 will purchase. | Single Premium which will insure £1 over the Whole Term of Life. | Quarterly Premium which will insure £1 over the Whole Term of Life. | $\lambda\left(\frac{N_x}{D_x}\right) = \lambda A_x$ | $\lambda\,\Pi_x$ | $\lambda\,\pi_x$ | Age |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1 - d\,A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 14 | 91·2307 | ·010961 | ·32086 | ·003517 | 1·9601409 | $\bar{1}$·5063156 | $\bar{3}$·5461724 | 14 |
| 14¼ | 91·0161 | ·010987 | ·32246 | ·003543 | 1·9591180 | $\bar{1}$·5084758 | $\bar{3}$·5493712 | 14¼ |
| 14½ | 90·8008 | ·011013 | ·32406 | ·003569 | 1·9580897 | $\bar{1}$·5106254 | $\bar{3}$·5525465 | 14½ |
| 14¾ | 90·5848 | ·011039 | ·32567 | ·003595 | 1·9570553 | $\bar{1}$·5127778 | $\bar{3}$·5556989 | 14¾ |
| 15 | 90·3688 | ·011066 | ·32728 | ·003622 | 1·9560184 | $\bar{1}$·5149195 | $\bar{3}$·5589484 | 15 |
| 15¼ | 90·1526 | ·011092 | ·32889 | ·003648 | 1·9549782 | $\bar{1}$·5170507 | $\bar{3}$·5620548 | 15¼ |
| 15½ | 89·9364 | ·011119 | ·33050 | ·003675 | 1·9539357 | $\bar{1}$·5191715 | $\bar{3}$·5652573 | 15½ |
| 15¾ | 89·7211 | ·011146 | ·33210 | ·003702 | 1·9528945 | $\bar{1}$·5212689 | $\bar{3}$·5684364 | 15¾ |
| 16 | 89·5058 | ·011172 | ·33370 | ·003728 | 1·9518513 | $\bar{1}$·5233562 | $\bar{3}$·5714759 | 16 |
| 16¼ | 89·2909 | ·011199 | ·33530 | ·003755 | 1·9508072 | $\bar{1}$·5254336 | $\bar{3}$·5746099 | 16¼ |
| 16½ | 89·0774 | ·011226 | ·33689 | ·003782 | 1·9497678 | $\bar{1}$·5274881 | $\bar{3}$·5777215 | 16½ |
| 16¾ | 88·8647 | ·011253 | ·33848 | ·003809 | 1·9487294 | $\bar{1}$·5295330 | $\bar{3}$·5808110 | 16¾ |
| 17 | 88·6529 | ·011280 | ·34005 | ·003836 | 1·9476930 | $\bar{1}$·5315428 | $\bar{3}$·5838786 | 17 |
| 17¼ | 88·4427 | ·011307 | ·34162 | ·003863 | 1·9466620 | $\bar{1}$·5335433 | $\bar{3}$·5869247 | 17¼ |
| 17½ | 88·2343 | ·011333 | ·34317 | ·003889 | 1·9456374 | $\bar{1}$·5355093 | $\bar{3}$·5898379 | 17½ |
| 17¾ | 88·0268 | ·011360 | ·34471 | ·003916 | 1·9446148 | $\bar{1}$·5374539 | $\bar{3}$·5928427 | 17¾ |
| 18 | 87·8213 | ·011387 | ·34624 | ·003943 | 1·9436001 | $\bar{1}$·5393772 | $\bar{3}$·5958268 | 18 |
| 18¼ | 87·6171 | ·011413 | ·34776 | ·003969 | 1·9425890 | $\bar{1}$·5412796 | $\bar{3}$·5986811 | 18¼ |
| 18½ | 87·4152 | ·011440 | ·34927 | ·003996 | 1·9415872 | $\bar{1}$·5431613 | $\bar{3}$·6016255 | 18½ |
| 18¾ | 87·2148 | ·011466 | ·35076 | ·004022 | 1·9405904 | $\bar{1}$·5450101 | $\bar{3}$·6044421 | 18¾ |
| 19 | 87·0164 | ·011492 | ·35223 | ·004048 | 1·9396013 | $\bar{1}$·5468263 | $\bar{3}$·6072405 | 19 |
| 19¼ | 86·8203 | ·011518 | ·35370 | ·004074 | 1·9386211 | $\bar{1}$·5486351 | $\bar{3}$·6100210 | 19¼ |
| 19½ | 86·6265 | ·011544 | ·35514 | ·004100 | 1·9376507 | $\bar{1}$·5503996 | $\bar{3}$·6127839 | 19½ |
| 19¾ | 86·4342 | ·011569 | ·35657 | ·004125 | 1·9366856 | $\bar{1}$·5521448 | $\bar{3}$·6154240 | 19¾ |
| 20 | 86·2445 | ·011595 | ·35798 | ·004151 | 1·9357313 | $\bar{1}$·5538588 | $\bar{3}$·6181527 | 20 |
| 20¼ | 86·0610 | ·011620 | ·35935 | ·004176 | 1·9348066 | $\bar{1}$·5555176 | $\bar{3}$·6207605 | 20¼ |
| 20½ | 85·8766 | ·011645 | ·36072 | ·004201 | 1·9338751 | $\bar{1}$·5571702 | $\bar{3}$·6233527 | 20½ |
| 20¾ | 85·6919 | ·011670 | ·36209 | ·004226 | 1·9329400 | $\bar{1}$·5588165 | $\bar{3}$·6259295 | 20¾ |
| 21 | 85·5064 | ·011695 | ·36348 | ·004251 | 1·9319985 | $\bar{1}$·5604805 | $\bar{3}$·6284911 | 21 |
| 21¼ | 85·3200 | ·011721 | ·36486 | ·004277 | 1·9310509 | $\bar{1}$·5621263 | $\bar{3}$·6311393 | 21¼ |
| 21½ | 85·1324 | ·011746 | ·36626 | ·004302 | 1·9300946 | $\bar{1}$·5637895 | $\bar{3}$·6336704 | 21½ |
| 21¾ | 84·9446 | ·011772 | ·36766 | ·004328 | 1·9291357 | $\bar{1}$·5654464 | $\bar{3}$·6362873 | 21¾ |
| 22 | 84·7551 | ·011799 | ·36907 | ·004355 | 1·9281657 | $\bar{1}$·5671087 | $\bar{3}$ 6389882 | 22 |
| 22¼ | 84·5656 | ·011825 | ·37048 | ·004381 | 1·9271937 | $\bar{1}$·5687648 | $\bar{3}$·6415733 | 22¼ |
| 22½ | 84·3745 | ·011852 | ·37190 | ·004408 | 1·9262109 | $\bar{1}$·5704262 | $\bar{3}$·6442416 | 22½ |
| 22¾ | 84·1829 | ·011879 | ·37333 | ·004435 | 1·9252238 | $\bar{1}$·5720929 | $\bar{3}$·6468936 | 22¾ |
| 23 | 83·9904 | ·011906 | ·37476 | ·004462 | 1·9242297 | $\bar{1}$·5737532 | $\bar{3}$·6495296 | 23 |
| 23¼ | 83·7964 | ·011934 | ·37621 | ·004490 | 1·9232255 | $\bar{1}$·5754303 | $\bar{3}$·6522463 | 23¼ |
| 23½ | 83·6023 | ·011961 | ·37765 | ·004517 | 1·9222180 | $\bar{1}$·5770895 | $\bar{3}$·6548501 | 23½ |
| 23¾ | 83·4067 | ·011989 | ·37911 | ·004545 | 1·9212010 | $\bar{1}$·5787652 | $\bar{3}$·6575339 | 23¾ |
| 24 | 83·2099 | ·012018 | ·38057 | ·004574 | 1·9201748 | $\bar{1}$·5804346 | $\bar{3}$·6602962 | 24 |
| 24¼ | 83·0124 | ·012046 | ·38204 | ·004602 | 1·9191431 | $\bar{1}$·5821088 | $\bar{3}$·6629466 | 24¼ |
| 24½ | 82·8138 | ·012075 | ·38352 | ·004631 | 1·9181028 | $\bar{1}$·5837880 | $\bar{3}$·6656748 | 24½ |
| 24¾ | 82·6141 | ·012104 | ·38501 | ·004660 | 1·9170542 | $\bar{1}$·5854720 | $\bar{3}$·6683859 | 24¾ |
| 25 | 82·4134 | ·012134 | ·38650 | ·004690 | 1·9159977 | $\bar{1}$·5871495 | $\bar{3}$·6711728 | 25 |
| 25¼ | 82·2117 | ·012164 | ·38800 | ·004720 | 1·9149334 | $\bar{1}$·5888317 | $\bar{3}$·6739420 | 25¼ |
| 25½ | 82·0091 | ·012194 | ·38951 | ·004750 | 1·9138618 | $\bar{1}$·5905186 | $\bar{3}$·6766936 | 25½ |
| 25¾ | 81·8050 | ·012224 | ·39103 | ·004780 | 1·9127797 | $\bar{1}$·5922101 | $\bar{3}$·6794279 | 25¾ |
| 26 | 81·5995 | ·012255 | ·39256 | ·004811 | 1·9116872 | $\bar{1}$·5939060 | $\bar{3}$·6822354 | 26 |
| 26¼ | 81·3933 | ·012286 | ·39409 | ·004842 | 1·9105887 | $\bar{1}$·5955954 | $\bar{3}$·6850248 | 26¼ |
| 26½ | 81·1858 | ·012317 | ·39564 | ·004873 | 1·9094802 | $\bar{1}$·5973002 | $\bar{3}$·6877964 | 26½ |
| 26¾ | 80·9772 | ·012349 | ·39719 | ·004905 | 1·9083626 | $\bar{1}$·5989983 | $\bar{3}$·6906390 | 26¾ |
| 27 | 80·7674 | ·012381 | ·39875 | ·004937 | 1·9072360 | $\bar{1}$·6007007 | $\bar{3}$·6934631 | 27 |
| 27¼ | 80·5566 | ·012414 | ·40032 | ·004970 | 1·9061009 | $\bar{1}$·6024073 | $\bar{3}$·6963564 | 27¼ |
| 27½ | 80·3447 | ·012446 | ·40190 | ·005002 | 1·9049574 | $\bar{1}$·6041180 | $\bar{3}$·6991437 | 27½ |
| 27¾ | 80·1313 | ·012480 | ·40349 | ·005036 | 1·9038021 | $\bar{1}$·6058328 | $\bar{3}$·7020857 | 27¾ |

## QUARTERLY TABLE :—MALES. Interest 3 per Cent.

VALUES OF ANNUITIES. SINGLE and QUARTERLY PREMIUMS which insure £1 on the LIFE of a MALE.

| Age | Present Value of an Annuity of £1 payable every Quarter of a Year | Annuity payable every Quarter of a Year which £1 will purchase. | Single Premium which will insure £1 over the Whole Term of Life. | Quarterly Premium which will insure £1 over the Whole Term of Life. | $\lambda\left(\frac{N_x}{D_x}\right)$ $=\lambda A_x$ | $\lambda \Pi_x$ | $\lambda \pi_x$ | Age |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1-d A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 28 | 79·9163 | ·012513 | ·40509 | ·005069 | 1·9026355 | $\bar{1}$·6075515 | $\bar{3}$·7049223 | 28 |
| $28\frac{1}{4}$ | 79·7005 | ·012547 | ·40670 | ·005103 | 1·9014613 | $\bar{1}$·6092742 | $\bar{3}$·7078256 | $28\frac{1}{4}$ |
| $28\frac{1}{2}$ | 79·4842 | ·012581 | ·40831 | ·005137 | 1·9002806 | $\bar{1}$·6109900 | $\bar{3}$·7107096 | $28\frac{1}{2}$ |
| $28\frac{3}{4}$ | 79·2657 | ·012616 | ·40993 | ·005172 | 1·8990852 | $\bar{1}$·6127097 | $\bar{3}$·7136585 | $28\frac{3}{4}$ |
| 29 | 79·0459 | ·012651 | ·41157 | ·005207 | 1·8978796 | $\bar{1}$·6144437 | $\bar{3}$·7165876 | 29 |
| $29\frac{1}{4}$ | 78·8258 | ·012686 | ·41321 | ·005242 | 1·8966686 | $\bar{1}$·6161708 | $\bar{3}$·7194970 | $29\frac{1}{4}$ |
| $29\frac{1}{2}$ | 78·6034 | ·012722 | ·41486 | ·005278 | 1·8954415 | $\bar{1}$·6179016 | $\bar{3}$·7224694 | $29\frac{1}{2}$ |
| $29\frac{3}{4}$ | 78·3802 | ·012758 | ·41652 | ·005314 | 1·8942064 | $\bar{1}$·6196359 | $\bar{3}$·7254216 | $29\frac{3}{4}$ |
| 30 | 78·1556 | ·012795 | ·41820 | ·005351 | 1·8929604 | $\bar{1}$·6213840 | $\bar{3}$·7284350 | 30 |
| $30\frac{1}{4}$ | 77·9299 | ·012832 | ·41988 | ·005388 | 1·8917039 | $\bar{1}$·6231252 | $\bar{3}$·7314276 | $30\frac{1}{4}$ |
| $30\frac{1}{2}$ | 77·7028 | ·012870 | ·42157 | ·005426 | 1·8904368 | $\bar{1}$·6248697 | $\bar{3}$·7344798 | $30\frac{1}{2}$ |
| $30\frac{3}{4}$ | 77·4744 | ·012907 | ·42327 | ·005463 | 1·8891582 | $\bar{1}$·6266175 | $\bar{3}$·7374312 | $30\frac{3}{4}$ |
| 31 | 77·2447 | ·012946 | ·42498 | ·005502 | 1·8878689 | $\bar{1}$·6283685 | $\bar{3}$·7405206 | 31 |
| $31\frac{1}{4}$ | 77·0138 | ·012985 | ·42670 | ·005541 | 1·8865683 | $\bar{1}$·6301226 | $\bar{3}$·7435882 | $31\frac{1}{4}$ |
| $31\frac{1}{2}$ | 76·7815 | ·013024 | ·42843 | ·005580 | 1·8852567 | $\bar{1}$·6318799 | $\bar{3}$·7466342 | $31\frac{1}{2}$ |
| $31\frac{3}{4}$ | 76·5479 | ·013064 | ·43016 | ·005620 | 1·8839332 | $\bar{1}$·6336300 | $\bar{3}$·7497363 | $31\frac{3}{4}$ |
| 32 | 76·3130 | ·013104 | ·43191 | ·005660 | 1·8825986 | $\bar{1}$·6353933 | $\bar{3}$·7528164 | 32 |
| $32\frac{1}{4}$ | 76·0768 | ·013145 | ·43367 | ·005701 | 1·8812524 | $\bar{1}$·6371594 | $\bar{3}$·7559510 | $32\frac{1}{4}$ |
| $32\frac{1}{2}$ | 75·8393 | ·013186 | ·43544 | ·005742 | 1·8798944 | $\bar{1}$·6389283 | $\bar{3}$·7590632 | $32\frac{1}{2}$ |
| $32\frac{3}{4}$ | 75·6005 | ·013227 | ·43722 | ·005783 | 1·8785245 | $\bar{1}$·6407000 | $\bar{3}$·7621532 | $32\frac{3}{4}$ |
| 33 | 75·3603 | ·013270 | ·43901 | ·005826 | 1·8771425 | $\bar{1}$·6424744 | $\bar{3}$·7653705 | 33 |
| $33\frac{1}{4}$ | 75·1187 | ·013312 | ·44080 | ·005868 | 1·8757483 | $\bar{1}$·6442416 | $\bar{3}$·7684901 | $33\frac{1}{4}$ |
| $33\frac{1}{2}$ | 74·8760 | ·013355 | ·44261 | ·005911 | 1·8743425 | $\bar{1}$·6460212 | $\bar{3}$·7716610 | $33\frac{1}{2}$ |
| $33\frac{3}{4}$ | 74·6318 | ·013399 | ·44443 | ·005955 | 1·8729237 | $\bar{1}$·6478034 | $\bar{3}$·7748818 | $33\frac{3}{4}$ |
| 34 | 74·3863 | ·013443 | ·44626 | ·005999 | 1·8714928 | $\bar{1}$·6495880 | $\bar{3}$·7780789 | 34 |
| $34\frac{1}{4}$ | 74·1394 | ·013488 | ·44809 | ·006044 | 1·8700493 | $\bar{1}$·6513653 | $\bar{3}$·7813245 | $34\frac{1}{4}$ |
| $34\frac{1}{2}$ | 73·8913 | ·013533 | ·44994 | ·006089 | 1·8685934 | $\bar{1}$·6531546 | $\bar{3}$·7845460 | $34\frac{1}{2}$ |
| $34\frac{3}{4}$ | 73·6418 | ·013579 | ·45180 | ·006135 | 1·8671245 | $\bar{1}$·6549462 | $\bar{3}$·7878146 | $34\frac{3}{4}$ |
| 35 | 73·3911 | ·013626 | ·45366 | ·006182 | 1·8656431 | $\bar{1}$·6567305 | $\bar{3}$·7911290 | 35 |
| $35\frac{1}{4}$ | 73·1389 | ·013673 | ·45554 | ·006229 | 1·8641482 | $\bar{1}$·6585265 | $\bar{3}$·7944183 | $35\frac{1}{4}$ |
| $35\frac{1}{2}$ | 72·8854 | ·013720 | ·45743 | ·006276 | 1·8626404 | $\bar{1}$·6603246 | $\bar{3}$·7976829 | $35\frac{1}{2}$ |
| $35\frac{3}{4}$ | 72·6306 | ·013768 | ·45933 | ·006324 | 1·8611194 | $\bar{1}$·6621248 | $\bar{3}$·8009919 | $35\frac{3}{4}$ |
| 36 | 72·3744 | ·013817 | ·46123 | ·006373 | 1·8595852 | $\bar{1}$·6639175 | $\bar{3}$·8043439 | 36 |
| $36\frac{1}{4}$ | 72·1171 | ·013866 | ·46315 | ·006422 | 1·8580380 | $\bar{1}$·6657217 | $\bar{3}$·8076703 | $36\frac{1}{4}$ |
| $36\frac{1}{2}$ | 71·8582 | ·013916 | ·46507 | ·006472 | 1·8564766 | $\bar{1}$·6675183 | $\bar{3}$·8110385 | $36\frac{1}{2}$ |
| $36\frac{3}{4}$ | 71·5981 | ·013967 | ·46701 | ·006523 | 1·8549017 | $\bar{1}$·6693262 | $\bar{3}$·8144474 | $36\frac{3}{4}$ |
| 37 | 71·3367 | ·014018 | ·46896 | ·006574 | 1·8533128 | $\bar{1}$·6711358 | $\bar{3}$·8178297 | 37 |
| $37\frac{1}{4}$ | 71·0739 | ·014070 | ·47091 | ·006626 | 1·8517100 | $\bar{1}$·6729379 | $\bar{3}$·8212514 | $37\frac{1}{4}$ |
| $37\frac{1}{2}$ | 70·8098 | ·014122 | ·47288 | ·006678 | 1·8500935 | $\bar{1}$·6747509 | $\bar{3}$·8246464 | $37\frac{1}{2}$ |
| $37\frac{3}{4}$ | 70·5444 | ·014175 | ·47486 | ·006731 | 1·8484625 | $\bar{1}$·6765656 | $\bar{3}$·8280796 | $37\frac{3}{4}$ |
| 38 | 70·2778 | ·014229 | ·47684 | ·006785 | 1·8468179 | $\bar{1}$·6783727 | $\bar{3}$·8315499 | 38 |
| $38\frac{1}{4}$ | 70·0096 | ·014284 | ·47884 | ·006840 | 1·8451579 | $\bar{1}$·6801904 | $\bar{3}$·8350561 | $38\frac{1}{4}$ |
| $38\frac{1}{2}$ | 69·7404 | ·014339 | ·48084 | ·006895 | 1·8434843 | $\bar{1}$·6820006 | $\bar{3}$·8385343 | $38\frac{1}{2}$ |
| $38\frac{3}{4}$ | 69·4697 | ·014395 | ·48286 | ·006951 | 1·8417953 | $\bar{1}$·6838212 | $\bar{3}$·8420473 | $38\frac{3}{4}$ |
| 39 | 69·1978 | ·014451 | ·48488 | ·007007 | 1·8400923 | $\bar{1}$·6856343 | $\bar{3}$·8455321 | 39 |
| $39\frac{1}{4}$ | 68·9246 | ·014509 | ·48691 | ·007065 | 1·8383741 | $\bar{1}$·6874487 | $\bar{3}$·8491122 | $39\frac{1}{4}$ |
| $39\frac{1}{2}$ | 68·6500 | ·014567 | ·48896 | ·007123 | 1·8366405 | $\bar{1}$·6892733 | $\bar{3}$·8526629 | $39\frac{1}{2}$ |
| $39\frac{3}{4}$ | 68·3741 | ·014625 | ·49101 | ·007181 | 1·8348918 | $\bar{1}$·6910903 | $\bar{3}$·8561849 | $39\frac{3}{4}$ |
| 40 | 68·0970 | ·014685 | ·49307 | ·007241 | 1·8331278 | $\bar{1}$·6929086 | $\bar{3}$·8597985 | 40 |
| $40\frac{1}{4}$ | 67·8186 | ·014745 | ·49515 | ·007301 | 1·8313489 | $\bar{1}$·6947368 | $\bar{3}$·8633823 | $40\frac{1}{4}$ |
| $40\frac{1}{2}$ | 67·5389 | ·014806 | ·49723 | ·007362 | 1·8295540 | $\bar{1}$·6965573 | $\bar{3}$·8669958 | $40\frac{1}{2}$ |
| $40\frac{3}{4}$ | 67·2579 | ·014868 | ·49932 | ·007424 | 1·8277435 | $\bar{1}$·6983790 | $\bar{3}$·8706380 | $40\frac{3}{4}$ |
| 41 | 66·9756 | ·014931 | ·50142 | ·007487 | 1·8259169 | $\bar{1}$·7002017 | $\bar{3}$·8743078 | 41 |
| $41\frac{1}{4}$ | 66·6922 | ·014994 | ·50353 | ·007550 | 1·8240750 | $\bar{1}$·7020254 | $\bar{3}$·8779470 | $41\frac{1}{4}$ |
| $41\frac{1}{2}$ | 66·4073 | ·015059 | ·50565 | ·007615 | 1·8222162 | $\bar{1}$·7038500 | $\bar{3}$·8816699 | $41\frac{1}{2}$ |
| $41\frac{3}{4}$ | 66·1213 | ·015124 | ·50778 | ·007680 | 1·8203412 | $\bar{1}$·7056756 | $\bar{3}$·8853612 | $41\frac{3}{4}$ |

## QUARTERLY TABLE :—MALES. Interest 3 per Cent.

### VALUES OF ANNUITIES. SINGLE and QUARTERLY PREMIUMS which insure £1 on the LIFE of a MALE.

| Age | **Present Value** of an **Annuity** of £1 payable every **Quarter** of a Year. | **Annuity** payable every **Quarter** of a Year which £1 will purchase. | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Quarterly Premium** which will insure £1 over the **Whole Term of Life.** | $\lambda \left(\frac{N_x}{D_x}\right) = \lambda A_x$ | $\lambda \Pi_x$ | $\lambda \pi_x$ | Age |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1 - d A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 42 | 65·8340 | ·015190 | ·50992 | ·007746 | 1·8184503 | $\bar{1}$·7075020 | $\bar{3}$·8890775 | 42 |
| 42¼ | 65·5454 | ·015257 | ·51207 | ·007813 | 1·8165422 | $\bar{1}$·7093293 | $\bar{3}$·8928178 | 42¼ |
| 42½ | 65·2555 | ·015324 | ·51423 | ·007880 | 1·8146174 | $\bar{1}$·7111574 | $\bar{3}$·8965262 | 42½ |
| 42¾ | 64·9645 | ·015393 | ·51639 | ·007949 | 1·8126764 | $\bar{1}$·7129778 | $\bar{3}$·9003125 | 42¾ |
| 43 | 64·6722 | ·015463 | ·51857 | ·008019 | 1·8107176 | $\bar{1}$·7148074 | $\bar{3}$·9041202 | 43 |
| 43¼ | 64·3786 | ·015533 | ·52075 | ·008089 | 1·8087418 | $\bar{1}$·7166293 | $\bar{3}$·9078948 | 43¼ |
| 43½ | 64·0838 | ·015605 | ·52295 | ·008161 | 1·8067480 | $\bar{1}$·7184602 | $\bar{3}$·9117434 | 43½ |
| 43¾ | 63·7877 | ·015677 | ·52515 | ·008233 | 1·8047371 | $\bar{1}$·7202834 | $\bar{3}$·9155581 | 43¾ |
| 44 | 63·4905 | ·015750 | ·52737 | ·008306 | 1·8027085 | $\bar{1}$·7221154 | $\bar{3}$·9193919 | 44 |
| 44¼ | 63·1920 | ·015825 | ·52959 | ·008381 | 1·8006624 | $\bar{1}$·7239398 | $\bar{3}$·9232958 | 44¼ |
| 44½ | 62·8923 | ·015900 | ·53182 | ·008456 | 1·7985975 | $\bar{1}$·7257647 | $\bar{3}$·9271650 | 44½ |
| 44¾ | 62·5913 | ·015977 | ·53406 | ·008533 | 1·7965139 | $\bar{1}$·7275901 | $\bar{3}$·9311017 | 44¾ |
| 45 | 62·2892 | ·016054 | ·53631 | ·008610 | 1·7944125 | $\bar{1}$·7294159 | $\bar{3}$·9350032 | 45 |
| 45¼ | 61·9857 | ·016133 | ·53857 | ·008689 | 1·7922912 | $\bar{1}$·7312422 | $\bar{3}$·9389698 | 45¼ |
| 45½ | 61·6811 | ·016212 | ·54084 | ·008768 | 1·7901518 | $\bar{1}$·7330688 | $\bar{3}$·9429005 | 45½ |
| 45¾ | 61·3753 | ·016293 | ·54311 | ·008849 | 1·7879935 | $\bar{1}$·7348878 | $\bar{3}$·9468942 | 45¾ |
| 46 | 61·0683 | ·016375 | ·54540 | ·008931 | 1·7858159 | $\bar{1}$·7367151 | $\bar{3}$·9509001 | 46 |
| 46¼ | 60·7600 | ·016458 | ·54769 | ·009014 | 1·7836179 | $\bar{1}$·7385348 | $\bar{3}$·9549176 | 46¼ |
| 46½ | 60·4505 | ·016542 | ·55000 | ·009098 | 1·7814002 | $\bar{1}$·7403627 | $\bar{3}$·9589459 | 46½ |
| 46¾ | 60·1398 | ·016628 | ·55231 | ·009184 | 1·7791619 | $\bar{1}$·7421829 | $\bar{3}$·9630319 | 46¾ |
| 47 | 59·8281 | ·016715 | ·55463 | ·009271 | 1·7769049 | $\bar{1}$·7440034 | $\bar{3}$·9671266 | 47 |
| 47¼ | 59·5149 | ·016803 | ·55696 | ·009359 | 1·7746258 | $\bar{1}$·7458240 | $\bar{3}$·9712294 | 47¼ |
| 47½ | 59·2006 | ·016892 | ·55930 | ·009448 | 1·7723262 | $\bar{1}$·7476448 | $\bar{3}$·9753399 | 47½ |
| 47¾ | 58·8851 | ·016982 | ·56165 | ·009538 | 1·7700055 | $\bar{1}$·7494658 | $\bar{3}$·9794573 | 47¾ |
| 48 | 58·5685 | ·017074 | ·56401 | ·009630 | 1·7676640 | $\bar{1}$·7512868 | $\bar{3}$·9836263 | 48 |
| 48¼ | 58·2505 | ·017167 | ·56637 | ·009723 | 1·7652993 | $\bar{1}$·7531002 | $\bar{3}$·9878003 | 48¼ |
| 48½ | 57·9314 | ·017262 | ·56875 | ·009818 | 1·7629137 | $\bar{1}$·7549214 | $\bar{3}$·9920230 | 48½ |
| 48¾ | 57·6111 | ·017358 | ·57113 | ·009914 | 1·7605058 | $\bar{1}$·7567350 | $\bar{3}$·9962489 | 48¾ |
| 49 | 57·2896 | ·017455 | ·57353 | ·010011 | 1·7580761 | $\bar{1}$·7585561 | $\bar{2}$·0004775 | 49 |
| 49¼ | 56·9669 | ·017554 | ·57593 | ·010110 | 1·7556225 | $\bar{1}$·7603697 | $\bar{2}$·0047512 | 49¼ |
| 49½ | 56·6429 | ·017654 | ·57834 | ·010210 | 1·7531451 | $\bar{1}$·7621832 | $\bar{2}$·0090257 | 49½ |
| 49¾ | 56·3177 | ·017756 | ·58076 | ·010312 | 1·7506446 | $\bar{1}$·7639967 | $\bar{2}$·0133429 | 49¾ |
| 50 | 55·9912 | ·017860 | ·58319 | ·010416 | 1·7481196 | $\bar{1}$·7658101 | $\bar{2}$·0177010 | 50 |
| 50¼ | 55·6635 | ·017965 | ·58563 | ·010521 | 1·7455707 | $\bar{1}$·7676233 | $\bar{2}$·0220570 | 50¼ |
| 50½ | 55·3346 | ·018072 | ·58808 | ·010628 | 1·7429967 | $\bar{1}$·7694364 | $\bar{2}$·0264515 | 50½ |
| 50¾ | 55·0045 | ·018180 | ·59054 | ·010736 | 1·7403979 | $\bar{1}$·7712493 | $\bar{2}$·0308425 | 50¾ |
| 51 | 54·6731 | ·018291 | ·59300 | ·010847 | 1·7377735 | $\bar{1}$·7730547 | $\bar{2}$·0353096 | 51 |
| 51¼ | 54·3473 | ·018400 | ·59543 | ·010956 | 1·7351783 | $\bar{1}$·7748307 | $\bar{2}$·0396520 | 51¼ |
| 51½ | 54·0210 | ·018511 | ·59786 | ·011067 | 1·7325625 | $\bar{1}$·7765995 | $\bar{2}$·0440299 | 51½ |
| 51¾ | 53·6938 | ·018624 | ·60029 | ·011180 | 1·7299242 | $\bar{1}$·7783611 | $\bar{2}$·0484418 | 51¾ |
| 52 | 53·3659 | ·018739 | ·60274 | ·011295 | 1·7272638 | $\bar{1}$·7801300 | $\bar{2}$·0528862 | 52 |
| 52¼ | 53·0371 | ·018855 | ·60518 | ·011411 | 1·7245798 | $\bar{1}$·7818846 | $\bar{2}$·0573237 | 52¼ |
| 52½ | 52·7077 | ·018973 | ·60763 | ·011529 | 1·7218741 | $\bar{1}$·7836392 | $\bar{2}$·0617916 | 52½ |
| 52¾ | 52·3771 | ·019092 | ·61009 | ·011648 | 1·7191417 | $\bar{1}$·7853939 | $\bar{2}$·0662514 | 52¾ |
| 53 | 52·0459 | ·019214 | ·61256 | ·011770 | 1·7163866 | $\bar{1}$·7871486 | $\bar{2}$·0707765 | 53 |
| 53¼ | 51·7139 | ·019337 | ·61503 | ·011893 | 1·7136072 | $\bar{1}$·7888963 | $\bar{2}$·0752914 | 53¼ |
| 53½ | 51·3807 | ·019463 | ·61751 | ·012019 | 1·7108002 | $\bar{1}$·7906440 | $\bar{2}$·0798683 | 53½ |
| 53¾ | 51·0470 | ·019590 | ·62000 | ·012146 | 1·7079699 | $\bar{1}$·7923917 | $\bar{2}$·0844333 | 53¾ |
| 54 | 50·7120 | ·019719 | ·62249 | ·012275 | 1·7051108 | $\bar{1}$·7941324 | $\bar{2}$·0890215 | 54 |
| 54¼ | 50·3762 | ·019851 | ·62499 | ·012407 | 1·7022254 | $\bar{1}$·7958731 | $\bar{2}$·0936668 | 54¼ |
| 54½ | 50·0396 | ·019984 | ·62750 | ·012540 | 1·6993142 | $\bar{1}$·7976137 | $\bar{2}$·0982975 | 54½ |
| 54¾ | 49·7022 | ·020120 | ·63001 | ·012676 | 1·6963756 | $\bar{1}$·7993474 | $\bar{2}$·1029822 | 54¾ |
| 55 | 49·3638 | ·020258 | ·63253 | ·012814 | 1·6934083 | $\bar{1}$·8010811 | $\bar{2}$·1076847 | 55 |
| 55¼ | 49·0244 | ·020398 | ·63505 | ·012954 | 1·6904127 | $\bar{1}$·8028079 | $\bar{2}$·1124039 | 55¼ |
| 55½ | 48·6841 | ·020541 | ·63759 | ·013097 | 1·6873873 | $\bar{1}$·8045415 | $\bar{2}$·1171718 | 55½ |
| 55¾ | 48·3432 | ·020685 | ·64013 | ·013241 | 1·6843350 | $\bar{1}$·8062682 | $\bar{2}$·1219208 | 55¾ |

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| **Age** | **Present Value** of an **Annuity** of £1 payable every **Quarter** of a Year. | **Annuity** payable every **Quarter** of a Year which £1 will purchase. | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Quarterly Premium** which will insure £1 over the **Whole Term of Life.** | $\lambda\left(\frac{N}{D_x}\right) = \lambda A_x$ | $\lambda \Pi_x$ | $\lambda \pi_x$ | **Age** |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1 - d\,A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 56 | 48·0012 | ·020833 | ·64267 | ·013389 | 1·6812518 | $\bar{1}$·8079880 | $\bar{2}$·1267481 | 56 |
| 56¼ | 47·6586 | ·020983 | ·64522 | ·013539 | 1·6781409 | $\bar{1}$·8097078 | $\bar{2}$·1315866 | 56¼ |
| 56½ | 47·3149 | ·021135 | ·64778 | ·013691 | 1·6749982 | $\bar{1}$·8114275 | $\bar{2}$·1364352 | 56½ |
| 56¾ | 46·9707 | ·021290 | ·65034 | ·013846 | 1·6718268 | $\bar{1}$·8131405 | $\bar{2}$·1413243 | 56¾ |
| 57 | 46·6257 | ·021447 | ·65291 | ·014003 | 1·6686251 | $\bar{1}$·8148533 | $\bar{2}$·1462211 | 57 |
| 57¼ | 46·2801 | ·021608 | ·65548 | ·014164 | 1·6653941 | $\bar{1}$·8165594 | $\bar{2}$·1511859 | 57¼ |
| 57½ | 45·9337 | ·021770 | ·65806 | ·014326 | 1·6621318 | $\bar{1}$·8182655 | $\bar{2}$·1561249 | 57½ |
| 57¾ | 45·5868 | ·021936 | ·66064 | ·014492 | 1·6588393 | $\bar{1}$·8199649 | $\bar{2}$·1611283 | 57¾ |
| 58 | 45·2392 | ·022105 | ·66323 | ·014661 | 1·6555147 | $\bar{1}$·8216642 | $\bar{2}$·1661636 | 58 |
| 58¼ | 44·8910 | ·022276 | ·66582 | ·014832 | 1·6521588 | $\bar{1}$·8233568 | $\bar{2}$·1711997 | 58¼ |
| 58½ | 44·5423 | ·022451 | ·66842 | ·015007 | 1·6487727 | $\bar{1}$·8250494 | $\bar{2}$·1762939 | 58½ |
| 58¾ | 44·1934 | ·022628 | ·67102 | ·015184 | 1·6453574 | $\bar{1}$·8267355 | $\bar{2}$·1813862 | 58¾ |
| 59 | 43·8438 | ·022808 | ·67362 | ·015364 | 1·6419079 | $\bar{1}$·8284150 | $\bar{2}$·1865043 | 59 |
| 59¼ | 43·4939 | ·022992 | ·67622 | ·015548 | 1·6384285 | $\bar{1}$·8300880 | $\bar{2}$·1916745 | 59¼ |
| 59½ | 43·1437 | ·023178 | ·67883 | ·015734 | 1·6349170 | $\bar{1}$·8317610 | $\bar{2}$·1968391 | 59½ |
| 59¾ | 42·7928 | ·023368 | ·68144 | ·015924 | 1·6313712 | $\bar{1}$·8334276 | $\bar{2}$·2020522 | 59¾ |
| 60 | 42·4423 | ·023561 | ·68405 | ·016117 | 1·6277987 | $\bar{1}$·8350878 | $\bar{2}$·2072842 | 60 |
| 60¼ | 42·0912 | ·023758 | ·68667 | ·016314 | 1·6241910 | $\bar{1}$·8367481 | $\bar{2}$·2125605 | 60¼ |
| 60½ | 41·7400 | ·023958 | ·68928 | ·016514 | 1·6205525 | $\bar{1}$·8383957 | $\bar{2}$·2178523 | 60½ |
| 60¾ | 41·3889 | ·024161 | ·69189 | ·016717 | 1·6168843 | $\bar{1}$·8400371 | $\bar{2}$·2231583 | 60¾ |
| 61 | 41·0378 | ·024368 | ·69451 | ·016924 | 1·6131843 | $\bar{1}$·8416785 | $\bar{2}$·2285030 | 61 |
| 61¼ | 40·6865 | ·024578 | ·69712 | ·017134 | 1·6094499 | $\bar{1}$·8433075 | $\bar{2}$·2338588 | 61¼ |
| 61½ | 40·3354 | ·024792 | ·69974 | ·017348 | 1·6056862 | $\bar{1}$·8449367 | $\bar{2}$·2392494 | 61½ |
| 61¾ | 39·9848 | ·025010 | ·70235 | ·017566 | 1·6018948 | $\bar{1}$·8465536 | $\bar{2}$·2446729 | 61¾ |
| 62 | 39·6337 | ·025231 | ·70496 | ·017787 | 1·5980651 | $\bar{1}$·8481645 | $\bar{2}$·2501027 | 62 |
| 62¼ | 39·2835 | ·025456 | ·70757 | ·018012 | 1·5942103 | $\bar{1}$·8497694 | $\bar{2}$·2555619 | 62¼ |
| 62½ | 38·9332 | ·025685 | ·71017 | ·018241 | 1·5903199 | $\bar{1}$·8513623 | $\bar{2}$·2610486 | 62½ |
| 62¾ | 38·5835 | ·025918 | ·71278 | ·018474 | 1·5864018 | $\bar{1}$·8529555 | $\bar{2}$·2665609 | 62¾ |
| 63 | 38·2342 | ·026155 | ·71538 | ·018711 | 1·5824522 | $\bar{1}$·8545368 | $\bar{2}$·2720970 | 63 |
| 63¼ | 37·8854 | ·026395 | ·71797 | ·018951 | 1·5784715 | $\bar{1}$·8561063 | $\bar{2}$·2776321 | 63¼ |
| 63½ | 37·5371 | ·026640 | ·72057 | ·019196 | 1·5744603 | $\bar{1}$·8576762 | $\bar{2}$·2832107 | 63½ |
| 63¾ | 37·1894 | ·026889 | ·72316 | ·019445 | 1·5704190 | $\bar{1}$·8592344 | $\bar{2}$·2888079 | 63¾ |
| 64 | 36·8424 | ·027143 | ·72574 | ·019699 | 1·5663479 | $\bar{1}$·8607811 | $\bar{2}$·2944442 | 64 |
| 64¼ | 36·4961 | ·027400 | ·72832 | ·019956 | 1·5622465 | $\bar{1}$·8623222 | $\bar{2}$·3000735 | 64¼ |
| 64½ | 36·1506 | ·027662 | ·73089 | ·020218 | 1·5581158 | $\bar{1}$·8638520 | $\bar{2}$·3057382 | 64½ |
| 64¾ | 35·8060 | ·027928 | ·73345 | ·020484 | 1·5539553 | $\bar{1}$·8653705 | $\bar{2}$·3114148 | 64¾ |
| 65 | 35·4622 | ·028199 | ·73601 | ·020755 | 1·5497659 | $\bar{1}$·8668837 | $\bar{2}$·3171227 | 65 |
| 65¼ | 35·1194 | ·028474 | ·73857 | ·021030 | 1·5455473 | $\bar{1}$·8683917 | $\bar{2}$·3228393 | 65¼ |
| 65½ | 34·7776 | ·028754 | ·74111 | ·021310 | 1·5412998 | $\bar{1}$·8698827 | $\bar{2}$·3285834 | 65½ |
| 65¾ | 34·4369 | ·029039 | ·74365 | ·021595 | 1·5370235 | $\bar{1}$·8713686 | $\bar{2}$·3343532 | 65¾ |
| 66 | 34·0973 | ·029328 | ·74617 | ·021884 | 1·5327196 | $\bar{1}$·8728378 | $\bar{2}$·3401267 | 66 |
| 66¼ | 33·7588 | ·029622 | ·74869 | ·022178 | 1·5283876 | $\bar{1}$·8743020 | $\bar{2}$·3459224 | 66¼ |
| 66½ | 33·4217 | ·029921 | ·75120 | ·022477 | 1·5240280 | $\bar{1}$·8757556 | $\bar{2}$·3517383 | 66½ |
| 66¾ | 33·0857 | ·030225 | ·75370 | ·022781 | 1·5196408 | $\bar{1}$·8771985 | $\bar{2}$·3575728 | 66¾ |
| 67 | 32·7512 | ·030533 | ·75619 | ·023089 | 1·5152268 | $\bar{1}$·8786309 | $\bar{2}$·3634051 | 67 |
| 67¼ | 32·4179 | ·030847 | ·75868 | ·023403 | 1·5107853 | $\bar{1}$·8800586 | $\bar{2}$·3692715 | 67¼ |
| 67½ | 32·0862 | ·031166 | ·76115 | ·023722 | 1·5063178 | $\bar{1}$·8814703 | $\bar{2}$·3751513 | 67½ |
| 67¾ | 31·7559 | ·031490 | ·76360 | ·024046 | 1·5018244 | $\bar{1}$·8828659 | $\bar{2}$·3810428 | 67¾ |
| 68 | 31·4272 | ·031820 | ·76605 | ·024376 | 1·4973051 | $\bar{1}$·8842571 | $\bar{2}$·3869624 | 68 |
| 68¼ | 31·1000 | ·032154 | ·76849 | ·024710 | 1·4927601 | $\bar{1}$·8856382 | $\bar{2}$·3928727 | 68¼ |
| 68½ | 30·7744 | ·032494 | ·77091 | ·025050 | 1·4881902 | $\bar{1}$·8870037 | $\bar{2}$·3988077 | 68½ |
| 68¾ | 30·4505 | ·032840 | ·77332 | ·025396 | 1·4835950 | $\bar{1}$·8883592 | $\bar{2}$·4047653 | 68¾ |
| 69 | 30·1284 | ·033191 | ·77572 | ·025747 | 1·4789760 | $\bar{1}$·8897050 | $\bar{2}$·4107266 | 69 |
| 69¼ | 29·8080 | ·033548 | ·77810 | ·026104 | 1·4743330 | $\bar{1}$·8910354 | $\bar{2}$·4167071 | 69¼ |
| 69½ | 29·4894 | ·033911 | ·78048 | ·026467 | 1·4696658 | $\bar{1}$·8923618 | $\bar{2}$·4227047 | 69½ |
| 69¾ | 29·1726 | ·034279 | ·78283 | ·026835 | 1·4649751 | $\bar{1}$·8936675 | $\bar{2}$·4287016 | 69¾ |

## QUARTERLY TABLE :—MALES. Interest 3 per Cent.

VALUES OF ANNUITIES. SINGLE and QUARTERLY PREMIUMS which insure £1 on the LIFE of a MALE.

| Age | **Present Value** of an **Annuity** of £1 payable every **Quarter** of a Year. | **Annuity** payable every **Quarter** of a Year which £1 will purchase. | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Quarterly Premium** which will insure £1 over the **Whole Term of Life.** | $\lambda\left(\frac{N_x}{D_x}\right) = \lambda A_x$ | $\lambda\, \Pi_x$ | $\lambda\, \pi_x$ | Age |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1 - d\,A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 70 | 28·8577 | ·034653 | ·78518 | ·027209 | 1·4602616 | $\bar{1}$·8949692 | $\bar{2}$·4347126 | 70 |
| 70¼ | 28·5447 | ·035033 | ·78751 | ·027589 | 1·4555252 | $\bar{1}$·8962561 | $\bar{2}$·4407360 | 70¼ |
| 70½ | 28·2337 | ·035419 | ·78982 | ·027975 | 1·4507671 | $\bar{1}$·8975281 | $\bar{2}$·4467701 | 70½ |
| 70¾ | 27·9246 | ·035811 | ·79212 | ·028367 | 1·4459869 | $\bar{1}$·8987910 | $\bar{2}$·4528134 | 70¾ |
| 71 | 27·6176 | ·036209 | ·79441 | ·028765 | 1·4411859 | $\bar{1}$·9000447 | $\bar{2}$·4588644 | 71 |
| 71¼ | 27·3127 | ·036613 | ·79668 | ·029169 | 1·4363639 | $\bar{1}$·9012839 | $\bar{2}$·4649215 | 71¼ |
| 71½ | 27·0098 | ·037024 | ·79893 | ·029580 | 1·4315213 | $\bar{1}$·9025087 | $\bar{2}$·4709982 | 71½ |
| 71¾ | 26·7090 | ·037441 | ·80117 | ·029997 | 1·4266579 | $\bar{1}$·9037247 | $\bar{2}$·4770778 | 71¾ |
| 72 | 26·4104 | ·037864 | ·80340 | ·030420 | 1·4217754 | $\bar{1}$·9049318 | $\bar{2}$·4831592 | 72 |
| 72¼ | 26·1140 | ·038294 | ·80560 | ·030850 | 1·4168739 | $\bar{1}$·9061195 | $\bar{2}$·4892552 | 72¼ |
| 72½ | 25·8198 | ·038730 | ·80779 | ·031286 | 1·4119536 | $\bar{1}$·9072985 | $\bar{2}$·4953500 | 72½ |
| 72¾ | 25·5279 | ·039173 | ·80997 | ·031729 | 1·4070152 | $\bar{1}$·9084689 | $\bar{2}$·5014564 | 72¾ |
| 73 | 25·2381 | ·039623 | ·81212 | ·032179 | 1·4020574 | $\bar{1}$·9096202 | $\bar{2}$·5075725 | 73 |
| 73¼ | 24·9507 | ·040079 | ·81426 | ·032635 | 1·3970821 | $\bar{1}$·9107631 | $\bar{2}$·5136836 | 73¼ |
| 73½ | 24·6655 | ·040542 | ·81639 | ·033098 | 1·3920900 | $\bar{1}$·9118977 | $\bar{2}$·5198018 | 73½ |
| 73¾ | 24·3826 | ·041013 | ·81849 | ·033569 | 1·3870804 | $\bar{1}$·9130134 | $\bar{2}$·5259384 | 73¾ |
| 74 | 24·1021 | ·041490 | ·82058 | ·034046 | 1·3820554 | $\bar{1}$·9141209 | $\bar{2}$·5320661 | 74 |
| 74¼ | 23·8240 | ·041975 | ·82265 | ·034531 | 1·3770144 | $\bar{1}$·9152151 | $\bar{2}$·5382092 | 74¼ |
| 74½ | 23·5482 | ·042466 | ·82470 | ·035022 | 1·3719585 | $\bar{1}$·9162960 | $\bar{2}$·5443409 | 74½ |
| 74¾ | 23·2748 | ·042965 | ·82674 | ·035521 | 1·3668866 | $\bar{1}$·9173690 | $\bar{2}$·5504852 | 74¾ |
| 75 | 23·0038 | ·043471 | ·82876 | ·036027 | 1·3617998 | $\bar{1}$·9184288 | $\bar{2}$·5566281 | 75 |
| 75¼ | 22·7353 | ·043985 | ·83075 | ·036541 | 1·3566999 | $\bar{1}$·9194703 | $\bar{2}$·5627804 | 75¼ |
| 75½ | 22·4691 | ·044506 | ·83274 | ·037062 | 1·3515861 | $\bar{1}$·9205094 | $\bar{2}$·5689289 | 75½ |
| 75¾ | 22·2055 | ·045034 | ·83470 | ·037590 | 1·3464599 | $\bar{1}$·9215304 | $\bar{2}$·5750723 | 75¾ |
| 76 | 21·9441 | ·045570 | ·83664 | ·038126 | 1·3413184 | $\bar{1}$·9225386 | $\bar{2}$·5812212 | 76 |
| 76¼ | 21·6853 | ·046114 | ·83857 | ·038670 | 1·3361658 | $\bar{1}$·9235393 | $\bar{2}$·5873742 | 76¼ |
| 76½ | 21·4290 | ·046666 | ·84048 | ·039222 | 1·3310018 | $\bar{1}$·9245274 | $\bar{2}$·5935297 | 76½ |
| 76¾ | 21·1751 | ·047225 | ·84237 | ·039781 | 1·3258261 | $\bar{1}$·9255029 | $\bar{2}$·5996757 | 76¾ |
| 77 | 20·9237 | ·047793 | ·84424 | ·040349 | 1·3206378 | $\bar{1}$·9264659 | $\bar{2}$·6058328 | 77 |
| 77¼ | 20·6747 | ·048368 | ·84609 | ·040924 | 1·3154396 | $\bar{1}$·9274166 | $\bar{2}$·6119781 | 77¼ |
| 77½ | 20·4283 | ·048952 | ·84793 | ·041508 | 1·3102314 | $\bar{1}$·9283600 | $\bar{2}$·6181318 | 77½ |
| 77¾ | 20·1843 | ·049544 | ·84975 | ·042100 | 1·3050126 | $\bar{1}$·9292912 | $\bar{2}$·6242821 | 77¾ |
| 78 | 19·9428 | ·050143 | ·85154 | ·042699 | 1·2997869 | $\bar{1}$·9302051 | $\bar{2}$·6304177 | 78 |
| 78¼ | 19·7038 | ·050752 | ·85332 | ·043308 | 1·2945500 | $\bar{1}$·9311119 | $\bar{2}$·6365681 | 78¼ |
| 78½ | 19·4673 | ·051368 | ·85508 | ·043924 | 1·2893051 | $\bar{1}$·9320067 | $\bar{2}$·6427019 | 78½ |
| 78¾ | 19·2332 | ·051993 | ·85682 | ·044549 | 1·2840522 | $\bar{1}$·9328896 | $\bar{2}$·6488380 | 78¾ |
| 79 | 19·0016 | ·052627 | ·85855 | ·045183 | 1·2787913 | $\bar{1}$·9337656 | $\bar{2}$·6549751 | 79 |
| 79¼ | 18·7725 | ·053269 | ·86025 | ·045825 | 1·2735231 | $\bar{1}$·9346247 | $\bar{2}$·6611025 | 79¼ |
| 79½ | 18·5459 | ·053920 | ·86194 | ·046476 | 1·2682480 | $\bar{1}$·9354770 | $\bar{2}$·6672287 | 79½ |
| 79¾ | 18·3217 | ·054580 | ·86361 | ·047136 | 1·2629664 | $\bar{1}$·9363177 | $\bar{2}$·6733527 | 79¾ |
| 80 | 18·1000 | ·055249 | ·86526 | ·047805 | 1·2576788 | $\bar{1}$·9371466 | $\bar{2}$·6794733 | 80 |
| 80¼ | 17·8808 | ·055926 | ·86689 | ·048482 | 1·2523858 | $\bar{1}$·9379640 | $\bar{2}$·6855805 | 80¼ |
| 86½ | 17·6639 | ·056613 | ·86851 | ·049169 | 1·2470872 | $\bar{1}$·9387748 | $\bar{2}$·6916914 | 80½ |
| 80¾ | 17·4495 | ·057308 | ·87010 | ·049864 | 1·2417841 | $\bar{1}$·9395692 | $\bar{2}$·6977871 | 80¾ |
| 81 | 17·2376 | ·058013 | ·87168 | ·050569 | 1·2364768 | $\bar{1}$·9403571 | $\bar{2}$·7038844 | 81 |
| 81¼ | 17·0281 | ·058727 | ·87324 | ·051283 | 1·2311651 | $\bar{1}$·9411336 | $\bar{2}$·7099734 | 81¼ |
| 81½ | 16·8209 | ·059450 | ·87478 | ·052006 | 1·2258495 | $\bar{1}$·9418988 | $\bar{2}$·7160535 | 81½ |
| 81¾ | 16·6162 | ·060182 | ·87631 | ·052738 | 1·2205308 | $\bar{1}$·9426578 | $\bar{2}$·7221237 | 81¾ |
| 82 | 16·4138 | ·060924 | ·87781 | ·053480 | 1·2152092 | $\bar{1}$·9434005 | $\bar{2}$·7281914 | 82 |
| 82¼ | 16·2138 | ·061676 | ·87930 | ·054232 | 1·2098853 | $\bar{1}$·9441371 | $\bar{2}$·7342556 | 82¼ |
| 82½ | 16·0162 | ·062437 | ·88077 | ·054993 | 1·2045591 | $\bar{1}$·9448625 | $\bar{2}$·7403074 | 82½ |
| 82¾ | 15·8209 | ·063207 | ·88223 | ·055763 | 1·1992316 | $\bar{1}$·9455818 | $\bar{2}$·7463461 | 82¾ |
| 83 | 15·6280 | ·063988 | ·88366 | ·056544 | 1·1939028 | $\bar{1}$·9462852 | $\bar{2}$·7523865 | 83 |
| 83¼ | 15·4374 | ·064778 | ·88508 | ·057334 | 1·1885729 | $\bar{1}$·9469825 | $\bar{2}$·7584122 | 83¼ |
| 83½ | 15·2490 | ·065578 | ·88648 | ·058134 | 1·1832419 | $\bar{1}$·9476689 | $\bar{2}$·7644302 | 83½ |
| 83¾ | 15·0630 | ·066388 | ·88787 | ·058944 | 1·1779108 | $\bar{1}$ 9483494 | $\bar{2}$·7704396 | 83¾ |

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VALUES OF ANNUITIES. SINGLE and QUARTERLY PREMIUMS which insure £1 on the LIFE of a MALE.

| Age | Present Value of an Annuity of £1 payable every Quarter of a Year. | Annuity payable every Quarter of a Year which £1 will purchase. | Single Premium which will insure £1 over the Whole Term of Life. | Quarterly Premium which will insure £1 over the Whole Term of Life. | $\lambda\left(\frac{N_x}{D_x}\right)$ $= \lambda A_x$ | $\lambda \Pi_x$ | $\lambda \pi_x$ | Age |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1 - d A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 84 | 14·8792 | ·067208 | ·88924 | ·059764 | 1·1725805 | $\bar{1}$·9490190 | $\bar{2}$·7764397 | 84 |
| 84¼ | 14·6977 | ·068038 | ·89059 | ·060594 | 1·1672501 | $\bar{1}$·9496778 | $\bar{2}$·7824296 | 84¼ |
| 84½ | 14·5185 | ·068878 | ·89192 | ·061434 | 1·1619210 | $\bar{1}$·9503259 | $\bar{2}$·7884088 | 84½ |
| 84¾ | 14·3415 | ·069728 | ·89324 | ·062284 | 1·1565932 | $\bar{1}$·9509682 | $\bar{2}$·7943765 | 84¾ |
| 85 | 14·1666 | ·070588 | ·89454 | ·063144 | 1·1512671 | $\bar{1}$·9515998 | $\bar{2}$·8003321 | 85 |
| 85¼ | 13·9940 | ·071459 | ·89583 | ·064015 | 1·1459409 | $\bar{1}$·9522256 | $\bar{2}$·8062817 | 85¼ |
| 85½ | 13·8235 | ·072341 | ·89710 | ·064897 | 1·1406180 | $\bar{1}$·9528409 | $\bar{2}$·8122246 | 85½ |
| 85¾ | 13·6552 | ·073232 | ·89835 | ·065788 | 1·1352972 | $\bar{1}$·9534456 | $\bar{2}$·8181467 | 85¾ |
| 86 | 13·4890 | ·074134 | ·89959 | ·066690 | 1·1299803 | $\bar{1}$·9540446 | $\bar{2}$·8240607 | 86 |
| 86¼ | 13·3250 | ·075047 | ·90081 | ·067603 | 1·1246666 | $\bar{1}$·9546332 | $\bar{2}$·8299660 | 86¼ |
| 86½ | 13·1630 | ·075970 | ·90201 | ·068526 | 1·1193554 | $\bar{1}$·9552114 | $\bar{2}$·8358554 | 86½ |
| 86¾ | 13·0031 | ·076905 | ·90320 | ·069461 | 1·1140454 | $\bar{1}$·9557839 | $\bar{2}$·8417410 | 86¾ |
| 87 | 12·8453 | ·077849 | ·90438 | ·070405 | 1·1087446 | $\bar{1}$·9563509 | $\bar{2}$·8476035 | 87 |
| 87¼ | 12·6895 | ·078805 | ·90554 | ·071361 | 1·1034436 | $\bar{1}$·9569076 | $\bar{2}$·8534609 | 87¼ |
| 87½ | 12·5357 | ·079772 | ·90668 | ·072328 | 1·0981490 | $\bar{1}$·9574540 | $\bar{2}$·8593065 | 87½ |
| 87¾ | 12·3840 | ·080750 | ·90781 | ·073306 | 1·0928594 | $\bar{1}$·9579950 | $\bar{2}$·8651395 | 87¾ |
| 88 | 12·2342 | ·081738 | ·90893 | ·074294 | 1·0875749 | $\bar{1}$·9585304 | $\bar{2}$·8709537 | 88 |
| 88¼ | 12·0864 | ·082738 | ·91003 | ·075294 | 1·0822963 | $\bar{1}$·9590557 | $\bar{2}$·8767604 | 88¼ |
| 88½ | 11·9405 | 083748 | ·91111 | ·076304 | 1·0770232 | $\bar{1}$·9595708 | $\bar{2}$·8825473 | 88½ |
| 88¾ | 11·7966 | ·084770 | ·91218 | ·077326 | 1·0717562 | $\bar{1}$·9600805 | $\bar{2}$·8883255 | 88¾ |
| 89 | 11·6545 | ·085803 | ·91324 | ·078359 | 1·0664953 | $\bar{1}$·9605849 | $\bar{2}$.8940889 | 89 |
| 89¼ | 11·5144 | ·086848 | ·91428 | ·079404 | 1·0612412 | $\bar{1}$·9610792 | $\bar{2}$·8998424 | 89¼ |
| 89½ | 11·3761 | ·087903 | ·91531 | ·080459 | 1·0559940 | $\bar{1}$·9615682 | $\bar{2}$·9055746 | 89½ |
| 89¾ | 11·2397 | ·088970 | ·91633 | ·081526 | 1·0507541 | $\bar{1}$·9620519 | $\bar{2}$·9112961 | 89¾ |
| 90 | 11·1051 | ·090049 | ·91733 | ·082605 | 1·0455217 | $\bar{1}$·9625256 | $\bar{2}$·9170063 | 90 |
| 90¼ | 10·9723 | ·091139 | ·91832 | ·083695 | 1·0402960 | $\bar{1}$·9629940 | $\bar{2}$·9226995 | 90¼ |
| 90½ | 10·8412 | ·092240 | ·91930 | ·084796 | 1·0350787 | $\bar{1}$·9634573 | $\bar{2}$·9283754 | 90½ |
| 90¾ | 10·7120 | ·093354 | ·92026 | ·085910 | 1·0298687 | $\bar{1}$·9639105 | $\bar{2}$·9340437 | 90¾ |
| 91 | 10·5844 | ·094479 | ·92121 | ·087035 | 1·0246670 | $\bar{1}$·9643586 | $\bar{2}$·9396939 | 91 |
| 91¼ | 10·4586 | ·095615 | ·92214 | ·088171 | 1·0194745 | $\bar{1}$·9647969 | $\bar{2}$·9453258 | 91¼ |
| 91½ | 10·3345 | ·096763 | ·92307 | ·089319 | 1·0142908 | $\bar{1}$·9652346 | $\bar{2}$·9509439 | 91½ |
| 91¾ | 10·2121 | ·097923 | ·92398 | ·090479 | 1·0091155 | $\bar{1}$·9656626 | $\bar{2}$·9565478 | 91¾ |
| 92 | 10·0914 | ·099095 | ·92488 | ·091651 | 1·0039498 | $\bar{1}$·9660854 | $\bar{2}$·9621372 | 92 |
| 92¼ | 9·9723 | ·100278 | ·92576 | ·092834 | 0·9987939 | $\bar{1}$·9664984 | $\bar{2}$·9677071 | 92¼ |
| 92½ | 9·8547 | ·101474 | ·92664 | ·094030 | 0·9936454 | $\bar{1}$·9669110 | $\bar{2}$·9732664 | 92½ |
| 92¾ | 9·7389 | ·102681 | ·92750 | ·095237 | 0·9885086 | $\bar{1}$·9673139 | $\bar{2}$·9788057 | 92¾ |
| 93 | 9·6245 | ·103901 | ·92835 | ·096457 | 0·9833795 | $\bar{1}$·9677117 | $\bar{2}$·9843338 | 93 |
| 93¼ | 9·5117 | ·105133 | ·92919 | ·097689 | 0·9782599 | $\bar{1}$·9681045 | $\bar{2}$·9898457 | 93¼ |
| 93½ | 9·4005 | ·106377 | ·93002 | ·098933 | 0·9731530 | $\bar{1}$·9684923 | $\bar{2}$·9953412 | 93½ |
| 93¾ | 9·2909 | ·107633 | ·93084 | ·100189 | 0·9680563 | $\bar{1}$·9688750 | $\bar{1}$·0008200 | 93¾ |
| 94 | 9·1827 | ·108901 | ·93164 | ·101457 | 0·9629700 | $\bar{1}$·9692481 | $\bar{1}$·0062821 | 94 |
| 94¼ | 9·0760 | ·110181 | ·93244 | ·102737 | 0·9578947 | $\bar{1}$·9696209 | $\bar{1}$·0117269 | 94¼ |
| 94½ | 8·9708 | ·111473 | ·93322 | ·104029 | 0·9528303 | $\bar{1}$·9699840 | $\bar{1}$·0171545 | 94½ |
| 94¾ | 8·8670 | ·112778 | ·93399 | ·105334 | 0·9477767 | $\bar{1}$·9703422 | $\bar{1}$·0225686 | 94¾ |
| 95 | 8·7646 | ·114095 | ·93475 | ·106651 | 0·9427343 | $\bar{1}$·9706955 | $\bar{1}$·0279650 | 95 |
| 95¼ | 8·6637 | ·115424 | ·93551 | ·107980 | 0·9377030 | $\bar{1}$·9710484 | $\bar{1}$·0333433 | 95¼ |
| 95½ | 8·5641 | ·116766 | ·93625 | ·109322 | 0·9326834 | $\bar{1}$·9713918 | $\bar{1}$·0387075 | 95½ |
| 95¾ | 8·4659 | ·118120 | ·93698 | ·110676 | 0·9276755 | $\bar{1}$·9717303 | $\bar{1}$·0440535 | 95¾ |
| 96 | 8·3691 | ·119487 | ·93770 | ·112043 | 0·9226781 | $\bar{1}$·9720639 | $\bar{1}$·0493848 | 96 |
| 96¼ | 8·2736 | ·120867 | ·93841 | ·113423 | 0·9176936 | $\bar{1}$·9723926 | $\bar{1}$·0547011 | 96¼ |
| 96½ | 8·1794 | ·122259 | ·93911 | ·114815 | 0·9127192 | $\bar{1}$·9727165 | $\bar{1}$·0599987 | 96½ |
| 96¾ | 8·0865 | ·123664 | ·93980 | ·116220 | 0·9077580 | $\bar{1}$·9730354 | $\bar{1}$·0652809 | 96¾ |
| 97 | 7·9948 | ·125082 | ·94049 | ·117638 | 0·9028068 | $\bar{1}$·9733542 | $\bar{1}$·0705476 | 97 |
| 97¼ | 7·9044 | ·126512 | ·94116 | ·119068 | 0·8978665 | $\bar{1}$·9736635 | $\bar{1}$·0757951 | 97¼ |
| 97½ | 7·8152 | ·127957 | ·94182 | ·120513 | 0·8929375 | $\bar{1}$·9739679 | $\bar{1}$·0810339 | 97½ |
| 97¾ | 7·7272 | ·129413 | ·94248 | ·121969 | 0·8880222 | $\bar{1}$·9742721 | $\bar{1}$·0862495 | 97¾ |

## QUARTERLY TABLE:—MALES. Interest 3 per Cent.

VALUES OF ANNUITIES. SINGLE and QUARTERLY PREMIUMS which insure £1 on the LIFE of a MALE.

| **Age** | **Present Value** of an **Annuity** of £1 payable every **Quarter** of a **Year.** | **Annuity** payable every **Quarter** of a Year which £1 will purchase. | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Quarterly Premium** which will insure £1 over the **Whole Term of Life.** | $\lambda\left(\frac{N_x}{D_x}\right)$ $= \lambda A_x$ | $\lambda\,\Pi_x$ | $\lambda\,\pi_x$ | **Age** |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1 - d\,A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 98 | 7·6404 | ·130884 | ·94312 | ·123440 | 0·8831149 | $\bar{1}$·9745670 | $\bar{1}$·0914559 | 98 |
| 98¼ | 7·5548 | ·132367 | ·94376 | ·124923 | 0·8782210 | $\bar{1}$·9748616 | $\bar{1}$·0966424 | 98¼ |
| 98½ | 7·4703 | ·133864 | ·94439 | ·126420 | 0·8733371 | $\bar{1}$·9751514 | $\bar{1}$·1018158 | 98½ |
| 98¾ | 7·3869 | ·135374 | ·94501 | ·127930 | 0·8684633 | $\bar{1}$·9754364 | $\bar{1}$·1069724 | 98¾ |
| 99 | 7·3047 | ·136899 | ·94562 | ·129455 | 0·8636000 | $\bar{1}$·9757166 | $\bar{1}$·1121189 | 99 |
| 99¼ | 7·2235 | ·138438 | ·94623 | ·130994 | 0·8587449 | $\bar{1}$·9759967 | $\bar{1}$·1172514 | 99¼ |
| 99½ | 7·1433 | ·139991 | ·94682 | ·132547 | 0·8538984 | $\bar{1}$·9762674 | $\bar{1}$·1223699 | 99½ |
| 99¾ | 7·0641 | ·141560 | ·94741 | ·134116 | 0·8490593 | $\bar{1}$·9765380 | $\bar{1}$·1274806 | 99¾ |
| 100 | 6·9860 | ·143144 | ·94800 | ·135700 | 0·8442262 | $\bar{1}$·9768083 | $\bar{1}$·1325798 | 100 |
| 100¼ | 6·9087 | ·144745 | ·94857 | ·137301 | 0·8393976 | $\bar{1}$·9770694 | $\bar{1}$·1376737 | 100¼ |
| 100½ | 6·8324 | ·146362 | ·94914 | ·138918 | 0·8345729 | $\bar{1}$·9773303 | $\bar{1}$·1427585 | 100½ |
| 100¾ | 6·7569 | ·147997 | ·94970 | ·140553 | 0·8297481 | $\bar{1}$·9775864 | $\bar{1}$·1478401 | 100¾ |
| 101 | 6·6823 | ·149650 | ·95026 | ·142206 | 0·8249234 | $\bar{1}$·9778424 | $\bar{1}$·1529179 | 101 |
| 101¼ | 6·6083 | ·151324 | ·95081 | ·143880 | 0·8200918 | $\bar{1}$·9780937 | $\bar{1}$·1580004 | 101¼ |
| 101½ | 6·5351 | ·153020 | ·95135 | ·145576 | 0·8152527 | $\bar{1}$·9783403 | $\bar{1}$·1630898 | 101½ |
| 101¾ | 6·4625 | ·154739 | ·95189 | ·147295 | 0·8104011 | $\bar{1}$·9785868 | $\bar{1}$·1681880 | 101¾ |
| 102 | 6·3905 | ·156483 | ·95243 | ·149039 | 0·8055322 | $\bar{1}$·9788331 | $\bar{1}$·1732999 | 102 |
| 102¼ | 6·3188 | ·158258 | ·95296 | ·150814 | 0·8006339 | $\bar{1}$·9790747 | $\bar{1}$·1784416 | 102¼ |
| 102½ | 6·2474 | ·160066 | ·95349 | ·152622 | 0·7957021 | $\bar{1}$·9793161 | $\bar{1}$·1836171 | 102½ |
| 102¾ | 6·1762 | ·161911 | ·95402 | ·154467 | 0·7907244 | $\bar{1}$·9795575 | $\bar{1}$·1888357 | 102¾ |
| 103 | 6·1051 | ·163798 | ·95455 | ·156354 | 0·7856914 | $\bar{1}$·9797987 | $\bar{1}$·1941090 | 103 |
| 103¼ | 6·0337 | ·165737 | ·95508 | ·158293 | 0·7805810 | $\bar{1}$·9800398 | $\bar{1}$·1994617 | 103¼ |
| 103½ | 5·9618 | ·167734 | ·95562 | ·160290 | 0·7753801 | $\bar{1}$·9802852 | $\bar{1}$·2049064 | 103½ |
| 103¾ | 5·8892 | ·169802 | ·95616 | ·162358 | 0·7700562 | $\bar{1}$·9805306 | $\bar{1}$·2104737 | 103¾ |
| 104 | 5·8153 | ·171960 | ·95671 | ·164516 | 0·7645732 | $\bar{1}$·9807803 | $\bar{1}$·2162081 | 104 |
| 104¼ | 5·7399 | ·174219 | ·95727 | ·166775 | 0·7589034 | $\bar{1}$·9810344 | $\bar{1}$·2221310 | 104¼ |
| 104½ | 5·6625 | ·176600 | ·95785 | ·169156 | 0·7530082 | $\bar{1}$·9812975 | $\bar{1}$·2282874 | 104½ |
| 104¾ | 5·5824 | ·179134 | ·95844 | ·171690 | 0·7468225 | $\bar{1}$·9815649 | $\bar{1}$·2347450 | 104¾ |
| 105 | 5·4987 | ·181861 | ·95907 | ·174417 | 0·7402598 | $\bar{1}$·9818503 | $\bar{1}$·2415888 | 105 |
| 105¼ | 5·4104 | ·184828 | ·95972 | ·177384 | 0·7332317 | $\bar{1}$·9821445 | $\bar{1}$·2489145 | 105¼ |
| 105½ | 5·3163 | ·188101 | ·96042 | ·180657 | 0·7256095 | $\bar{1}$·9824612 | $\bar{1}$·2568548 | 105½ |
| 105¾ | 5·2144 | ·191776 | ·96118 | ·184332 | 0·7172062 | $\bar{1}$·9828047 | $\bar{1}$·2656007 | 105¾ |
| 106 | 5·1033 | ·195951 | ·96201 | ·188507 | 0·7078527 | $\bar{1}$·9831796 | $\bar{1}$·2753275 | 106 |
| 106¼ | 4·9809 | ·200766 | ·96292 | ·193322 | 0·6973099 | $\bar{1}$·9835902 | $\bar{1}$·2862813 | 106¼ |
| 106½ | 4·8436 | ·206458 | ·96394 | ·199014 | 0·6851673 | $\bar{1}$·9840500 | $\bar{1}$·2988836 | 106½ |
| 106¾ | 4·6863 | ·213387 | ·96511 | ·205943 | 0·6708328 | $\bar{1}$·9845768 | $\bar{1}$·3137470 | 106¾ |
| 107 | 4·5070 | ·221877 | ·96645 | ·214433 | 0·6538878 | $\bar{1}$·9851794 | $\bar{1}$·3312916 | 107 |
| 107¼ | 4·2980 | ·232665 | ·96800 | ·225221 | 0·6332683 | $\bar{1}$·9858754 | $\bar{1}$·3526089 | 107¼ |
| 107½ | 4·0508 | ·246868 | ·96985 | ·239424 | 0·6075361 | $\bar{1}$·9867046 | $\bar{1}$·3791677 | 107½ |
| 107¾ | 3·7587 | ·266046 | ·97202 | ·258602 | 0·5750434 | $\bar{1}$·9876752 | $\bar{1}$·4126319 | 107¾ |
| 108 | 3·4041 | ·293763 | ·97466 | ·286319 | 0·5320036 | $\bar{1}$·9888531 | $\bar{1}$·4568502 | 108 |
| 108¼ | 2·9723 | ·336437 | ·97787 | ·328993 | 0·4730965 | $\bar{1}$·9902811 | $\bar{1}$·5171867 | 108¼ |
| 108½ | 2·4441 | ·409153 | ·98181 | ·401709 | 0·3881139 | $\bar{1}$·9920275 | $\bar{1}$·6039115 | 108½ |
| 108¾ | 1·7949 | ·557130 | ·98664 | ·549686 | 0·2540438 | $\bar{1}$·9941587 | $\bar{1}$·7401146 | 108¾ |
| 109 | ·9965 | 1·003553 | ·99258 | ·996109 | $\bar{1}$·9984596 | $\bar{1}$·9967655 | $\bar{1}$·9983069 | 109 |

## QUARTERLY TABLE:—FEMALES. Interest 3 per Cent.

VALUES OF ANNUITIES.* SINGLE and QUARTERLY PREMIUMS which insure £1 on the LIFE of a FEMALE.

| Age | Present Value of an Annuity of £1 payable every Quarter of a Year. | Annuity payable every Quarter of a Year which £1 will purchase. | Single Premium which will insure £1 over the Whole Term of Life. | Quarterly Premium which will insure £1 over the Whole Term of Life. | $\lambda\left(\frac{N_x}{D_x}\right) = \lambda A_x$ | $\lambda \Pi_x$ | $\lambda \pi_x$ | Age |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1 - d A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 0 | 77·2703 | ·012942 | ·42479 | ·005498 | 1·8880127 | $\bar{1}$·6281743 | $\bar{3}$·7402047 | 0 |
| 0¼ | 82·3564 | ·012142 | ·38692 | ·004698 | 1·9156975 | $\bar{1}$·5876212 | $\bar{3}$·6719130 | 0¼ |
| 0½ | 84·3213 | ·011859 | ·37230 | ·004415 | 1·9259374 | $\bar{1}$·5708930 | $\bar{3}$·6449307 | 0½ |
| 0¾ | 86·0433 | ·011622 | ·35948 | ·004178 | 1·9347169 | $\bar{1}$·5556747 | $\bar{3}$·6209684 | 0¾ |
| 1 | 87·6216 | ·011413 | ·34773 | ·003969 | 1·9426111 | $\bar{1}$·5412422 | $\bar{3}$·5986811 | 1 |
| 1¼ | 89·1668 | ·011215 | ·33623 | ·003771 | 1·9502032 | $\bar{1}$·5266365 | $\bar{3}$·5764565 | 1¼ |
| 1½ | 90·3747 | ·011065 | ·32724 | ·003621 | 1·9560471 | $\bar{1}$·5148664 | $\bar{3}$·5588285 | 1½ |
| 1¾ | 91·3025 | ·010953 | ·32033 | ·003509 | 1·9604829 | $\bar{1}$·5055976 | $\bar{3}$·5451834 | 1¾ |
| 2 | 92·0136 | ·010868 | ·31504 | ·003424 | 1·9638519 | $\bar{1}$·4983657 | $\bar{3}$·5345338 | 2 |
| 2¼ | 92·5766 | ·010802 | ·31084 | ·003358 | 1·9665014 | $\bar{1}$·4925369 | $\bar{3}$·5260807 | 2¼ |
| 2½ | 93·0639 | ·010745 | ·30722 | ·003301 | 1·9687814 | $\bar{1}$·4874495 | $\bar{3}$·5186455 | 2½ |
| 2¾ | 93·5505 | ·010689 | ·30359 | ·003245 | 1·9710460 | $\bar{1}$·4822875 | $\bar{3}$·5112147 | 2¾ |
| 3 | 94·1143 | ·010625 | ·29940 | ·003181 | 1·9736554 | $\bar{1}$·4762518 | $\bar{3}$·5025637 | 3 |
| 3¼ | 94·4599 | ·010587 | ·29682 | ·003143 | 1·9752473 | $\bar{1}$·4724932 | $\bar{3}$·4973444 | 3¼ |
| 3½ | 94·7601 | ·010553 | ·29459 | ·003109 | 1·9766257 | $\bar{1}$·4692180 | $\bar{3}$·4926207 | 3½ |
| 3¾ | 95·0178 | ·010524 | ·29267 | ·003080 | 1·9778052 | $\bar{1}$·4663782 | $\bar{3}$·4885507 | 3¾ |
| 4 | 95·2358 | ·010500 | ·29105 | ·003056 | 1·9788003 | $\bar{1}$·4639676 | $\bar{3}$·4851533 | 4 |
| 4¼ | 95·4176 | ·010480 | ·28970 | ·003036 | 1·9796284 | $\bar{1}$·4619185 | $\bar{3}$·4823018 | 4¼ |
| 4½ | 95·5657 | ·010464 | ·28859 | ·003020 | 1·9803019 | $\bar{1}$·4602813 | $\bar{3}$·4800069 | 4½ |
| 4¾ | 95·6828 | ·010451 | ·28772 | ·003007 | 1·9808339 | $\bar{1}$·4589701 | $\bar{3}$·4781334 | 4¾ |
| 5 | 95·7719 | ·010441 | ·28706 | ·002997 | 1·9812379 | $\bar{1}$·4579727 | $\bar{3}$·4766867 | 5 |
| 5¼ | 95·8353 | ·010435 | ·28659 | ·002991 | 1·9815253 | $\bar{1}$·4572610 | $\bar{3}$·4758164 | 5¼ |
| 5½ | 95·8756 | ·010430 | ·28629 | ·002986 | 1·9817080 | $\bar{1}$·4568062 | $\bar{3}$·4750898 | 5½ |
| 5¾ | 95·8952 | ·010428 | ·28614 | ·002984 | 1·9817971 | $\bar{1}$·4565786 | $\bar{3}$·4747988 | 5¾ |
| 6 | 95·8965 | ·010428 | ·28613 | ·002984 | 1·9818030 | $\bar{1}$·4565634 | $\bar{3}$·4747988 | 6 |
| 6¼ | 95·8816 | ·010430 | ·28624 | ·002986 | 1·9817353 | $\bar{1}$·4567303 | $\bar{3}$·4750898 | 6¼ |
| 6½ | 95·8520 | ·010433 | ·28646 | ·002989 | 1·9816010 | $\bar{1}$·4570640 | $\bar{3}$·4755259 | 6½ |
| 6¾ | 95·8101 | ·010437 | ·28677 | ·002993 | 1·9814113 | $\bar{1}$·4575337 | $\bar{3}$·4761067 | 6¾ |
| 7 | 95·7576 | ·010443 | ·28716 | ·002999 | 1·9811731 | $\bar{1}$·4581239 | $\bar{3}$·4769765 | 7 |
| 7¼ | 95·7008 | ·010449 | ·28759 | ·003005 | 1·9809154 | $\bar{1}$·4587738 | $\bar{3}$·4778445 | 7¼ |
| 7½ | 95·6331 | ·010457 | ·28809 | ·003013 | 1·9806084 | $\bar{1}$·4595282 | $\bar{3}$·4789991 | 7½ |
| 7¾ | 95·5555 | ·010465 | ·28867 | ·003021 | 1·9802556 | $\bar{1}$·4604017 | $\bar{3}$·4801507 | 7¾ |
| 8 | 95·4683 | ·010475 | ·28932 | ·003031 | 1·9798592 | $\bar{1}$·4613785 | $\bar{3}$·4815859 | 8 |
| 8¼ | 95·3716 | ·010485 | ·29004 | ·003041 | 1·9794192 | $\bar{1}$·4624579 | $\bar{3}$·4830164 | 8¼ |
| 8½ | 95·2667 | ·010497 | ·29082 | ·003053 | 1·9789412 | $\bar{1}$·4636243 | $\bar{3}$·4847268 | 8½ |
| 8¾ | 95·1531 | ·010509 | ·29166 | ·003065 | 1·9784230 | $\bar{1}$·4648769 | $\bar{3}$·4864305 | 8¾ |
| 9 | 95·0314 | ·010523 | ·29257 | ·003079 | 1·9778672 | $\bar{1}$·4662298 | $\bar{3}$·4884097 | 9 |
| 9¼ | 94·9025 | ·010537 | ·29353 | ·003093 | 1·9772779 | $\bar{1}$·4676525 | $\bar{3}$·4903799 | 9¼ |
| 9½ | 94·7664 | ·010552 | ·29454 | ·003108 | 1·9766543 | $\bar{1}$·4691443 | $\bar{3}$·4924810 | 9½ |
| 9¾ | 94·6238 | ·010568 | ·29560 | ·003124 | 1·9760003 | $\bar{1}$·4707044 | $\bar{3}$·4947110 | 9¾ |
| 10 | 94·4746 | ·010585 | ·29672 | ·003141 | 1·9753149 | $\bar{1}$·4723468 | $\bar{3}$·4970679 | 10 |
| 10¼ | 94·3200 | ·010602 | ·29787 | ·003158 | 1·9746038 | $\bar{1}$·4740268 | $\bar{3}$·4994121 | 10¼ |
| 10½ | 94·1595 | ·010620 | ·29906 | ·003176 | 1·9738641 | $\bar{1}$·4757583 | $\bar{3}$·5018805 | 10½ |
| 10¾ | 93·9938 | ·010639 | ·30029 | ·003195 | 1·9730993 | $\bar{1}$·4775409 | $\bar{3}$·5044709 | 10¾ |
| 11 | 93·8236 | ·010658 | ·30156 | ·003214 | 1·9723119 | $\bar{1}$·4793737 | $\bar{3}$·5070459 | 11 |
| 11¼ | 93·6488 | ·010678 | ·30286 | ·003234 | 1·9715021 | $\bar{1}$·4812419 | $\bar{3}$·5097400 | 11¼ |
| 11½ | 93·4699 | ·010699 | ·30419 | ·003255 | 1·9706717 | $\bar{1}$·4831449 | $\bar{3}$·5125510 | 11½ |
| 11¾ | 93·2873 | ·010720 | ·30555 | ·003276 | 1·9698226 | $\bar{1}$·4850823 | $\bar{3}$·5153439 | 11¾ |
| 12 | 93·1016 | ·010741 | ·30694 | ·003297 | 1·9689571 | $\bar{1}$·4870535 | $\bar{3}$·5181189 | 12 |
| 12¼ | 92·9126 | ·010763 | ·30834 | ·003319 | 1·9680748 | $\bar{1}$·4890299 | $\bar{3}$·5210073 | 12¼ |
| 12½ | 92·7205 | ·010785 | ·30977 | ·003341 | 1·9671756 | $\bar{1}$·4910394 | $\bar{3}$·5238765 | 12½ |
| 12¾ | 92·5263 | ·010808 | ·31122 | ·003364 | 1·9662652 | $\bar{1}$·4930675 | $\bar{3}$·5268560 | 12¾ |
| 13 | 92·3297 | ·010831 | ·31268 | ·003387 | 1·9653413 | $\bar{1}$·4951001 | $\bar{3}$·5298152 | 13 |
| 13¼ | 92·1314 | ·010854 | ·31416 | ·003410 | 1·9644076 | $\bar{1}$·4971509 | $\bar{3}$·5327544 | 13¼ |
| 13½ | 91·9313 | ·010878 | ·31565 | ·003434 | 1·9634634 | $\bar{1}$·4992058 | $\bar{3}$·5358003 | 13½ |
| 13¾ | 91·7303 | ·010902 | ·31714 | ·003458 | 1·9625127 | $\bar{1}$·5012510 | $\bar{3}$·5388250 | 13¾ |

* **Note.**—The value of an Annuity of £·250 payable at the commencement of every **Quarter** of a Year that the Annuitant lives, making £1 a Year, is obtained by dividing the Number in Column 2. by *four*. The **Sum Insured** is payable at the end of the **Quarter** of a Year of Age in which death happens.

# ENGLISH LIFE TABLE, No. 3.

## QUARTERLY TABLE:—Females. Interest 3 per Cent.

VALUES OF ANNUITIES. SINGLE and QUARTERLY PREMIUMS which insure **£1** on the LIFE of a FEMALE.

| **Age** | **Present Value** of an **Annuity** of £1 payable every **Quarter** of a Year. | **Annuity** payable every **Quarter** of a Year which £1 will purchase. | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Quarterly Premium** which will insure £1 over the **Whole Term of Life.** | $\lambda\left(\frac{N_x}{D_x}\right) = \lambda A_x$ | $\lambda \Pi_x$ | $\lambda \pi_x$ | **Age** |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1 - d A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 14 | 91·5277 | ·010926 | ·31865 | ·003482 | 1·9615526 | $\bar{1}$·5033139 | $\bar{3}$·5418288 | 14 |
| 14¼ | 91·3244 | ·010950 | ·32017 | ·003506 | 1·9605867 | $\bar{1}$·5053806 | $\bar{3}$·5448119 | 14¼ |
| 14½ | 91·1201 | ·010975 | ·32169 | ·003531 | 1·9596143 | $\bar{1}$·5074376 | $\bar{3}$·5478977 | 14½ |
| 14¾ | 90·9161 | ·010999 | ·32320 | ·003555 | 1·9586409 | $\bar{1}$·5094714 | $\bar{3}$·5508396 | 14¾ |
| 15 | 90·7113 | ·011024 | ·32473 | ·003580 | 1·9576615 | $\bar{1}$·5115224 | $\bar{3}$·5538830 | 15 |
| 15¼ | 90·5069 | ·011049 | ·32625 | ·003605 | 1·9566817 | $\bar{1}$·5135505 | $\bar{3}$·5569053 | 15¼ |
| 15½ | 90·3021 | ·011074 | ·32778 | ·003630 | 1·9556981 | $\bar{1}$·5155825 | $\bar{3}$·5599066 | 15½ |
| 15¾ | 90·0982 | ·011099 | ·32929 | ·003655 | 1·9547163 | $\bar{1}$·5175785 | $\bar{3}$·5628874 | 15¾ |
| 16 | 89·8950 | ·011124 | ·33081 | ·003680 | 1·9537355 | $\bar{1}$·5195786 | $\bar{3}$·5658478 | 16 |
| 16¼ | 89·6921 | ·011149 | ·33232 | ·003705 | 1·9527542 | $\bar{1}$·5215565 | $\bar{3}$·5687882 | 16¼ |
| 16½ | 89·4903 | ·011174 | ·33382 | ·003730 | 1·9517759 | $\bar{1}$·5235124 | $\bar{3}$·5717088 | 16½ |
| 16¾ | 89·2897 | ·011199 | ·33531 | ·003755 | 1·9508014 | $\bar{1}$·5254465 | $\bar{3}$·5746099 | 16¾ |
| 17 | 89·0901 | ·011225 | ·33680 | ·003781 | 1·9498295 | $\bar{1}$·5273721 | $\bar{3}$·5776067 | 17 |
| 17¼ | 88·8916 | ·011250 | ·33828 | ·003806 | 1·9488609 | $\bar{1}$·5292763 | $\bar{3}$·5804688 | 17¼ |
| 17½ | 88·6950 | ·011275 | ·33974 | ·003831 | 1·9478990 | $\bar{1}$·5311467 | $\bar{3}$·5833122 | 17½ |
| 17¾ | 88·4992 | ·011300 | ·34120 | ·003856 | 1·9469395 | $\bar{1}$·5330090 | $\bar{3}$·5861370 | 17¾ |
| 18 | 88·3056 | ·011324 | ·34264 | ·003880 | 1·9459883 | $\bar{1}$·5348381 | $\bar{3}$·5888317 | 18 |
| 18¼ | 88·1137 | ·011349 | ·34407 | ·003905 | 1·9450436 | $\bar{1}$·5366468 | $\bar{3}$·5916210 | 18¼ |
| 18½ | 87·9238 | ·011373 | ·34548 | ·003929 | 1·9441062 | $\bar{1}$·5384229 | $\bar{3}$·5942820 | 18½ |
| 18¾ | 87·7352 | ·011398 | ·34688 | ·003954 | 1·9431737 | $\bar{1}$·5401793 | $\bar{3}$·5970367 | 18¾ |
| 19 | 87·5493 | ·011422 | ·34827 | ·003978 | 1·9422525 | $\bar{1}$·5419161 | $\bar{3}$·5996648 | 19 |
| 19¼ | 87·3644 | ·011446 | ·34964 | ·004002 | 1·9413347 | $\bar{1}$·5436211 | $\bar{3}$·6022771 | 19¼ |
| 19½ | 87·1825 | ·011470 | ·35100 | ·004026 | 1·9404293 | $\bar{1}$·5453071 | $\bar{3}$·6048738 | 19½ |
| 19¾ | 87·0024 | ·011494 | ·35234 | ·004050 | 1·9395310 | $\bar{1}$·5469620 | $\bar{3}$·6074550 | 19¾ |
| 20 | 86·8241 | ·011518 | ·35367 | ·004074 | 1·9386404 | $\bar{1}$·5485982 | $\bar{3}$·6100210 | 20 |
| 20¼ | 86·6523 | ·011540 | ·35495 | ·004096 | 1·9377801 | $\bar{1}$·5501672 | $\bar{3}$·6123599 | 20¼ |
| 20½ | 86·4793 | ·011563 | ·35623 | ·004119 | 1·9369124 | $\bar{1}$·5517305 | $\bar{3}$·6147918 | 20½ |
| 20¾ | 86·3070 | ·011586 | ·35752 | ·004142 | 1·9360460 | $\bar{1}$·5533003 | $\bar{3}$·6172101 | 20¾ |
| 21 | 86·1336 | ·011610 | ·35881 | ·004166 | 1·9351727 | $\bar{1}$·5548645 | $\bar{3}$·6197193 | 21 |
| 21¼ | 85·9598 | ·011633 | ·36010 | ·004189 | 1·9342955 | $\bar{1}$·5564231 | $\bar{3}$·6221104 | 21¼ |
| 21½ | 85·7851 | ·011657 | ·36140 | ·004213 | 1·9334119 | $\bar{1}$·5579881 | $\bar{3}$·6245915 | 21½ |
| 21¾ | 85·6101 | ·011681 | ·36270 | ·004237 | 1·9325251 | $\bar{1}$·5595476 | $\bar{3}$·6270585 | 21¾ |
| 22 | 85·4349 | ·011705 | ·36401 | ·004261 | 1·9316352 | $\bar{1}$·5611133 | $\bar{3}$·6295115 | 22 |
| 22¼ | 85·2589 | ·011729 | ·36532 | ·004285 | 1·9307397 | $\bar{1}$·5626734 | $\bar{3}$·6319508 | 22¼ |
| 22½ | 85·0828 | ·011753 | ·36663 | ·004309 | 1·9298420 | $\bar{1}$·5642280 | $\bar{3}$·6343765 | 22½ |
| 22¾ | 84·9055 | ·011778 | ·36795 | ·004334 | 1·9289359 | $\bar{1}$·5657888 | $\bar{3}$·6368889 | 22¾ |
| 23 | 84·7276 | ·011803 | ·36927 | ·004359 | 1·9280251 | $\bar{1}$·5673440 | $\bar{3}$·6393869 | 23 |
| 23¼ | 84·5493 | ·011827 | ·37060 | ·004383 | 1·9271098 | $\bar{1}$·5689054 | $\bar{3}$·6417715 | 23¼ |
| 23½ | 84·3704 | ·011852 | ·37193 | ·004408 | 1·9261903 | $\bar{1}$·5704612 | $\bar{3}$·6442416 | 23½ |
| 23¾ | 84·1906 | ·011878 | ·37327 | ·004434 | 1·9252636 | $\bar{1}$·5720231 | $\bar{3}$·6467957 | 23¾ |
| 24 | 84·0104 | ·011903 | ·37461 | ·004459 | 1·9243333 | $\bar{1}$·5735794 | $\bar{3}$·6492375 | 24 |
| 24¼ | 83·8294 | ·011929 | ·37596 | ·004485 | 1·9233965 | $\bar{1}$·5751416 | $\bar{3}$·6517624 | 24¼ |
| 24½ | 83·6476 | ·011955 | ·37731 | ·004511 | 1·9224535 | $\bar{1}$·5766983 | $\bar{3}$·6542728 | 24½ |
| 24¾ | 83·4650 | ·011981 | ·37867 | ·004537 | 1·9215046 | $\bar{1}$·5782609 | $\bar{3}$·6567688 | 24¾ |
| 25 | 83·2818 | ·012007 | ·38004 | ·004563 | 1·9205498 | $\bar{1}$·5798293 | $\bar{3}$·6592505 | 25 |
| 25¼ | 83·0979 | ·012034 | ·38141 | ·004590 | 1·9195898 | $\bar{1}$·5813921 | $\bar{3}$·6618127 | 25¼ |
| 25½ | 82·9128 | ·012061 | ·38278 | ·004617 | 1·9186214 | $\bar{1}$·5829492 | $\bar{3}$·6643599 | 25½ |
| 25¾ | 82·7272 | ·012088 | ·38416 | ·004644 | 1·9176481 | $\bar{1}$·5845121 | $\bar{3}$·6668922 | 25¾ |
| 26 | 82·5412 | ·012115 | ·38555 | ·004671 | 1·9166706 | $\bar{1}$·5860807 | $\bar{3}$·6694099 | 26 |
| 26¼ | 82·3535 | ·012143 | ·38695 | ·004699 | 1·9156819 | $\bar{1}$·5876549 | $\bar{3}$·6720054 | 26¼ |
| 26½ | 82·1655 | ·012171 | ·38835 | ·004727 | 1·9146895 | $\bar{1}$·5892233 | $\bar{3}$·6745856 | 26½ |
| 26¾ | 81·9760 | ·012199 | ·38976 | ·004755 | 1·9136865 | $\bar{1}$·5907973 | $\bar{3}$·6771505 | 26¾ |
| 27 | 81·7863 | ·012227 | ·39117 | ·004783 | 1·9126805 | $\bar{1}$·5923655 | $\bar{3}$·6797004 | 27 |
| 27¼ | 81·5952 | ·012256 | ·39259 | ·004812 | 1·9116644 | $\bar{1}$·5939392 | $\bar{3}$·6823256 | 27¼ |
| 27½ | 81·4034 | ·012285 | ·39402 | ·004841 | 1·9106424 | $\bar{1}$·5955183 | $\bar{3}$·6849351 | 27½ |
| 27¾ | 81·2109 | ·012314 | ·39545 | ·004870 | 1·9096146 | $\bar{1}$·5970916 | $\bar{3}$·6875290 | 27¾ |

## QUARTERLY TABLE:—FEMALES. Interest 3 per Cent.

VALUES OF ANNUITIES. SINGLE and QUARTERLY PREMIUMS which insure £1 on the LIFE of a FEMALE.

| Age | Present Value of an Annuity of £1 payable every Quarter of a Year. | Annuity payable every Quarter of a Year which £1 will purchase. | Single Premium which will insure £1 over the Whole Term of Life. | Quarterly Premium which will insure £1 over the Whole Term of Life. | $\lambda\left(\frac{N_x}{D_x}\right) = \lambda A_x$ | $\lambda\,\Pi_x$ | $\lambda\,\pi_x$ | Age |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1 - d\,A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 28 | 81·0173 | ·012343 | ·39689 | ·004899 | 1·9085778 | $\bar{1}$·5986702 | $\bar{3}$·6901074 | 28 |
| 28¼ | 80·8224 | ·012373 | ·39834 | ·004929 | 1·9075320. | $\bar{1}$·6002539 | $\bar{3}$·6927588 | 28¼ |
| 28½ | 80·6272 | ·012403 | ·39980 | ·004959 | 1·9064818 | $\bar{1}$·6018428 | $\bar{3}$·6953941 | 28½ |
| 28¾ | 80·4302 | ·012433 | ·40126 | ·004989 | 1·9054191 | $\bar{1}$·6034259 | $\bar{3}$·6980135 | 28¾ |
| 29 | 80·2322 | ·012464 | ·40274 | ·005020 | 1·9043485 | $\bar{1}$·6050248 | $\bar{3}$·7007037 | 29 |
| 29¼ | 80·0340 | ·012495 | ·40421 | ·005051 | 1·9032746 | $\bar{1}$·6066071 | $\bar{3}$·7033774 | 29¼ |
| 29½ | 79·8341 | ·012526 | ·40570 | ·005082 | 1·9021885 | $\bar{1}$·6082050 | $\bar{3}$·7060347 | 29½ |
| 29¾ | 79·6333 | ·012558 | ·40720 | ·005114 | 1·9010946 | $\bar{1}$·6098078 | $\bar{3}$·7087607 | 29¾ |
| 30 | 79·4314 | ·012589 | ·40870 | ·005145 | 1·8999922 | $\bar{1}$·6114046 | $\bar{3}$·7113854 | 30 |
| 30¼ | 79·2284 | ·012622 | ·41021 | ·005178 | 1·8988808 | $\bar{1}$·6130062 | $\bar{3}$·7141620 | 30¼ |
| 30½ | 79·0242 | ·012654 | ·41173 | ·005210 | 1·8977603 | $\bar{1}$·6146125 | $\bar{3}$·7168377 | 30½ |
| 30¾ | 78·8191 | ·012687 | ·41326 | ·005243 | 1·8966313 | $\bar{1}$·6162234 | $\bar{3}$·7195799 | 30¾ |
| 31 | 78·6127 | ·012721 | ·41479 | ·005277 | 1·8954929 | $\bar{1}$·6178283 | $\bar{3}$·7223871 | 31 |
| 31¼ | 78·4052 | ·012754 | ·41634 | ·005310 | 1·8943448 | $\bar{1}$·6194481 | $\bar{3}$·7250945 | 31¼ |
| 31½ | 78·1965 | ·012788 | ·41789 | ·005344 | 1·8931875 | $\bar{1}$·6210620 | $\bar{3}$·7278664 | 31½ |
| 31¾ | 77·9868 | ·012823 | ·41945 | ·005379 | 1·8920208 | $\bar{1}$·6226802 | $\bar{3}$·7307015 | 31¾ |
| 32 | 77·7758 | ·012857 | ·42102 | ·005413 | 1·8908442 | $\bar{1}$·6243027 | $\bar{3}$·7334380 | 32 |
| 32¼ | 77·5635 | ·012893 | ·42260 | ·005449 | 1·8896576 | $\bar{1}$·6259295 | $\bar{3}$·7363168 | 32¼ |
| 32½ | 77·3501 | ·012928 | ·42419 | ·005484 | 1·8884607 | $\bar{1}$·6275604 | $\bar{3}$·7390974 | 32½ |
| 32¾ | 77·1355 | ·012964 | ·42579 | ·005520 | 1·8872540 | $\bar{1}$·6291955 | $\bar{3}$·7419391 | 32¾ |
| 33 | 76·9195 | ·013001 | ·42740 | ·005557 | 1·8860367 | $\bar{1}$·6308345 | $\bar{3}$·7448404 | 33 |
| 33¼ | 76·7024 | ·013037 | ·42901 | ·005593 | 1·8848089 | $\bar{1}$·6324674 | $\bar{3}$·7476448 | 33¼ |
| 33½ | 76·4840 | ·013075 | ·43064 | ·005631 | 1·8835703 | $\bar{1}$·6341144 | $\bar{3}$·7505855 | 33½ |
| 33¾ | 76·2643 | ·013112 | ·43228 | ·005668 | 1·8823212 | $\bar{1}$·6357651 | $\bar{3}$·7534298 | 33¾ |
| 34 | 76·0433 | ·013150 | ·43392 | ·005706 | 1·8810610 | $\bar{1}$·6374097 | $\bar{3}$·7563318 | 34 |
| 34¼ | 75·8210 | ·013189 | ·43558 | ·005745 | 1·8797896 | $\bar{1}$·6390679 | $\bar{3}$·7592900 | 34¼ |
| 34½ | 75·5974 | ·013228 | ·43724 | ·005784 | 1·8785071 | $\bar{1}$·6407199 | $\bar{3}$·7622283 | 34½ |
| 34¾ | 75·3725 | ·013267 | ·43891 | ·005823 | 1·8772131 | $\bar{1}$·6423755 | $\bar{3}$·7651468 | 34¾ |
| 35 | 75·1462 | ·013307 | ·44060 | ·005863 | 1·8759072 | $\bar{1}$·6440445 | $\bar{3}$·7681199 | 35 |
| 35¼ | 74·9186 | ·013348 | ·44229 | ·005904 | 1·8745899 | $\bar{1}$·6457071 | $\bar{3}$·7711463 | 35¼ |
| 35½ | 74·6896 | ·013389 | ·44400 | ·005945 | 1·8732602 | $\bar{1}$·6473830 | $\bar{3}$·7741519 | 35½ |
| 35¾ | 74·4592 | ·013430 | ·44571 | ·005986 | 1·8719186 | $\bar{1}$·6490524 | $\bar{3}$·7771367 | 35¾ |
| 36 | 74·2275 | ·013472 | ·44744 | ·006028 | 1·8705650 | $\bar{1}$·6507348 | $\bar{3}$·7801732 | 36 |
| 36¼ | 73·9944 | ·013515 | ·44917 | ·006071 | 1·8691991 | $\bar{1}$·6524107 | $\bar{3}$·7832602 | 36¼ |
| 36½ | 73·7599 | ·013558 | ·45092 | ·006114 | 1·8678200 | $\bar{1}$·6540995 | $\bar{3}$·7863254 | 36½ |
| 36¾ | 73·5239 | ·013601 | ·45268 | ·006157 | 1·8664286 | $\bar{1}$·6557913 | $\bar{3}$·7893692 | 36¾ |
| 37 | 73·2865 | ·013645 | ·45444 | ·006201 | 1·8650237 | $\bar{1}$·6574766 | $\bar{3}$·7924617 | 37 |
| 37¼ | 73·0476 | ·013690 | ·45622 | ·006246 | 1·8636061 | $\bar{1}$·6591743 | $\bar{3}$·7956020 | 37¼ |
| 37½ | 72·8073 | ·013735 | ·45801 | ·006291 | 1·8621748 | $\bar{1}$·6608750 | $\bar{3}$·7987197 | 37½ |
| 37¾ | 72·5655 | ·013781 | ·45981 | ·006337 | 1·8607303 | $\bar{1}$·6625784 | $\bar{3}$·8018837 | 37¾ |
| 38 | 72·3222 | ·013827 | ·46162 | ·006383 | 1·8592718 | $\bar{1}$·6642846 | $\bar{3}$·8050248 | 38 |
| 38¼ | 72·0776 | ·013874 | ·46344 | ·006430 | 1·8578000 | $\bar{1}$·6659935 | $\bar{3}$·8082110 | 38¼ |
| 38½ | 71·8313 | ·013922 | ·46528 | ·006478 | 1·8563136 | $\bar{1}$·6677144 | $\bar{3}$·8114409 | 38½ |
| 38¾ | 71·5835 | ·013970 | ·46712 | ·006526 | 1·8548128 | $\bar{1}$·6694285 | $\bar{3}$·8146471 | 38¾ |
| 39 | 71·3341 | ·014019 | ·46898 | ·006575 | 1·8532972 | $\bar{1}$·6711543 | $\bar{3}$·8178958 | 39 |
| 39¼ | 71·0833 | ·014068 | ·47084 | ·006624 | 1·8517673 | $\bar{1}$·6728734 | $\bar{3}$·8211203 | 39¼ |
| 39½ | 70·8309 | ·014118 | ·47272 | ·006674 | 1·8502227 | $\bar{1}$·6746040 | $\bar{3}$·8243862 | 39½ |
| 39¾ | 70·5769 | ·014169 | ·47461 | ·006725 | 1·8486624 | $\bar{1}$·6763369 | $\bar{3}$·8276923 | 39¾ |
| 40 | 70·3214 | ·014220 | ·47652 | ·006776 | 1·8470873 | $\bar{1}$·6780811 | $\bar{3}$·8309734 | 40 |
| 40¼ | 70·0643 | ·014273 | ·47843 | ·006829 | 1·8454965 | $\bar{1}$·6798184 | $\bar{3}$·8343571 | 40¼ |
| 40½ | 69·8055 | ·014326 | ·48036 | ·006882 | 1·8438894 | $\bar{1}$·6815668 | $\bar{3}$·8377147 | 40½ |
| 40¾ | 69·5451 | ·014379 | ·48229 | ·006935 | 1·8422666 | $\bar{1}$·6833083 | $\bar{3}$·8410465 | 40¾ |
| 41 | 69·2831 | ·014434 | ·48424 | ·006990 | 1·8406275 | $\bar{1}$·6850607 | $\bar{3}$·8444772 | 41 |
| 41¼ | 69·0195 | ·014489 | ·48621 | ·007045 | 1·8389718 | $\bar{1}$·6868239 | $\bar{3}$·8478810 | 41¼ |
| 41½ | 68·7543 | ·014545 | ·48818 | ·007101 | 1·8372998 | $\bar{1}$·6885800 | $\bar{3}$·8513195 | 41½ |
| 41¾ | 68·4873 | ·014601 | ·49017 | ·007157 | 1·8356103 | $\bar{1}$·6903467 | $\bar{3}$·8547310 | 41¾ |

## QUARTERLY TABLE:—Females. Interest 3 per Cent.

### Values of Annuities. Single and Quarterly Premiums which insure £1 on the Life of a Female.

| **Age** | **Present Value** of an **Annuity** of £1 payable every **Quarter** of a Year. | **Annuity** payable every **Quarter** of a Year which £1 will purchase. | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Quarterly Premium** which will insure £1 over the **Whole Term of Life.** | $\lambda\left(\frac{N_x}{D_x}\right) = \lambda A_x$ | $\lambda\,\Pi_x$ | $\lambda\,\pi_x$ | **Age** |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1 - d\,A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 42 | 68·2187 | ·014659 | ·49217 | ·007215 | 1·8339034 | $\bar{1}$·6921151 | $\bar{3}$·8582363 | 42 |
| 42¼ | 67·9485 | ·014717 | ·49418 | ·007273 | 1·8321798 | $\bar{1}$·6938852 | $\bar{3}$·8617136 | 42¼ |
| 42½ | 67·6765 | ·014776 | ·49620 | ·007332 | 1·8304379 | $\bar{1}$·6956568 | $\bar{3}$·8652225 | 42½ |
| 42¾ | 67·4027 | ·014836 | ·49824 | ·007392 | 1·8286775 | $\bar{1}$·6974386 | $\bar{3}$·8687620 | 42¾ |
| 43 | 67·1273 | ·014897 | ·50029 | ·007453 | 1·8268994 | $\bar{1}$·6992218 | $\bar{3}$·8723311 | 43 |
| 43¼ | 66·8502 | ·014959 | ·50236 | ·007515 | 1·8251026 | $\bar{1}$·7010151 | $\bar{3}$·8759290 | 43¼ |
| 43½ | 66·5713 | ·015021 | ·50443 | ·007577 | 1·8232871 | $\bar{1}$·7028009 | $\bar{3}$·8794973 | 43½ |
| 43¾ | 66·2905 | ·015085 | ·50652 | ·007641 | 1·8214516 | $\bar{1}$·7045966 | $\bar{3}$·8831502 | 43¾ |
| 44 | 66·0081 | ·015150 | ·50862 | ·007706 | 1·8195973 | $\bar{1}$·7063934 | $\bar{3}$·8868290 | 44 |
| 44¼ | 65·7238 | ·015215 | ·51074 | ·007771 | 1·8177226 | $\bar{1}$·7081999 | $\bar{3}$·8904769 | 44¼ |
| 44½ | 65·4378 | ·015282 | ·51287 | ·007838 | 1·8158288 | $\bar{1}$·7100073 | $\bar{3}$·8942053 | 44½ |
| 44¾ | 65·1499 | ·015349 | ·51501 | ·007905 | 1·8139136 | $\bar{1}$·7118157 | $\bar{3}$·8979019 | 44¾ |
| 45 | 64·8601 | ·015418 | ·51717 | ·007974 | 1·8119779 | $\bar{1}$·7136333 | $\bar{3}$·9016762 | 45 |
| 45¼ | 64·5686 | ·015487 | ·51934 | ·008043 | 1·8100212 | $\bar{1}$·7154518 | $\bar{3}$·9054181 | 45¼ |
| 45½ | 64·2751 | ·015558 | ·52153 | ·008114 | 1·8080427 | $\bar{1}$·7172793 | $\bar{3}$·9092350 | 45½ |
| 45¾ | 63·9798 | ·015630 | ·52372 | ·008186 | 1·8060430 | $\bar{1}$·7190992 | $\bar{3}$·9130717 | 45¾ |
| 46 | 63·6826 | ·015703 | ·52594 | ·008259 | 1·8040210 | $\bar{1}$·7209362 | $\bar{3}$·9 69275 | 46 |
| 46¼ | 63·3835 | ·015777 | ·52816 | ·008333 | 1·8019762 | $\bar{1}$·7227655 | $\bar{3}$·9208014 | 46¼ |
| 46½ | 63·0823 | ·015852 | ·53040 | ·008408 | 1·7999076 | $\bar{1}$·7246035 | $\bar{3}$·9246927 | 46½ |
| 46¾ | 62·7793 | ·015929 | ·53266 | ·008485 | 1·7978167 | $\bar{1}$·7264501 | $\bar{3}$·9286518 | 46¾ |
| 47 | 62·4743 | ·016007 | ·53493 | ·008563 | 1·7957015 | $\bar{1}$·7282970 | $\bar{3}$·9326259 | 47 |
| 47¼ | 62·1675 | ·016086 | ·53721 | ·008642 | 1·7935635 | $\bar{1}$·7301441 | $\bar{3}$·9366143 | 47¼ |
| 47½ | 61·8585 | ·016166 | ·53951 | ·008722 | 1·7913995 | $\bar{1}$·7319995 | $\bar{3}$·9406161 | 47½ |
| 47¾ | 61·5476 | ·016248 | ·54183 | ·008804 | 1·7892109 | $\bar{1}$·7338630 | $\bar{3}$·9446800 | 47¾ |
| 48 | 61·2346 | ·016331 | ·54416 | ·008887 | 1·7869967 | $\bar{1}$·7357266 | $\bar{3}$·9487552 | 48 |
| 48¼ | 60·9195 | ·016415 | ·54651 | ·008971 | 1·7847560 | $\bar{1}$·7375981 | $\bar{3}$·9528409 | 48¼ |
| 48½ | 60·4629 | ·016539 | ·54990 | ·009095 | 1·7814889 | $\bar{1}$·7402837 | $\bar{3}$·9588027 | 48½ |
| 48¾ | 60·2831 | ·016588 | ·55124 | ·009144 | 1·7801959 | $\bar{1}$·7413407 | $\bar{3}$·9611362 | 48¾ |
| 49 | 59·9618 | ·016677 | ·55363 | ·009233 | 1·7778744 | $\bar{1}$·7432196 | $\bar{3}$·9653428 | 49 |
| 49¼ | 59·6384 | ·016768 | ·55604 | ·009324 | 1·7755261 | $\bar{1}$·7451060 | $\bar{3}$·9696023 | 49¼ |
| 49½ | 59·3126 | ·016860 | ·55847 | ·009416 | 1·7731472 | $\bar{1}$·7469998 | $\bar{3}$·9738664 | 49½ |
| 49¾ | 58·9849 | ·016954 | ·56091 | ·009510 | 1·7707405 | $\bar{1}$·7488932 | $\bar{3}$·9781805 | 49¾ |
| 50 | 58·6550 | ·017049 | ·56336 | ·009605 | 1·7683049 | $\bar{1}$·7507860 | $\bar{3}$·9824974 | 50 |
| 50¼ | 58·3227 | ·017146 | ·56584 | ·009702 | 1·7658378 | $\bar{1}$·7526936 | $\bar{3}$·9868613 | 50¼ |
| 50½ | 57·9883 | ·017245 | ·56832 | ·009801 | 1·7633407 | $\bar{1}$·7545929 | $\bar{3}$·9912704 | 50½ |
| 50¾ | 57·6515 | ·017346 | ·57083 | ·009902 | 1·7608108 | $\bar{1}$·7565068 | $\bar{3}$·9957229 | 50¾ |
| 51 | 57·3126 | ·017448 | ·57336 | ·010004 | 1·7582500 | $\bar{1}$·7584274 | $\bar{2}$·0001737 | 51 |
| 51¼ | 56·9714 | ·017553 | ·57590 | ·010109 | 1·7556565 | $\bar{1}$·7603471 | $\bar{2}$·0047082 | 51¼ |
| 51½ | 56·6278 | ·017659 | ·57845 | ·010215 | 1·7530293 | $\bar{1}$·7622658 | $\bar{2}$·0092384 | 51½ |
| 51¾ | 56·2816 | ·017768 | ·58103 | ·010324 | 1·7503667 | $\bar{1}$·7641986 | $\bar{2}$·0138480 | 51¾ |
| 52 | 55·9333 | ·017878 | ·58362 | ·010434 | 1·7476703 | $\bar{1}$·7661302 | $\bar{2}$·0184508 | 52 |
| 52¼ | 55·5824 | ·017991 | ·58624 | ·010547 | 1·7449371 | $\bar{1}$·7680754 | $\bar{2}$·0231289 | 52¼ |
| 52½ | 55·2292 | ·018106 | ·58886 | ·010662 | 1·7421687 | $\bar{1}$·7700121 | $\bar{2}$·0278387 | 52½ |
| 52¾ | 54·8734 | ·018224 | ·59151 | ·010780 | 1·7393618 | $\bar{1}$·7719621 | $\bar{2}$·0326188 | 52¾ |
| 53 | 54·5150 | ·018344 | ·59418 | ·010900 | 1·7365163 | $\bar{1}$·7739180 | $\bar{2}$·0374265 | 53 |
| 53¼ | 54·1544 | ·018466 | ·59687 | ·011022 | 1·7336340 | $\bar{1}$·7758798 | $\bar{2}$·0422604 | 53¼ |
| 53½ | 53·7910 | ·018590 | ·59957 | ·011146 | 1·7307097 | $\bar{1}$·7778399 | $\bar{2}$·0471190 | 53½ |
| 53¾ | 53·4250 | ·018718 | ·60229 | ·011274 | 1·7277448 | $\bar{1}$·7798057 | $\bar{2}$·0520780 | 53¾ |
| 54 | 53·0564 | ·018848 | ·60504 | ·011404 | 1·7247375 | $\bar{1}$·7817841 | $\bar{2}$·0570572 | 54 |
| 54¼ | 52·7015 | ·018975 | ·60768 | ·011531 | 1·7218228 | $\bar{1}$·7836749 | $\bar{2}$·0618670 | 54¼ |
| 54½ | 52·3465 | ·019103 | ·61032 | ·011659 | 1·7188879 | $\bar{1}$·7855576 | $\bar{2}$·0666613 | 54½ |
| 54¾ | 51·9914 | ·019234 | ·61297 | ·011790 | 1·7159312 | $\bar{1}$·7874392 | $\bar{2}$·0715138 | 54¾ |
| 55 | 51·6360 | ·019366 | ·61561 | ·011922 | 1·7129524 | $\bar{1}$·7893057 | $\bar{2}$·0763491 | 55 |
| 55¼ | 51·2802 | ·019501 | ·61826 | ·012057 | 1·7099499 | $\bar{1}$·7911711 | $\bar{2}$·0812393 | 55¼ |
| 55½ | 50·9244 | ·019637 | ·62091 | ·012193 | 1·7069257 | $\bar{1}$·7930287 | $\bar{2}$·0861106 | 55½ |
| 55¾ | 50·5683 | ·019775 | ·62356 | ·012331 | 1·7038780 | $\bar{1}$·7948782 | $\bar{2}$·0909983 | 55¾ |

## QUARTERLY TABLE:—FEMALES. Interest 3 per Cent.

### VALUES OF ANNUITIES. SINGLE and QUARTERLY PREMIUMS which insure £1 on the LIFE of a FEMALE.

| Age | Present Value of an Annuity of £1 payable every Quarter of a Year. | Annuity payable every Quarter of a Year which £1 will purchase. | Single Premium which will insure £1 over the Whole Term of Life. | Quarterly Premium which will insure £1 over the Whole Term of Life. | $\lambda\left(\frac{N_x}{D_x}\right) = \lambda A_x$ | $\lambda \Pi_x$ | $\lambda \pi_x$ | Age |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1 - d A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 56 | 50·2119 | ·019916 | ·62621 | ·012472 | 1·7008067 | $\bar{1}$·7967200 | $\bar{2}$·0959361 | 56 |
| 56¼ | 49·8552 | ·020058 | ·62887 | ·012614 | 1·6977101 | $\bar{1}$·7985609 | $\bar{2}$·1008528 | 56¼ |
| 56½ | 49·4983 | ·020203 | ·63153 | ·012759 | 1·6945907 | $\bar{1}$·8003940 | $\bar{2}$·1058166 | 56½ |
| 56¾ | 49·1410 | ·020350 | ·63419 | ·012906 | 1·6914441 | $\bar{1}$·8022194 | $\bar{2}$·1107917 | 56¾ |
| 57 | 48·7832 | ·020499 | ·63685 | ·013055 | 1·6882706 | $\bar{1}$·8040372 | $\bar{2}$·1157769 | 57 |
| 57¼ | 48·4254 | ·020650 | ·63951 | ·013206 | 1·6850731 | $\bar{1}$·8058473 | $\bar{2}$·1207713 | 57¼ |
| 57½ | 48·0673 | ·020804 | ·64218 | ·013360 | 1·6818495 | $\bar{1}$·8076568 | $\bar{2}$·1258065 | 57½ |
| 57¾ | 47·7087 | ·020961 | ·64485 | ·013517 | 1·6785978 | $\bar{1}$·8094587 | $\bar{2}$ 1308803 | 57¾ |
| 58 | 47·3501 | ·021119 | ·64752 | ·013675 | 1·6753208 | $\bar{1}$·8112532 | $\bar{2}$·1359273 | 58 |
| 58¼ | 46·9909 | ·021281 | ·65019 | ·013837 | 1·6720141 | $\bar{1}$·8130403 | $\bar{2}$·1410419 | 58¼ |
| 58½ | 46·6319 | ·021445 | ·65286 | ·014001 | 1·6686833 | $\bar{1}$·8148201 | $\bar{2}$·1461591 | 58½ |
| 58¾ | 46·2723 | ·021611 | ·65554 | ·014167 | 1·6653211 | $\bar{1}$·8165992 | $\bar{2}$·1512779 | 58¾ |
| 59 | 45·9128 | ·021780 | ·65822 | ·014336 | 1·6619333 | $\bar{1}$·8183711 | $\bar{2}$·1564280 | 59 |
| 59¼ | 45·5528 | ·021953 | ·66090 | ·014509 | 1·6585151 | $\bar{1}$·8201358 | $\bar{2}$·1616375 | 59¼ |
| 59½ | 45·1926 | ·022128 | ·66358 | ·014684 | 1·6550670 | $\bar{1}$·8218933 | $\bar{2}$·1668444 | 59½ |
| 59¾ | 44·8325 | ·022305 | ·66626 | ·014861 | 1·6515925 | $\bar{1}$·8236437 | $\bar{2}$·1720480 | 59¾ |
| 60 | 44·4723 | ·022486 | ·66894 | ·015042 | 1·6480898 | $\bar{1}$·8253872 | $\bar{2}$·1773056 | 60 |
| 60¼ | 44·1120 | ·022670 | ·67162 | ·015226 | 1·6445562 | $\bar{1}$·8271236 | $\bar{2}$·1825858 | 60¼ |
| 60½ | 43·7515 | ·022856 | ·67431 | ·015412 | 1·6409925 | $\bar{1}$·8288596 | $\bar{2}$·1878590 | 60½ |
| 60¾ | 43·3913 | ·023046 | ·67699 | ·015602 | 1·6374028 | $\bar{1}$·8305823 | $\bar{2}$·1931803 | 60¾ |
| 61 | 43·0310 | ·023239 | ·67967 | ·015795 | 1·6337814 | $\bar{1}$·8322981 | $\bar{2}$·1985196 | 61 |
| 61¼ | 42·6706 | ·023435 | ·68235 | ·015991 | 1·6301292 | $\bar{1}$·8340072 | $\bar{2}$·2038756 | 61¼ |
| 61½ | 42·3107 | ·023635 | ·68503 | ·016191 | 1·6264504 | $\bar{1}$·8357096 | $\bar{2}$·2092737 | 61½ |
| 61¾ | 41·9507 | ·023838 | ·68771 | ·016394 | 1·6227389 | $\bar{1}$·8374053 | $\bar{2}$·2146849 | 61¾ |
| 62 | 41·5910 | ·024044 | ·69039 | ·016600 | 1·6189994 | $\bar{1}$·8390945 | $\bar{2}$·2201081 | 62 |
| 62¼ | 41·2315 | ·024253 | ·69307 | ·016809 | 1·6152290 | $\bar{1}$·8407771 | $\bar{2}$·2255419 | 62¼ |
| 62½ | 40·8723 | ·024466 | ·69574 | ·017022 | 1·6114290 | $\bar{1}$·8424470 | $\bar{2}$·2310106 | 62½ |
| 62¾ | 40·5132 | ·024683 | ·69841 | ·017239 | 1·6075963 | $\bar{1}$·8441104 | $\bar{2}$·2365121 | 62¾ |
| 63 | 40·1547 | ·024904 | ·70108 | ·017460 | 1·6037359 | $\bar{1}$·8457676 | $\bar{2}$·2420442 | 63 |
| 63¼ | 39·7969 | ·025128 | ·70374 | ·017684 | 1·5998494 | $\bar{1}$·8474122 | $\bar{2}$·2475805 | 63¼ |
| 63½ | 39·4392 | ·025355 | ·70641 | ·017911 | 1·5959285 | $\bar{1}$·8490568 | $\bar{2}$·2531198 | 63½ |
| 63¾ | 39·0822 | ·025587 | ·70907 | ·018143 | 1·5919791 | $\bar{1}$·8506891 | $\bar{2}$·2587091 | 63¾ |
| 64 | 38·7258 | ·025823 | ·71172 | ·018379 | 1·5880004 | $\bar{1}$·8523092 | $\bar{2}$·2643219 | 64 |
| 64¼ | 38·3700 | ·026062 | ·71437 | ·018618 | 1·5839918 | $\bar{1}$·8539232 | $\bar{2}$·2699330 | 64¼ |
| 64½ | 38·0149 | ·026305 | ·71701 | ·018861 | 1·5799537 | $\bar{1}$·8555252 | $\bar{2}$·2755647 | 64½ |
| 64¾ | 37·6605 | ·026553 | ·71965 | ·019109 | 1·5758866 | $\bar{1}$·8571213 | $\bar{2}$·2812380 | 64¾ |
| 65 | 37·3070 | ·026805 | ·72228 | ·019361 | 1·5717899 | $\bar{1}$·8587056 | $\bar{2}$·2869278 | 65 |
| 65¼ | 36·9542 | ·027061 | ·72491 | ·019617 | 1·5676642 | $\bar{1}$·8602841 | $\bar{2}$·2926326 | 65¼ |
| 65½ | 36·6024 | ·027321 | ·72753 | ·019877 | 1·5635092 | $\bar{1}$·8618509 | $\bar{2}$·2983508 | 65½ |
| 65¾ | 36·2515 | ·027585 | ·73014 | ·020141 | 1·5593256 | $\bar{1}$·8634061 | $\bar{2}$·3040810 | 65¾ |
| 66 | 35·9016 | ·027854 | ·73274 | ·020410 | 1·5551133 | $\bar{1}$·8649499 | $\bar{2}$·3098430 | 66 |
| 66¼ | 35·5527 | ·028127 | ·73534 | ·020683 | 1·5508724 | $\bar{1}$ 8664882 | $\bar{2}$·3156135 | 66¼ |
| 66½ | 35·2049 | ·028405 | ·73793 | ·020961 | 1·5466036 | $\bar{1}$·8680152 | $\bar{2}$·3214120 | 66½ |
| 66¾ | 34·8583 | ·028688 | ·74051 | ·021244 | 1·5423066 | $\bar{1}$·8695309 | $\bar{2}$·3272363 | 66¾ |
| 67 | 34·5129 | ·028975 | ·74308 | ·021531 | 1·5379817 | $\bar{1}$·8710356 | $\bar{2}$·3330642 | 67 |
| 67¼ | 34·1688 | ·029266 | ·74564 | ·021822 | 1·5336294 | $\bar{1}$·8725292 | $\bar{2}$·3388946 | 67¼ |
| 67½ | 33·8259 | ·029563 | ·74819 | ·022119 | 1·5292492 | $\bar{1}$·8740119 | $\bar{2}$·3447655 | 67½ |
| 67¾ | 33·4844 | ·029865 | ·75074 | ·022421 | 1·5248425 | $\bar{1}$·8754896 | $\bar{2}$·3506550 | 67¾ |
| 68 | 33·1443 | ·030171 | ·75327 | ·022727 | 1·5204086 | $\bar{1}$·8769507 | $\bar{2}$·3565421 | 68 |
| 68¼ | 32·8056 | ·030483 | ·75579 | ·023039 | 1·5159479 | $\bar{1}$·8784011 | $\bar{2}$·3624636 | 68¼ |
| 68½ | 32·4684 | ·030799 | ·75830 | ·023355 | 1·5114609 | $\bar{1}$·8798411 | $\bar{2}$·3683799 | 68½ |
| 68¾ | 32·1327 | ·031121 | ·76080 | ·023677 | 1·5069479 | $\bar{1}$·8812705 | $\bar{2}$·3743267 | 68¾ |
| 69 | 31·7987 | ·031448 | ·76329 | ·024004 | 1·5024091 | $\bar{1}$·8826896 | $\bar{2}$·3802836 | 69 |
| 69¼ | 31·4662 | ·031780 | ·76576 | ·024336 | 1·4978447 | $\bar{1}$·8840927 | $\bar{2}$·3862492 | 69¼ |
| 69½ | 31·1354 | ·032118 | ·76822 | ·024674 | 1·4932548 | $\bar{1}$·8854856 | $\bar{2}$·3922396 | 69½ |
| 69¾ | 30·8064 | ·032461 | ·77067 | ·025017 | 1·4886408 | $\bar{1}$·8868685 | $\bar{2}$·3982352 | 69¾ |

## QUARTERLY TABLE :—FEMALES. Interest 3 per Cent.

### VALUES OF ANNUITIES. SINGLE and QUARTERLY PREMIUMS which insure £1 on the LIFE of a FEMALE.

| Age | **Present Value** of an **Annuity** of £1 payable every **Quarter** of a Year. | **Annuity** payable every **Quarter** of a Year which £1 will purchase. | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Quarterly Premium** which will insure £1 over the **Whole Term of Life.** | $\lambda\left(\frac{N_x}{D_x}\right) = \lambda A_x$ | $\lambda\,\Pi_x$ | $\lambda\,\pi_x$ | Age |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1 - d A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 70 | 30·4791 | ·032809 | ·77311 | ·025365 | 1·4840019 | $\bar{1}$·8882413 | $\bar{2}$·4042349 | 70 |
| 70¼ | 30·1536 | ·033164 | ·77553 | ·025720 | 1·4793386 | $\bar{1}$·8895986 | $\bar{2}$·4102710 | 70¼ |
| 70½ | 29·8299 | ·033523 | ·77794 | ·026079 | 1·4746521 | $\bar{1}$·8909461 | $\bar{2}$·4162909 | 70½ |
| 70¾ | 29·5081 | ·033889 | ·78034 | ·026445 | 1·4699420 | $\bar{1}$·8922839 | $\bar{2}$·4223436 | 70¾ |
| 71 | 29·1883 | ·034260 | ·78272 | ·026816 | 1·4652085 | $\bar{1}$·8936064 | $\bar{2}$·4283940 | 71 |
| 71¼ | 28·8704 | ·034638 | ·78508 | ·027194 | 1·4604527 | $\bar{1}$·8949139 | $\bar{2}$·4344731 | 71¼ |
| 71½ | 28·5544 | ·035021 | ·78744 | ·027577 | 1·4556737 | $\bar{1}$·8962175 | $\bar{2}$·4405470 | 71½ |
| 71¾ | 28·2406 | ·035410 | ·78977 | ·027966 | 1·4508732 | $\bar{1}$·8975006 | $\bar{2}$·4466304 | 71¾ |
| 72 | 27·9287 | ·035805 | ·79209 | ·028361 | 1·4460511 | $\bar{1}$·8987745 | $\bar{2}$·4527215 | 72 |
| 72¼ | 27·6189 | ·036207 | ·79440 | ·028763 | 1·4412068 | $\bar{1}$·9000392 | $\bar{2}$·4588342 | 72¼ |
| 72½ | 27·3113 | ·036615 | ·79669 | ·029171 | 1·4363426 | $\bar{1}$·9012894 | $\bar{2}$·4649513 | 72½ |
| 72¾ | 27·0058 | ·037029 | ·79896 | ·029585 | 1·4314568 | $\bar{1}$·9025250 | $\bar{2}$·4710716 | 72¾ |
| 73 | 26·7025 | ·037450 | ·80122 | ·030006 | 1·4265518 | $\bar{1}$·9037518 | $\bar{2}$·4772081 | 73 |
| 73¼ | 26·4013 | ·037877 | ·80346 | ·030433 | 1·4216261 | $\bar{1}$·9049643 | $\bar{2}$·4833448 | 73¼ |
| 73½ | 26·1025 | ·038310 | ·80569 | ·030866 | 1·4166822 | $\bar{1}$·9061680 | $\bar{2}$·4894804 | 73½ |
| 73¾ | 25·8059 | ·038751 | ·80790 | ·031307 | 1·4117188 | $\bar{1}$·9073576 | $\bar{2}$·4956415 | 73¾ |
| 74 | 25·5116 | ·039198 | ·81009 | ·031754 | 1·4067374 | $\bar{1}$·9085333 | $\bar{2}$·5017984 | 74 |
| 74¼ | 25·2196 | ·039652 | ·81226 | ·032208 | 1·4017379 | $\bar{1}$·9096951 | $\bar{2}$·5079638 | 74¼ |
| 74½ | 24·9299 | ·040112 | ·81442 | ·032668 | 1·3967206 | $\bar{1}$·9108484 | $\bar{2}$·5141225 | 74½ |
| 74¾ | 24·6425 | ·040580 | ·81656 | ·033136 | 1·3916854 | $\bar{1}$·9119881 | $\bar{2}$·5203001 | 74¾ |
| 75 | 24·3575 | ·041055 | ·81868 | ·033611 | 1·3866329 | $\bar{1}$·9131142 | $\bar{2}$·5264814 | 75 |
| 75¼ | 24·0748 | ·041537 | ·82078 | ·034093 | 1·3815631 | $\bar{1}$·9142268 | $\bar{2}$·5326652 | 75¼ |
| 75½ | 23·7946 | ·042026 | ·82287 | ·034582 | 1·3764787 | $\bar{1}$·9153312 | $\bar{2}$·5388501 | 75½ |
| 75¾ | 23·5169 | ·042523 | ·82494 | ·035079 | 1·3713803 | $\bar{1}$·9164224 | $\bar{2}$·5450472 | 75¾ |
| 76 | 23·2415 | ·043026 | ·82699 | ·035582 | 1·3662644 | $\bar{1}$·9175003 | $\bar{2}$·5512304 | 76 |
| 76¼ | 22·9686 | ·043538 | ·82902 | ·036094 | 1·3611338 | $\bar{1}$·9185650 | $\bar{2}$·5574350 | 76¼ |
| 76½ | 22·6981 | ·044057 | ·83103 | ·036613 | 1·3559897 | $\bar{1}$·9196167 | $\bar{2}$·5636353 | 76½ |
| 76¾ | 22·4301 | ·044583 | ·83303 | ·037139 | 1·3508305 | $\bar{1}$·9206606 | $\bar{2}$·5698302 | 76¾ |
| 77 | 22·1646 | ·045117 | ·83500 | ·037673 | 1·3456600 | $\bar{1}$·9216865 | $\bar{2}$·5760302 | 77 |
| 77¼ | 21·9015 | ·045659 | ·83696 | ·038215 | 1·3404743 | $\bar{1}$·9227047 | $\bar{2}$·5822339 | 77¼ |
| 77½ | 21·6410 | ·046209 | ·83890 | ·038765 | 1·3352778 | $\bar{1}$·9237102 | $\bar{2}$·5884398 | 77½ |
| 77¾ | 21·3830 | ·046766 | ·84082 | ·039322 | 1·3300692 | $\bar{1}$·9247030 | $\bar{2}$·5946356 | 77¾ |
| 78 | 21·1275 | ·047332 | ·84272 | ·039888 | 1·3248472 | $\bar{1}$·9256833 | $\bar{2}$·6008423 | 78 |
| 78¼ | 20·8744 | ·047906 | ·84461 | ·040462 | 1·3196137 | $\bar{1}$·9266562 | $\bar{2}$·6070473 | 78¼ |
| 78½ | 20·6239 | ·048487 | ·84647 | ·041043 | 1·3143710 | $\bar{1}$·9276116 | $\bar{2}$·6132391 | 78½ |
| 78¾ | 20·3760 | ·049077 | ·84832 | ·041633 | 1·3091179 | $\bar{1}$·9285597 | $\bar{2}$·6194377 | 78¾ |
| 79 | 20·1304 | ·049676 | ·85015 | ·042232 | 1·3038533 | $\bar{1}$·9294956 | $\bar{2}$·6256416 | 79 |
| 79¼ | 19·8875 | ·050283 | ·85195 | ·042839 | 1·2985797 | $\bar{1}$·9304141 | $\bar{2}$·6318393 | 79¼ |
| 79½ | 19·6470 | ·050898 | ·85374 | ·043454 | 1·2932957 | $\bar{1}$·9313256 | $\bar{2}$·6380298 | 79½ |
| 79¾ | 19·4090 | ·051522 | ·85552 | ·044078 | 1·2880040 | $\bar{1}$·9322302 | $\bar{2}$·6442219 | 79¾ |
| 80 | 19·1736 | ·052155 | ·85727 | ·044711 | 1·2827040 | $\bar{1}$·9331176 | $\bar{2}$·6504144 | 80 |
| 80¼ | 18·9407 | ·052796 | ·85900 | ·045352 | 1·2773962 | $\bar{1}$·9339932 | $\bar{2}$·6565964 | 80¼ |
| 80½ | 18·7103 | ·053446 | ·86072 | ·046002 | 1·2720809 | $\bar{1}$·9348619 | $\bar{2}$·6627767 | 80½ |
| 80¾ | 18·4824 | ·054106 | ·86241 | ·046662 | 1·2667586 | $\bar{1}$·9357138 | $\bar{2}$·6689633 | 80¾ |
| 81 | 18·2570 | ·054774 | ·86409 | ·047330 | 1·2614295 | $\bar{1}$·9365590 | $\bar{2}$·6751365 | 81 |
| 81¼ | 18·0341 | ·055451 | ·86575 | ·048007 | 1·2560940 | $\bar{1}$·9373925 | $\bar{2}$·6813046 | 81¼ |
| 81½ | 17·8137 | ·056137 | ·86739 | ·048693 | 1·2507531 | $\bar{1}$·9382144 | $\bar{2}$·6874665 | 81½ |
| 81¾ | 17·5957 | ·056832 | ·86901 | ·049388 | 1·2454068 | $\bar{1}$·9390248 | $\bar{2}$·6936214 | 81¾ |
| 82 | 17·3802 | ·057537 | ·87062 | ·050093 | 1·2400550 | $\bar{1}$·9398286 | $\bar{2}$·6997770 | 82 |
| 82¼ | 17·1672 | ·058251 | ·87220 | ·050807 | 1·2346987 | $\bar{1}$·9406161 | $\bar{2}$·7059236 | 82¼ |
| 82½ | 16·9566 | ·058974 | ·87377 | ·051530 | 1·2293385 | $\bar{1}$·9413971 | $\bar{2}$·7120601 | 82½ |
| 82¾ | 16·7485 | ·059707 | ·87532 | ·052263 | 1·2239747 | $\bar{1}$·9421669 | $\bar{2}$·7181943 | 82¾ |
| 83 | 16·5427 | ·060450 | ·87685 | ·053006 | 1·2186072 | $\bar{1}$·9429253 | $\bar{2}$·7243250 | 83 |
| 83¼ | 16·3394 | ·061202 | ·87837 | ·053758 | 1·2132369 | $\bar{1}$·9436775 | $\bar{2}$·7304431 | 83¼ |
| 83½ | 16·1385 | ·061964 | ·87986 | ·054520 | 1·2078636 | $\bar{1}$·9444136 | $\bar{2}$·7365558 | 83½ |
| 83¾ | 15·9400 | ·062735 | ·88134 | ·055291 | 1·2024881 | $\bar{1}$·9451435 | $\bar{2}$·7426544 | 83¾ |

## QUARTERLY TABLE:—FEMALES. Interest 3 per Cent.

### VALUES OF ANNUITIES. SINGLE and QUARTERLY PREMIUMS which insure £1 on the LIFE of a FEMALE.

| Age | Present Value of an Annuity of £1 payable every Quarter of a Year. | Annuity payable every Quarter of a Year which £1 will purchase. | Single Premium which will insure £1 over the Whole Term of Life. | Quarterly Premium which will insure £1 over the Whole Term of Life. | $\lambda\left(\frac{N_x}{D_x}\right) = \lambda A_x$ | $\lambda\,\Pi_x$ | $\lambda\,\pi_x$ | Age |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1 - d\,A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 84 | 15.7438 | ·063517 | ·88280 | ·056073 | 1·1971102 | $\bar{1}$·9458623 | $\bar{2}$·7487538 | 84 |
| 84¼ | 15·5500 | ·064309 | ·88424 | ·056865 | 1·1917309 | $\bar{1}$·9465702 | $\bar{2}$·7548450 | 84¼ |
| 84½ | 15·3586 | ·065110 | ·88567 | ·057666 | 1·1863515 | $\bar{1}$·9472719 | $\bar{2}$·7609198 | 84½ |
| 84¾ | 15·1695 | ·065922 | ·88708 | ·058478 | 1·1809708 | $\bar{1}$·9479628 | $\bar{2}$·7669925 | 84¾ |
| 85 | 14·9827 | ·066744 | ·88847 | ·059300 | 1·1755900 | $\bar{1}$·9486428 | $\bar{2}$·7730547 | 85 |
| 85¼ | 14·7982 | ·067576 | ·88984 | ·060132 | 1·1702089 | $\bar{1}$·9493119 | $\bar{2}$·7791056 | 85¼ |
| 85½ | 14·6160 | ·068418 | ·89120 | ·060974 | 1·1648279 | $\bar{1}$·9499752 | $\bar{2}$·7851447 | 85½ |
| 85¾ | 14·4360 | ·069271 | ·89254 | ·061827 | 1·1594479 | $\bar{1}$·9506277 | $\bar{2}$·7911782 | 85¾ |
| 86 | 14·2583 | ·070134 | ·89386 | ·062690 | 1·1540684 | $\bar{1}$·9512695 | $\bar{2}$·7971983 | 86 |
| 86¼ | 14·0829 | ·071008 | ·89516 | ·063564 | 1·1486912 | $\bar{1}$·9519007 | $\bar{2}$·8032112 | 86¼ |
| 86½ | 13·9096 | ·071893 | .89645 | ·064449 | 1·1433144 | $\bar{1}$·9525261 | $\bar{2}$·8092162 | 86½ |
| 86¾ | 13·7386 | ·072788 | ·89773 | ·065344 | 1·1379411 | $\bar{1}$·9531457 | $\bar{2}$·8152057 | 86¾ |
| 87 | 13·5697 | ·073694 | ·89899 | ·066250 | 1·1325696 | $\bar{1}$·9537549 | $\bar{2}$·8211859 | 87 |
| 87¼ | 13·4030 | ·074610 | ·90023 | ·067166 | 1·1272017 | $\bar{1}$·9543535 | $\bar{2}$·8271495 | 87¼ |
| 87½ | 13·2384 | ·075538 | ·90145 | ·068094 | 1·1218362 | $\bar{1}$·9549416 | $\bar{2}$·8331088 | 87½ |
| 87¾ | 13·0760 | ·076476 | ·90266 | ·069032 | 1·1164758 | $\bar{1}$·9555242 | $\bar{2}$·8390505 | 87¾ |
| 88 | 12·9156 | ·077426 | ·90385 | ·069982 | 1·1111159 | $\bar{1}$·9560964 | $\bar{2}$·8449863 | 88 |
| 88¼ | 12·7574 | ·078386 | ·90503 | ·070942 | 1·1057605 | $\bar{1}$·9566630 | $\bar{2}$·8509034 | 88¼ |
| 88½ | 12·6011 | ·079358 | ·90620 | ·071914 | 1·1004096 | $\bar{1}$·9572241 | $\bar{2}$·8568134 | 88½ |
| 88¾ | 12·4470 | ·080341 | ·90734 | ·072897 | 1·0950637 | $\bar{1}$·9577701 | $\bar{2}$·8627097 | 88¾ |
| 89 | 12·2948 | ·081335 | ·90848 | ·073891 | 1·0897226 | $\bar{1}$·9583154 | $\bar{2}$·8685915 | 89 |
| 89¼ | 12·1447 | ·082340 | ·90959 | ·074896 | 1·0843868 | 1·9588457 | $\bar{2}$·8744586 | 89¼ |
| 89½ | 11·9965 | ·083357 | ·91070 | ·075913 | 1·0790564 | $\bar{1}$·9593753 | $\bar{2}$·8803162 | 89½ |
| 89¾ | 11·8504 | ·084386 | ·91178 | ·076942 | 1·0737313 | $\bar{1}$·9598901 | $\bar{2}$·8861635 | 89¾ |
| 90 | 11·7061 | ·085425 | ·91286 | ·077981 | 1·0684127 | $\bar{1}$·9604042 | $\bar{2}$·8919888 | 90 |
| 90¼ | 11·5638 | ·086477 | ·91392 | ·079033 | 1·0631005 | $\bar{1}$·9609082 | $\bar{2}$·8978085 | 90¼ |
| 90½ | 11·4234 | ·087540 | ·91496 | ·080096 | 1·0577944 | $\bar{1}$·9614021 | $\bar{2}$·9036108 | 90½ |
| 90¾ | 11·2848 | ·088615 | ·91599 | ·081171 | 1·0524952 | $\bar{1}$·9618907 | $\bar{2}$·9094009 | 90¾ |
| 91 | 11·1481 | ·089701 | ·91701 | ·082257 | 1·0472028 | $\bar{1}$·9623741 | $\bar{2}$·9151729 | 91 |
| 91¼ | 11·0133 | ·090799 | ·91802 | ·083355 | 1·0419179 | $\bar{1}$·9628521 | $\bar{2}$·9209317 | 91¼ |
| 91½ | 10·8803 | ·091909 | ·91901 | ·084465 | 1·0366407 | $\bar{1}$·9633202 | $\bar{2}$·9266768 | 91½ |
| 91¾ | 10·7491 | ·093031 | .91998 | ·085587 | 1·0313718 | $\bar{1}$·9637784 | $\bar{2}$·9324078 | 91¾ |
| 92 | 10·6196 | ·094165 | ·92095 | ·086721 | 1·0261098 | $\bar{1}$·9642361 | $\bar{2}$·9381243 | 92 |
| 92¼ | 10·4920 | ·095311 | ·92190 | ·087867 | 1·0208565 | $\bar{1}$·9646838 | $\bar{2}$·9438258 | 92¼ |
| 92½ | 10·3660 | ·096469 | ·92283 | ·089025 | 1·0156121 | $\bar{1}$·9651217 | $\bar{2}$·9495120 | 92½ |
| 92¾ | 10·2418 | ·097639 | ·92376 | ·090195 | 1·0103755 | $\bar{1}$·9655592 | $\bar{2}$·9551825 | 92¾ |
| 93 | 10·1193 | ·098822 | ·92467 | ·091378 | 1·0051485 | $\bar{1}$·9659868 | $\bar{2}$·9608416 | 93 |
| 93¼ | 9·9984 | ·100016 | ·92557 | ·092572 | 0·9999306 | $\bar{1}$·9664093 | $\bar{2}$·9664796 | 93¼ |
| 93½ | 9·8792 | ·101222 | ·92646 | ·093778 | 0·9947233 | $\bar{1}$·9668267 | $\bar{2}$·9721010 | 93½ |
| 93¾ | 9·7616 | ·102442 | ·92733 | ·094998 | 0·9895230 | $\bar{1}$·9672343 | $\bar{2}$·9777145 | 93¾ |
| 94 | 9·6457 | ·103673 | ·92820 | ·096229 | 0·9843333 | $\bar{1}$·9676416 | $\bar{2}$·9833060 | 94 |
| 94¼ | 9·5313 | ·104917 | ·92905 | ·097473 | 0·9791540 | $\bar{1}$·9680391 | $\bar{2}$·9888843 | 94¼ |
| 94½ | 9·4185 | ·106174 | ·92989 | ·098730 | 0·9739836 | $\bar{1}$·9684316 | $\bar{2}$·9944491 | 94½ |
| 94¾ | 9·3073 | ·107442 | ·93071 | ·099998 | 0·9688240 | $\bar{1}$·9688144 | $\bar{2}$·9999913 | 94¾ |
| 95 | 9·1976 | ·108724 | ·93153 | ·101280 | 0·9636744 | $\bar{1}$·9691968 | $\bar{1}$·0055237 | 95 |
| 95¼ | 9·0894 | ·110018 | ·93234 | ·102574 | 0·9585352 | $\bar{1}$·9695743 | $\bar{1}$·0110373 | 95¼ |
| 95½ | 8·9827 | ·111325 | ·93313 | ·103881 | 0·9534066 | $\bar{1}$·9699422 | $\bar{1}$·0165361 | 95½ |
| 95¾ | 8·8775 | ·112645 | ·93391 | ·105201 | 0·9482883 | $\bar{1}$·9703050 | $\bar{1}$·0220198 | 95¾ |
| 96 | 8·7737 | ·113977 | ·93469 | ·106533 | 0·9431811 | $\bar{1}$·9706676 | $\bar{1}$·0274842 | 96 |
| 96¼ | 8·6713 | ·115323 | ·93545 | ·107879 | 0·9380844 | $\bar{1}$·9710206 | $\bar{1}$·0329370 | 96¼ |
| 96½ | 8·5704 | ·116681 | ·93620 | ·109237 | 0·9329989 | $\bar{1}$·9713686 | $\bar{1}$·0383698 | 96½ |
| 96¾ | 8·4708 | ·118053 | ·93694 | ·110609 | 0·9279239 | $\bar{1}$·9717118 | $\bar{1}$·0437905 | 96¾ |
| 97 | 8·3726 | ·119437 | ·93767 | ·111993 | 0·9228602 | $\bar{1}$·9720500 | $\bar{1}$·0491909 | 97 |
| 97¼ | 8·2757 | ·120835 | ·93839 | ·113391 | 0·9178070 | $\bar{1}$·9723834 | $\bar{1}$·0545786 | 97¼ |
| 97½ | 8·1802 | ·122246 | ·93911 | ·114802 | 0·9127640 | $\bar{1}$·9727165 | $\bar{1}$·0599495 | 97½ |
| 97¾ | 8·0860 | ·123671 | ·93981 | ·116227 | 0·9077311 | 1·9730401 | $\bar{1}$·0653070 | 97¾ |

## QUARTERLY TABLE:—FEMALES. Interest 3 per Cent.

### VALUES OF ANNUITIES. SINGLE and QUARTERLY PREMIUMS which insure £1 on the LIFE of a FEMALE.

| **Age** | **Present Value** of an **Annuity** of £1 payable every **Quarter** of a Year. | **Annuity** payable every **Quarter** of a Year which £1 will purchase. | **Single Premium** which will insure £1 over the **Whole Term of Life.** | **Quarterly Premium** which will insure £1 over the **Whole Term of Life.** | $\lambda\left(\frac{N_x}{D_x}\right) = \lambda A_x$ | $\lambda\,\Pi_x$ | $\lambda\,\pi_x$ | **Age** |
|---|---|---|---|---|---|---|---|---|
| $x$ | $\frac{N_x}{D_x} = A_x$ | $\frac{D_x}{N_x} = a_x$ | $1 - d\,A_x = \Pi_x$ | $a_x - d = \pi_x$ | | | | $x$ |
| | £ | £ | £ | £ | | | | |
| 98 | 7·9930 | ·125110 | ·94050 | ·117666 | 0·9027093 | $\bar{1}$·9733588 | $\bar{1}$·0706511 | 98 |
| 98¼ | 7·9013 | ·126562 | ·94118 | ·119118 | 0·8976975 | $\bar{1}$·9736727 | $\bar{1}$·0759774 | 98¼ |
| 98½ | 7·8108 | ·128028 | ·94186 | ·120584 | 0·8926937 | $\bar{1}$·9739864 | $\bar{1}$·0812897 | 98½ |
| 98¾ | 7·7214 | ·129510 | ·94252 | ·122066 | 0·8876976 | $\bar{1}$·9742906 | $\bar{1}$·0865947 | 98¾ |
| 99 | 7·6333 | ·131005 | ·94318 | ·123561 | 0·8827110 | $\bar{1}$·9745946 | $\bar{1}$·0918814 | 99 |
| 99¼ | 7·5463 | ·132516 | ·94382 | ·125072 | 0·8777319 | $\bar{1}$·9748892 | $\bar{1}$·0971601 | 99¼ |
| 99½ | 7·4603 | ·134042 | ·94446 | ·126598 | 0·8727586 | $\bar{1}$·9751836 | $\bar{1}$·1024268 | 99½ |
| 99¾ | 7·3755 | ·135584 | ·94510 | ·128140 | 0·8677920 | $\bar{1}$·9754778 | $\bar{1}$·1076847 | 99¾ |
| 100 | 7·2917 | ·137142 | ·94572 | ·129698 | 0·8628296 | $\bar{1}$·9757626 | $\bar{1}$·1129333 | 100 |
| 100¼ | 7·2089 | ·138717 | ·94634 | ·131273 | 0·8578702 | $\bar{1}$·9760472 | $\bar{1}$·1181754 | 100¼ |
| 100½ | 7·1271 | ·140310 | ·94694 | ·132866 | 0·8529107 | $\bar{1}$·9763225 | $\bar{1}$·1234138 | 100½ |
| 100¾ | 7·0461 | ·141922 | ·94755 | ·134478 | 0·8479496 | $\bar{1}$·9766021 | $\bar{1}$·1286512 | 100¾ |
| 101 | 6·9660 | ·143554 | ·94814 | ·136110 | 0·8429843 | $\bar{1}$·9768725 | $\bar{1}$·1338900 | 101 |
| 101¼ | 6·8867 | ·145208 | ·94873 | ·137764 | 0·8380106 | $\bar{1}$·9771426 | $\bar{1}$·1391357 | 101¼ |
| 101½ | 6·8081 | ·146885 | ·94932 | ·139441 | 0·8330230 | $\bar{1}$·9774126 | $\bar{1}$·1443905 | 101½ |
| 101¾ | 6·7300 | ·148588 | ·94990 | ·141144 | 0·8280176 | $\bar{1}$·9776779 | $\bar{1}$·1496624 | 101¾ |
| 102 | 6·6525 | ·150318 | ·95048 | ·142874 | 0·8229878 | $\bar{1}$·9779430 | $\bar{1}$·1549532 | 102 |
| 102¼ | 6·5754 | ·152081 | ·95105 | ·144637 | 0·8179248 | $\bar{1}$·9782033 | $\bar{1}$·1602794 | 102¼ |
| 102½ | 6·4986 | ·153879 | ·95162 | ·146435 | 0·8128216 | $\bar{1}$·9784636 | $\bar{1}$·1656449 | 102½ |
| 102¾ | 6·4219 | ·155717 | ·95219 | ·148273 | 0·8076639 | $\bar{1}$·9787236 | $\bar{1}$·1710621 | 102¾ |
| 103 | 6·3451 | ·157602 | ·95277 | ·150158 | 0·8024389 | $\bar{1}$·9789881 | $\bar{1}$·1765485 | 103 |
| 103¼ | 6·2680 | ·159541 | ·95334 | ·152097 | 0·7971274 | $\bar{1}$·9792478 | $\bar{1}$·1821207 | 103¼ |
| 103½ | 6·1903 | ·161543 | ·95392 | ·154099 | 0·7917130 | $\bar{1}$·9795120 | $\bar{1}$·1877998 | 103½ |
| 103¾ | 6·1117 | ·163620 | ·95450 | ·156176 | 0·7861637 | $\bar{1}$·9797759 | $\bar{1}$·1936143 | 103¾ |
| 104 | 6·0319 | ·165787 | ·95510 | ·158343 | 0·7804505 | $\bar{1}$·9800488 | $\bar{1}$·1995989 | 104 |
| 104¼ | 5·9501 | ·168064 | ·95571 | ·160620 | 0·7745254 | $\bar{1}$·9803261 | $\bar{1}$·2057996 | 104¼ |
| 104½ | 5·8660 | ·170474 | ·95633 | ·163030 | 0·7683414 | $\bar{1}$·9806078 | $\bar{1}$·2122675 | 104½ |
| 104¾ | 5·7789 | ·173044 | ·95698 | ·165600 | 0·7618430 | $\bar{1}$·9809029 | $\bar{1}$·2190603 | 104¾ |
| 105 | 5·6876 | ·175820 | ·95766 | ·168376 | 0·7549327 | $\bar{1}$·9812113 | $\bar{1}$·2262802 | 105 |
| 105¼ | 5·5915 | ·178842 | ·95838 | ·171398 | 0·7475305 | $\bar{1}$·9815377 | $\bar{1}$·2340057 | 105¼ |
| 105½ | 5·4889 | ·182187 | ·95914 | ·174743 | 0·7394822 | $\bar{1}$·9818820 | $\bar{1}$·2423998 | 105½ |
| 105¾ | 5·3784 | ·185929 | ·95996 | ·178485 | 0·7306518 | $\bar{1}$·9822531 | $\bar{1}$·2516018 | 105¾ |
| 106 | 5·2579 | ·190190 | ·96086 | ·182746 | 0·7208123 | $\bar{1}$·9826601 | $\bar{1}$·2618479 | 106 |
| 106¼ | 5·1246 | ·195139 | ·96185 | ·187695 | 0·7096560 | $\bar{1}$·9831073 | $\bar{1}$·2734527 | 106¼ |
| 106½ | 4·9758 | ·200972 | ·96296 | ·193528 | 0·6968645 | $\bar{1}$·9836082 | $\bar{1}$·2867438 | 106½ |
| 106¾ | 4·8073 | ·208015 | ·96421 | ·200571 | 0·6819050 | $\bar{1}$·9841716 | $\bar{1}$·3022682 | 106¾ |
| 107 | 4·6140 | ·216731 | ·96565 | ·209287 | 0·6640787 | $\bar{1}$·9848197 | $\bar{1}$·3207423 | 107 |
| 107¼ | 4·3900 | ·227791 | ·96732 | ·220347 | 0·6424636 | $\bar{1}$·9855702 | $\bar{1}$·3431072 | 107¼ |
| 107½ | 4·1286 | ·242213 | ·96927 | ·234769 | 0·6158020 | $\bar{1}$·9864448 | $\bar{1}$·3706408 | 107½ |
| 107¾ | 3·8193 | ·261826 | ·97157 | ·254382 | 0·5819871 | $\bar{1}$·9874741 | $\bar{1}$·4054864 | 107¾ |
| 108 | 3·4496 | ·289891 | ·97432 | ·282447 | 0·5377652 | $\bar{1}$·9887016 | $\bar{1}$·4509370 | 108 |
| 108¼ | 3·0066 | ·332602 | ·97762 | ·325158 | 0·4780754 | $\bar{1}$·9901701 | $\bar{1}$·5120944 | 108¼ |
| 108½ | 2·4693 | ·404981 | ·98162 | ·397537 | 0·3925655 | $\bar{1}$·9919434 | $\bar{1}$·5993775 | 108½ |
| 108¾ | 1·8134 | ·551462 | ·98650 | ·544018 | 0·2584848 | $\bar{1}$·9940971 | $\bar{1}$·7356133 | 108¾ |
| 109 | 1·0028 | ·997226 | ·99254 | ·989782 | 0·0012065 | $\bar{1}$·9967480 | $\bar{1}$·9955396 | 109 |

# NOTE.

In the Quarterly Life Table the Interest is convertible quarterly, and the $v$ at 3 per Cent. is derived thus :—

$$\text{Interest 3 per Cent. ; } \lambda v = \lambda \frac{1}{1+\frac{\cdot 03}{4}} \text{ or } \lambda \frac{4}{4 \cdot 03} = 9 \cdot 9967549{,}45186853 \text{ ; } v = \cdot 99255583$$

and

$$1 - v = d = \cdot 00744417 \text{ ; } \lambda d = \bar{3} \cdot 8718163$$

$$\text{or } \lambda d = \lambda \frac{3}{403} = \bar{3} \cdot 8718163$$

# JOINT LIVES.

## MALE AND FEMALE LIFE.

Interest 3 per Cent.

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female (y) | 0 | | | 1 | | | 2 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (x) | λ $D_{x,\,0}$ | λ $N_{x,\,0}$ | Age of Male (x) | λ $D_{x,\,1}$ | λ $N_{x,\,1}$ | Age of Male (x) | λ $D_{x,\,2}$ | λ $N_{x,\,2}$ |
| 0 | 6·3977003 | 7·5111602 | 0 | 6·3284421 | 7·4939657 | 0 | 6·2942645 | 7·4805787 |
| 1 | 6·3136981 | 7·4928829 | 1 | 6·2444399 | 7·4763577 | 1 | 6·2102623 | 7·4632376 |
| 2 | 6·2784172 | 7·4794378 | 2 | 6·2091590 | 7·4631397 | 2 | 6·1749814 | 7·4501203 |
| 3 | 6·2563039 | 7·4673850 | 3 | 6·1870457 | 7·4512017 | 3 | 6·1528681 | 7·4382400 |
| 4 | 6·2394022 | 7·4559300 | 4 | 6·1701440 | 7·4398165 | 4 | 6·1359664 | 7·4268950 |
| 5 | 6·2251748 | 7·4447840 | 5 | 6·1559166 | 7·4287161 | 5 | 6·1217390 | 7·4158252 |
| 6 | 6·2128136 | 7·4338085 | 6 | 6·1435554 | 7·4177685 | 6 | 6·1093778 | 7·4049016 |
| 7 | 6·2016701 | 7·4229054 | 7 | 6·1324119 | 7·4068819 | 7 | 6·0982343 | 7·3940339 |
| 8 | 6·1912559 | 7·4120097 | 8 | 6·1219977 | 7·3959940 | 8 | 6·0878201 | 7·3831615 |
| 9 | 6·1815085 | 7·4010833 | 9 | 6·1122503 | 7·3850676 | 9 | 6·0780727 | 7·3722472 |
| 10 | 6·1722733 | 7·3900881 | 10 | 6·1030151 | 7·3740658 | 10 | 6·0688375 | 7·3612544 |
| 11 | 6·1634088 | 7·3789915 | 11 | 6·0941506 | 7·3629573 | 11 | 6·0599730 | 7·3501527 |
| 12 | 6·1547868 | 7·3677667 | 12 | 6·0855286 | 7·3517163 | 12 | 6·0513510 | 7·3389167 |
| 13 | 6·1462923 | 7·3563924 | 13 | 6·0770341 | 7·3403223 | 13 | 6·0428565 | 7·3275262 |
| 14 | 6·1378234 | 7·3448513 | 14 | 6·0685652 | 7·3287595 | 14 | 6·0343876 | 7·3159655 |
| 15 | 6·1292916 | 7·3331308 | 15 | 6·0600334 | 7·3170156 | 15 | 6·0258558 | 7·3042235 |
| 16 | 6·1206213 | 7·3212224 | 16 | 6·0513631 | 7·3050835 | 16 | 6·0171855 | 7·2922924 |
| 17 | 6·1117505 | 7·3091214 | 17 | 6·0424923 | 7·2929581 | 17 | 6·0083147 | 7·2801685 |
| 18 | 6·1026300 | 7·2968264 | 18 | 6·0333718 | 7·2806390 | 18 | 5·9991942 | 7·2678502 |
| 19 | 6·0932242 | 7·2843387 | 19 | 6·0239660 | 7·2681281 | 19 | 5·9897884 | 7·2553399 |
| 20 | 6·0835104 | 7·2716628 | 20 | 6·0142522 | 7·2554291 | 20 | 5·9800746 | 7·2426418 |
| 21 | 6·0734792 | 7·2588048 | 21 | 6·0042210 | 7·2425481 | 21 | 5·9700434 | 7·2297620 |
| 22 | 6·0633676 | 7·2457754 | 22 | 5·9941094 | 7·2294940 | 22 | 5·9599318 | 7·2167071 |
| 23 | 6·0531783 | 7·2325685 | 23 | 5·9839201 | 7·2162599 | 23 | 5·9497425 | 7·2034716 |
| 24 | 6·0429131 | 7·2191775 | 24 | 5·9736549 | 7·2028400 | 24 | 5·9394773 | 7·1900489 |
| 25 | 6·0325730 | 7·2055957 | 25 | 5·9633148 | 7·1892267 | 25 | 5·9291372 | 7·1764319 |
| 26 | 6·0221581 | 7·1918153 | 26 | 5·9528999 | 7·1754123 | 26 | 5·9187223 | 7·1626125 |
| 27 | 6·0116677 | 7·1778279 | 27 | 5·9424095 | 7·1613887 | 27 | 5·9082319 | 7·1485827 |
| 28 | 6·0011002 | 7·1636247 | 28 | 5·9318420 | 7·1471465 | 28 | 5·8976644 | 7·1343327 |
| 29 | 5·9904534 | 7·1491960 | 29 | 5·9211952 | 7·1326758 | 29 | 5·8870176 | 7·1198531 |
| 30 | 5·9797240 | 7·1345319 | 30 | 5·9104658 | 7·1179666 | 30 | 5·8762882 | 7·1051336 |
| 31 | 5·9689080 | 7·1196207 | 31 | 5·8996498 | 7·1030076 | 31 | 5·8654722 | 7·0901625 |
| 32 | 5·9580005 | 7·1044513 | 32 | 5·8887423 | 7·0877864 | 32 | 5·8545647 | 7·0749279 |
| 33 | 5·9469958 | 7·0890106 | 33 | 5·8777376 | 7·0722911 | 33 | 5·8435600 | 7·0594172 |
| 34 | 5·9358874 | 7·0732860 | 34 | 5·8666292 | 7·0565081 | 34 | 5·8324516 | 7·0436172 |
| 35 | 5·9246679 | 7·0572628 | 35 | 5·8554097 | 7·0404224 | 35 | 5·8212321 | 7·0275131 |
| 36 | 5·9133291 | 7·0409263 | 36 | 5·8440709 | 7·0240196 | 36 | 5·8098933 | 7·0110894 |
| 37 | 5·9018619 | 7·0242607 | 37 | 5·8326037 | 7·0072829 | 37 | 5·7984261 | 6·9943306 |
| 38 | 5·8902565 | 7·0072487 | 38 | 5·8209983 | 6·9901957 | 38 | 5·7868207 | 6·9772186 |
| 39 | 5·8785021 | 6·9898729 | 39 | 5·8092439 | 6·9727396 | 39 | 5·7750663 | 6·9597358 |
| 40 | 5·8665873 | 6·9721138 | 40 | 5·7973291 | 6·9548956 | 40 | 5·7631515 | 6·9418626 |
| 41 | 5·8544996 | 6·9539518 | 41 | 5·7852414 | 6·9366428 | 41 | 5·7510638 | 6·9235785 |
| 42 | 5·8422258 | 6·9353650 | 42 | 5·7729676 | 6·9179599 | 42 | 5·7387900 | 6·9048611 |
| 43 | 5·8297518 | 6·9163310 | 43 | 5·7604936 | 6·8988234 | 43 | 5·7263160 | 6·8856878 |
| 44 | 5·8170629 | 6·8968251 | 44 | 5·7478047 | 6·8792086 | 44 | 5·7136271 | 6·8660330 |
| 45 | 5·8041432 | 6·8768214 | 45 | 5·7348850 | 6·8590894 | 45 | 5·7007074 | 6·8458704 |
| 46 | 5·7909762 | 6·8562921 | 46 | 5·7217180 | 6·8384369 | 46 | 5·6875404 | 6·8251716 |
| 47 | 5·7775445 | 6·8352072 | 47 | 5·7082863 | 6·8172207 | 47 | 5·6741087 | 6·8039052 |
| 48 | 5·7638299 | 6·8135342 | 48 | 5·6945717 | 6·7954084 | 48 | 5·6603941 | 6·7820385 |
| 49 | 5·7498133 | 6·7912387 | 49 | 5·6805551 | 6·7729641 | 49 | 5·6463775 | 6·7595361 |
| 50 | 5·7354749 | 6·7682816 | 50 | 5·6662167 | 6·7498492 | 50 | 5·6320391 | 6·7363583 |
| 51 | 5·7207939 | 6·7446213 | 51 | 5·6515357 | 6·7260209 | 51 | 5·6173581 | 6·7124631 |
| 52 | 5·7055042 | 6·7202094 | 52 | 5·6362460 | 6·7014324 | 52 | 5·6020684 | 6·6878029 |
| 53 | 5·6897597 | 6·6950201 | 53 | 5·6205115 | 6·6760555 | 53 | 5·5863339 | 6·6623490 |
| 54 | 5·6735731 | 6·6690072 | 54 | 5·6043149 | 6·6498421 | 54 | 5·5701373 | 6·6360529 |

## JOINT LIVES :—Male and Female Life.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 0 | | 1 | | | 2 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda\ D_{x,\,0}$ | $\lambda\ N_{x,\,0}$ | Age of Male ($x$) | $\lambda\ D_{x,\,1}$ | $\lambda\ N_{x,\,1}$ | Age of Male ($x$) | $\lambda\ D_{x,\,2}$ | $\lambda\ N_{x,\,2}$ |
| 55 | 5·6568872 | 6·6421181 | 55 | 5·5876290 | 6·6227394 | 55 | 5·5534514 | 6·6088607 |
| 56 | 5·6396743 | 6·6142954 | 56 | 5·5704161 | 6·5946882 | 56 | 5·5362385 | 6·5807135 |
| 57 | 5·6218863 | 6·5854752 | 57 | 5·5526281 | 6·5656242 | 57 | 5·5184505 | 6·5515458 |
| 58 | 5·6034648 | 6·5555882 | 58 | 5·5342066 | 6·5354769 | 58 | 5·5000290 | 6·5212871 |
| 59 | 5·5843412 | 6·5245589 | 59 | 5·5150830 | 6·5041700 | 59 | 5·4809054 | 6·4898604 |
| 60 | 5·5644364 | 6·4923056 | 60 | 5·4951782 | 6·4716209 | 60 | 5·4610006 | 6·4571829 |
| 61 | 5·5436611 | 6·4587403 | 61 | 5·4744029 | 6·4377409 | 61 | 5·4402253 | 6·4231654 |
| 62 | 5·5219156 | 6·4237679 | 62 | 5·4526574 | 6·4024343 | 62 | 5·4184798 | 6·3877121 |
| 63 | 5·4990899 | 6·3872877 | 63 | 5·4298317 | 6·3655988 | 63 | 5·3956541 | 6·3507205 |
| 64 | 5·4750637 | 6·3491901 | 64 | 5·4058055 | 6·3271259 | 64 | 5·3716279 | 6·3120806 |
| 65 | 5·4497063 | 6·3093601 | 65 | 5·3804481 | 6·2868982 | 65 | 5·3462705 | 6·2716769 |
| 66 | 5·4228767 | 6·2676740 | 66 | 5·3536185 | 6·2447926 | 66 | 5·3194409 | 6·2293841 |
| 67 | 5·3944236 | 6·2240001 | 67 | 5·3251654 | 6·2006770 | 67 | 5·2909878 | 6·1850714 |
| 68 | 5·3641855 | 6·1781985 | 68 | 5·2949273 | 6·1544116 | 68 | 5·2607497 | 6·1385986 |
| 69 | 5·3319902 | 6·1301227 | 69 | 5·2627320 | 6·1058476 | 69 | 5·2285544 | 6·0898169 |
| 70 | 5·2976556 | 6·0796146 | 70 | 5·2283974 | 6·0548298 | 70 | 5·1942198 | 6·0385697 |
| 71 | 5·2609890 | 6·0265092 | 71 | 5·1917308 | 6·0011909 | 71 | 5·1575532 | 5·9846925 |
| 72 | 5·2217874 | 5·9706318 | 72 | 5·1525292 | 5·9447570 | 72 | 5·1183516 | 5·9280096 |
| 73 | 5·1798377 | 5·9117977 | 73 | 5·1105795 | 5·8853443 | 73 | 5·0764019 | 5·8683370 |
| 74 | 5·1349161 | 5·8498118 | 74 | 5·0656579 | 5·8227576 | 74 | 5·0314803 | 5·8054825 |
| 75 | 5·0867888 | 5·7844711 | 75 | 5·0175306 | 5·7567935 | 75 | 4·9833530 | 5·7392406 |
| 76 | 5·0352114 | 5·7155597 | 76 | 4·9659532 | 5·6872382 | 76 | 4·9317756 | 5·6693986 |
| 77 | 4·9799295 | 5·6428546 | 77 | 4·9106713 | 5·6138673 | 77 | 4·8764937 | 5·5957322 |
| 78 | 4·9206781 | 5·5661187 | 78 | 4·8514199 | 5·5364457 | 78 | 4·8172423 | 5·5180074 |
| 79 | 4·8571820 | 5·4851064 | 79 | 4·7879238 | 5·4547280 | 79 | 4·7537462 | 5·4359786 |
| 80 | 4·7891556 | 5·3995594 | 80 | 4·7198974 | 5·3684578 | 80 | 4·6857198 | 5·3493901 |
| 81 | 4·7163030 | 5·3092096 | 81 | 4·6470448 | 5·2773667 | 81 | 4·6128672 | 5·2579750 |
| 82 | 4·6383179 | 5·2137778 | 82 | 4·5690597 | 5·1811762 | 82 | 4·5348821 | 5·1614542 |
| 83 | 4·5548840 | 5·1129715 | 83 | 4·4856258 | 5·0795977 | 83 | 4·4514482 | 5·0595385 |
| 84 | 4·4656742 | 5·0064897 | 84 | 4·3964160 | 4·9723269 | 84 | 4·3622384 | 4·9519288 |
| 85 | 4·3703514 | 4·8940174 | 85 | 4·3010932 | 4·8590536 | 85 | 4·2669156 | 4·8383100 |
| 86 | 4·2685680 | 4·7752288 | 86 | 4·1993098 | 4·7394521 | 86 | 4·1651322 | 4·7183605 |
| 87 | 4·1599662 | 4·6497865 | 87 | 4·0907080 | 4·6131862 | 87 | 4·0565304 | 4·5917434 |
| 88 | 4·0441778 | 4·5173411 | 88 | 3·9749196 | 4·4799077 | 88 | 3·9407420 | 4·4781117 |
| 89 | 3·9208244 | 4·3775325 | 89 | 3·8515662 | 4·3392574 | 89 | 3·8173886 | 4·3171068 |
| 90 | 3·7895169 | 4·2299860 | 90 | 3·7202587 | 4·1908631 | 90 | 3·6860811 | 4·1683563 |
| 91 | 3·6498564 | 4·0743171 | 91 | 3·5805982 | 4·0343397 | 91 | 3·5464206 | 4·0114766 |
| 92 | 3·5014333 | 3·9101253 | 92 | 3·4321751 | 3·8692898 | 92 | 3·3979975 | 3·8460691 |
| 93 | 3·3438278 | 3·7369977 | 93 | 3·2745696 | 3·6952995 | 93 | 3·2403920 | 3·6717225 |
| 94 | 3·1766097 | 3·5545037 | 94 | 3·1073515 | 3·5119395 | 94 | 3·0731739 | 3·4880061 |
| 95 | 2·9993386 | 3·3621913 | 95 | 2·9300804 | 3·3187573 | 95 | 2·8959028 | 3·2944669 |
| 96 | 2·8115637 | 3·1595801 | 96 | 2·7423055 | 3·1152703 | 96 | 2·7081279 | 3·0906213 |
| 97 | 2·6128238 | 2·9461451 | 97 | 2·5435656 | 2·9009458 | 97 | 2·5093880 | 2·8759359 |
| 98 | 2·4026475 | 2·7212812 | 98 | 2·3333893 | 2·6751704 | 98 | 2·2992117 | 2·6497875 |
| 99 | 2·1805531 | 2·4842358 | 99 | 2·1112949 | 2·4371685 | 99 | 2·0771173 | 2·4113941 |
| 100 | 1·9460483 | 2·2339660 | 100 | 1·8767901 | 2·1858427 | 100 | 1·8426125 | 2·1596360 |
| 101 | 1·6986308 | 1·9687943 | 101 | 1·6293726 | 1·9194155 | 101 | 1·5951950 | 1·8926894 |
| 102 | 1·4377878 | 1·6855886 | 102 | 1·3685296 | 1·6345347 | 102 | 1·3343520 | 1·6071128 |
| 103 | 1·1629962 | 1·3775503 | 103 | 1·0937380 | 1·3238809 | 103 | 1·0595604 | 1·2954043 |
| 104 | 0·8737226 | 1·0269580 | 104 | 0·8044644 | 0·9684316 | 104 | 0·7702868 | 0·9380942 |
| 105 | 0·5694232 | | 105 | 0·5007650 | | 105 | 0·4659874 | |
| 106 | 0·2495440 | | 106 | 0·1802858 | | 106 | 0·1461082 | |
| 107 | 9·9135206 | | 107 | 9·8442624 | | 107 | 9·8100848 | |
| 108 | 9·5607783 | | 108 | 9·4915201 | | 108 | 9·4573425 | |
| 109 | 9·1907320 | | 109 | 9·1214738 | | 109 | 9·0872962 | |

## JOINT LIVES :—Male and Female Life.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 3 | | | 4 | | | 5 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda\ D_{x,\,3}$ | $\lambda\ N_{x,\,3}$ | Age of Male ($x$) | $\lambda\ D_{x,\,4}$ | $\lambda\ N_{x,\,4}$ | Age of Male ($x$) | $\lambda\ D_{x,\,5}$ | $\lambda\ N_{x,\,5}$ |
| 0 | 6·2722013 | 7·4685397 | 0 | 6·2551537 | 7·4571068 | 0 | 6·2409873 | 7·4460005 |
| 1 | 6·1881991 | 7·4513364 | 1 | 6·1711515 | 7·4399873 | 1 | 6·1569851 | 7·4289333 |
| 2 | 6·1529182 | 7·4382785 | 2 | 6·1358706 | 7·4269712 | 2 | 6·1217042 | 7·4159484 |
| 3 | 6·1308049 | 7·4264375 | 3 | 6·1137573 | 7·4151615 | 3 | 6·0995909 | 7·4041657 |
| 4 | 6·1139032 | 7·4151237 | 4 | 6·0968556 | 7·4038752 | 4 | 6·0826892 | 7·3929049 |
| 5 | 6·0996758 | 7·4040804 | 5 | 6·0826282 | 7·3928574 | 5 | 6·0684618 | 7·3819118 |
| 6 | 6·0873146 | 7·3931802 | 6 | 6·0702670 | 7·3819810 | 6 | 6·0561006 | 7·3710598 |
| 7 | 6·0761711 | 7·3823336 | 7 | 6·0591235 | 7·3711570 | 7 | 6·0449571 | 7·3602597 |
| 8 | 6·0657569 | 7·3714805 | 8 | 6·0487093 | 7·3603256 | 8 | 6·0345429 | 7·3494521 |
| 9 | 6·0560095 | 7·3605836 | 9 | 6·0389619 | 7·3494497 | 9 | 6·0247955 | 7·3385993 |
| 10 | 6·0467743 | 7·3496070 | 10 | 6·0297267 | 7·3384929 | 10 | 6·0155603 | 7·3276654 |
| 11 | 6·0379098 | 7·3385199 | 11 | 6 0208622 | 7·3274251 | 11 | 6·0066958 | 7·3166201 |
| 12 | 6·0292878 | 7·3272976 | 12 | 6·0122402 | 7·3162214 | 12 | 5·9980738 | 7·3054381 |
| 13 | 6·0207933 | 7·3159200 | 13 | 6·0037457 | 7·3048616 | 13 | 5·9895793 | 7·2940997 |
| 14 | 6·0123244 | 7·3043716 | 14 | 5·9952768 | 7·2933307 | 14 | 5·9811104 | 7·2825898 |
| 15 | 6·0037926 | 7·2926408 | 15 | 5·9867450 | 7·2816172 | 15 | 5·9725786 | 7·2708970 |
| 16 | 5·9951223 | 7·2807211 | 16 | 5·9780747 | 7·2697137 | 16 | 5·9639083 | 7·2590142 |
| 17 | 5·9862515 | 7·2686080 | 17 | 5·9692039 | 7·2576172 | 17 | 5·9550375 | 7·2469376 |
| 18 | 5·9771310 | 7·2563008 | 18 | 5·9600834 | 7·2453261 | 18 | 5·9459170 | 7·2346663 |
| 19 | 5·9677252 | 7·2438013 | 19 | 5·9506776 | 7·2328427 | 19 | 5·9365112 | 7·2222025 |
| 20 | 5·9580114 | 7·2311134 | 20 | 5·9409638 | 7·2201709 | 20 | 5·9267974 | 7·2095503 |
| 21 | 5·9479802 | 7·2182437 | 21 | 5·9309326 | 7·2073163 | 21 | 5·9167662 | 7·1967149 |
| 22 | 5·9378686 | 7·2051985 | 22 | 5·9208210 | 7·1942860 | 22 | 5·9066546 | 7·1837031 |
| 23 | 5·9276793 | 7·1919716 | 23 | 5·9106317 | 7·1810738 | 23 | 5·8964653 | 7·1705090 |
| 24 | 5·9174141 | 7·1785571 | 24 | 5·9003665 | 7·1676729 | 24 | 5·8862001 | 7·1571263 |
| 25 | 5·9070740 | 7·1649471 | 25 | 5·8900264 | 7·1540763 | 25 | 5·8758600 | 7·1435469 |
| 26 | 5·8966591 | 7·1511344 | 26 | 5·8796115 | 7·1402760 | 26 | 5·8654451 | 7·1297637 |
| 27 | 5·8861687 | 7·1371100 | 27 | 5·8691211 | 7·1262639 | 27 | 5·8549547 | 7·1157676 |
| 28 | 5·8756012 | 7·1228651 | 28 | 5·8585536 | 7·1120303 | 28 | 5·8443872 | 7·1015502 |
| 29 | 5·8649544 | 7·1083894 | 29 | 5·8479068 | 7·0975658 | 29 | 5·8337404 | 7·0871010 |
| 30 | 5·8542250 | 7·0936731 | 30 | 5·8371774 | 7·0828596 | 30 | 5·8230110 | 7·0724098 |
| 31 | 5·8434090 | 7·0787040 | 31 | 5·8263614 | 7·0679003 | 31 | 5·8121950 | 7·0574654 |
| 32 | 5·8325015 | 7·0634711 | 32 | 5·8154539 | 7·0526763 | 32 | 5·8012875 | 7·0422554 |
| 33 | 5·8214968 | 7·0479610 | 33 | 5·8044492 | 7·0371746 | 33 | 5·7902828 | 7·0267673 |
| 34 | 5·8103884 | 7·0321601 | 34 | 5·7933408 | 7·0213817 | 34 | 5·7791744 | 7·0109874 |
| 35 | 5·7991689 | 7·0160544 | 35 | 5·7821213 | 7·0052831 | 35 | 5·7679549 | 6·9949019 |
| 36 | 5·7878301 | 6·9996279 | 36 | 5·7707825 | 6·9888633 | 36 | 5·7566161 | 6·9784943 |
| 37 | 5·7763629 | 6·9828653 | 37 | 5·7593153 | 6·9721063 | 37 | 5·7451489 | 6·9617495 |
| 38 | 5·7647575 | 6·9657486 | 38 | 5·7477099 | 6·9549948 | 38 | 5·7335435 | 6·9446495 |
| 39 | 5·7530031 | 6·9482594 | 39 | 5·7359555 | 6·9375105 | 39 | 5·7217891 | 6·9271762 |
| 40 | 5·7410883 | 6·9303789 | 40 | 5·7240407 | 6·9196333 | 40 | 5·7098743 | 6·9093102 |
| 41 | 5·7290006 | 6·9120858 | 41 | 5·7119530 | 6·9013433 | 41 | 5·6977866 | 6·8910301 |
| 42 | 5·7167268 | 6·8933587 | 42 | 5·6996792 | 6·8826180 | 42 | 5·6855128 | 6·8723146 |
| 43 | 5·7042528 | 6·8741732 | 43 | 5·6872052 | 6·8634340 | 43 | 5·6730388 | 6·8531397 |
| 44 | 5·6915639 | 6·8545053 | 44 | 5·6745163 | 6·8437659 | 44 | 5·6603499 | 6·8334806 |
| 45 | 5·6786442 | 6·8343274 | 45 | 5·6615966 | 6·8235875 | 45 | 5·6474302 | 6·8133098 |
| 46 | 5·6654772 | 6·8136114 | 46 | 5·6484296 | 6·8028692 | 46 | 5·6342632 | 6·7925993 |
| 47 | 5·6520455 | 6·7923262 | 47 | 5·6349979 | 6·7815807 | 47 | 5·6208315 | 6·7713173 |
| 48 | 5·6383309 | 6·7704384 | 48 | 5·6212833 | 6·7596886 | 48 | 5·6071169 | 6·7494310 |
| 49 | 5·6243143 | 6·7479120 | 49 | 5·6072667 | 6·7371563 | 49 | 5·5931003 | 6·7269041 |
| 50 | 5·6099759 | 6·7247085 | 50 | 5·5929283 | 6·7139449 | 50 | 5·5787619 | 6·7036971 |
| 51 | 5·5952949 | 6·7007845 | 51 | 5·5782473 | 6·6900121 | 51 | 5·5640809 | 6·6797671 |
| 52 | 5·5800052 | 6·6760936 | 52 | 5·5629576 | 6·6653104 | 52 | 5·5487912 | 6·6550680 |
| 53 | 5·5642707 | 6·6506052 | 53 | 5·5472231 | 6·6398099 | 53 | 5·5330567 | 6·6295683 |
| 54 | 5·5480741 | 6·6242714 | 54 | 5·5310265 | 6·6134612 | 54 | 5·5168601 | 6·6032198 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female ($y$) | 3 | | 4 | | | 5 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda D_{x,3}$ | $\lambda N_{x,3}$ | Age of Male ($x$) | $\lambda D_{x,4}$ | $\lambda N_{x,4}$ | Age of Male ($x$) | $\lambda D_{x,5}$ | $\lambda N_{x,5}$ |
| 55 | 5·5313882 | 6·5970380 | 55 | 5·5143406 | 6·5862106 | 55 | 5·5001742 | 6·5759672 |
| 56 | 5·5141753 | 6·5688452 | 56 | 5·4971277 | 6·5579982 | 56 | 5·4829613 | 6·5477512 |
| 57 | 5·4963873 | 6·5396278 | 57 | 5·4793397 | 6·5287581 | 57 | 5·4651733 | 6·5185060 |
| 58 | 5·4779658 | 6·5093145 | 58 | 5·4609182 | 6·4984194 | 58 | 5·4467518 | 6·4881599 |
| 59 | 5·4588422 | 6·4778286 | 59 | 5·4417946 | 6·4669045 | 59 | 5·4276282 | 6·4566356 |
| 60 | 5·4389374 | 6·4450866 | 60 | 5·4218898 | 6·4341304 | 60 | 5·4077234 | 6·4238495 |
| 61 | 5·4181621 | 6·4109991 | 61 | 5·4011145 | 6·4000070 | 61 | 5·3869481 | 6·3897119 |
| 62 | 5·3964166 | 6·3754703 | 62 | 5·3793690 | 6·3644384 | 62 | 5·3652026 | 6·3541264 |
| 63 | 5·3735909 | 6·3383973 | 63 | 5·3565433 | 6·3273217 | 63 | 5·3423769 | 6·3169899 |
| 64 | 5·3495647 | 6·2996707 | 64 | 5·3325171 | 6·2885475 | 64 | 5·3183507 | 6·2781926 |
| 65 | 5·3242073 | 6·2591733 | 65 | 5·3071597 | 6·2479983 | 65 | 5·2929933 | 6·2376179 |
| 66 | 5·2973777 | 6·2167814 | 66 | 5·2803301 | 6·2055500 | 66 | 5·2661637 | 6·1951408 |
| 67 | 5·2689246 | 6·1723624 | 67 | 5·2518770 | 6·1610708 | 67 | 5·2377106 | 6·1506294 |
| 68 | 5·2386865 | 6·1257775 | 68 | 5·2216389 | 6·1144202 | 68 | 5·2074725 | 6·1039439 |
| 69 | 5·2064912 | 6·0768778 | 69 | 5·1894436 | 6·0654514 | 69 | 5·1752772 | 6·0549354 |
| 70 | 5·1721566 | 6·0255067 | 70 | 5·1551090 | 6·0140062 | 70 | 5·1409426 | 6·0034489 |
| 71 | 5·1354900 | 5·9714980 | 71 | 5·1184424 | 5·9599200 | 71 | 5·1042760 | 5·9493173 |
| 72 | 5·0962884 | 5·9146790 | 72 | 5·0792408 | 5·9030178 | 72 | 5·0650744 | 5·8923668 |
| 73 | 5·0543387 | 5·8548645 | 73 | 5·0372911 | 5·8431169 | 73 | 5·0231247 | 5·8324137 |
| 74 | 5·0094171 | 5·7918611 | 74 | 4·9923695 | 5·7800235 | 74 | 4·9782031 | 5·7692652 |
| 75 | 4·9612898 | 5·7254666 | 75 | 4·9442422 | 5·7135336 | 75 | 4·9300758 | 5·7027182 |
| 76 | 4·9097124 | 5·6554663 | 76 | 4·8926648 | 5·6434357 | 76 | 4·8784984 | 5·6325586 |
| 77 | 4·8544305 | 5·5816373 | 77 | 4·8373829 | 5·5695051 | 77 | 4·8232165 | 5·5585650 |
| 78 | 4·7951791 | 5·5037449 | 78 | 4·7781315 | 5·4915087 | 78 | 4·7639651 | 5·4805024 |
| 79 | 4·7316830 | 5·4215450 | 79 | 4·7146354 | 5·4092011 | 79 | 4·7004690 | 5·3981269 |
| 80 | 4·6636566 | 5·3347813 | 80 | 4·6466090 | 5·3223278 | 80 | 4·6324426 | 5·3111830 |
| 81 | 4·5908040 | 5·2431879 | 81 | 4·5737564 | 5·2306219 | 81 | 4·5595900 | 5·2194053 |
| 82 | 4·5128189 | 5·1464868 | 82 | 4·4957713 | 5·1338065 | 82 | 4·4816049 | 5·1225154 |
| 83 | 4·4293850 | 5·0443880 | 83 | 4·4123374 | 5·0315927 | 83 | 4·3981710 | 5·0202263 |
| 84 | 4·3401752 | 4·9365911 | 84 | 4·3231276 | 4·9236791 | 84 | 4·3089612 | 4·9122375 |
| 85 | 4·2448524 | 4·8227871 | 85 | 4·2278048 | 4·8097549 | 85 | 4·2136384 | 4·7982362 |
| 86 | 4·1430690 | 4·7026485 | 86 | 4·1260214 | 4·6894989 | 86 | 4·1118550 | 4·6779006 |
| 87 | 4·0344672 | 4·5758434 | 87 | 4·0174196 | 4·5625735 | 87 | 4·0032532 | 4·5508983 |
| 88 | 3·9186788 | 4·4420218 | 88 | 3·9016312 | 4·4286328 | 88 | 3·8874648 | 4·4168787 |
| 89 | 3·7953254 | 4·3008271 | 89 | 3·7782778 | 4·2873187 | 89 | 3·7641114 | 4·2754859 |
| 90 | 3·6640179 | 4·1518878 | 90 | 3·6469703 | 4·1382598 | 90 | 3·6328039 | 4·1263483 |
| 91 | 3·5243574 | 3·9948194 | 91 | 3·5073098 | 3·9810725 | 91 | 3·4931434 | 3·9690831 |
| 92 | 3·3759343 | 3·8292247 | 92 | 3·3588867 | 3·8153599 | 92 | 3·3447203 | 3·8032925 |
| 93 | 3·2183288 | 3·6546904 | 93 | 3·2012812 | 3·6407090 | 93 | 3·1871148 | 3·6285646 |
| 94 | 3·0511107 | 3·4707882 | 94 | 3·0340631 | 3·4566894 | 94 | 3·0198967 | 3·4444680 |
| 95 | 2·8738396 | 3·2770643 | 95 | 2·8567920 | 3·2628498 | 95 | 2·8426256 | 3·2505520 |
| 96 | 2·6860647 | 3·0730336 | 96 | 2·6690171 | 3·0587035 | 96 | 2·6548507 | 3·0463298 |
| 97 | 2·4873248 | 2·8581611 | 97 | 2·4702772 | 2·8437135 | 97 | 2·4561108 | 2·8312636 |
| 98 | 2·2771485 | 2·6318231 | 98 | 2·2601009 | 2·6172552 | 98 | 2·2459345 | 2·6047259 |
| 99 | 2·0550541 | 2·3932259 | 99 | 2·0380065 | 2·3785342 | 99 | 2·0238401 | 2·3659202 |
| 100 | 1·8205493 | 2·1412462 | 100 | 1·8035017 | 2·1264120 | 100 | 1·7893353 | 2·1137061 |
| 101 | 1·5731318 | 1·8740316 | 101 | 1·5560842 | 1·8590308 | 101 | 1·5419178 | 1·8462128 |
| 102 | 1·3122888 | 1·5880946 | 102 | 1·2952412 | 1·5728716 | 102 | 1·2810748 | 1·5599090 |
| 103 | 1·0374972 | 1·2758455 | 103 | 1·0204496 | 1·2602837 | 103 | 1·0062832 | 1·2471087 |
| 104 | 0·7482236 | 0·9176473 | 104 | 0·7311760 | 0·9015346 | 104 | 0·7170096 | 0·8879997 |
| 105 | 0·4439242 | | 105 | 0·4268766 | | 105 | 0·4127102 | |
| 106 | 0·1240450 | | 106 | 0·1069974 | | 106 | 0·0928310 | |
| 107 | 9·7880216 | | 107 | 9·7709740 | | 107 | 9·7568076 | |
| 108 | 9·4352793 | | 108 | 9·4182317 | | 108 | 9·4040653 | |
| 109 | 9·0652330 | | 109 | 9·0481854 | | 109 | 9·0340190 | |

# ENGLISH LIFE TABLE, No. 3.

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 6 | | | 7 | | | 8 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda\ D_{x,\,6}$ | $\lambda\ N_{x,\,6}$ | Age of Male ($x$) | $\lambda\ D_{x,\,7}$ | $\lambda\ N_{x,\,7}$ | Age of Male ($x$) | $\lambda\ D_{x,\,8}$ | $\lambda\ N_{x,\,8}$ |
| 0 | 6·2287638 | 7·4350674 | 0 | 6·2177380 | 7·4242029 | 0 | 6·2073585 | 7·4133405 |
| 1 | 6·1447616 | 7·4180312 | 1 | 6·1337358 | 7·4071838 | 1 | 6·1233563 | 7·3963300 |
| 2 | 6·1094807 | 7·4050710 | 2 | 6·0984549 | 7·3942435 | 2 | 6·0880754 | 7·3834062 |
| 3 | 6·0873674 | 7·3933119 | 3 | 6·0763416 | 7·3825064 | 3 | 6·0659621 | 7·3716892 |
| 4 | 6·0704657 | 7·3820751 | 4 | 6·0594399 | 7·3712927 | 4 | 6·0490604 | 7·3604985 |
| 5 | 6·0562383 | 7·3711067 | 5 | 6·0452125 | 7·3603485 | 5 | 6·0348330 | 7·3495785 |
| 6 | 6·0438771 | 7·3602793 | 6 | 6·0328513 | 7·3495466 | 6 | 6·0224718 | 7·3388020 |
| 7 | 6·0327336 | 7·3495042 | 7 | 6·0217078 | 7·3387970 | 7 | 6·0113283 | 7·3280792 |
| 8 | 6·0223194 | 7·3387216 | 8 | 6·0112936 | 7·3280406 | 8 | 6·0009141 | 7·3173497 |
| 9 | 6·0125720 | 7·3278938 | 9 | 6·0015462 | 7·3172393 | 9 | 5·9911667 | 7·3065760 |
| 10 | 6·0033368 | 7·3169848 | 10 | 5·9923110 | 7·3063563 | 10 | 5·9819315 | 7·2957212 |
| 11 | 5·9944723 | 7·3059641 | 11 | 5·9834465 | 7·2953625 | 11 | 5·9730670 | 7·2847549 |
| 12 | 5·9858503 | 7·2948067 | 12 | 5·9748245 | 7·2842315 | 12 | 5·9644450 | 7·2736516 |
| 13 | 5·9773558 | 7·2834926 | 13 | 5·9663300 | 7·2729436 | 13 | 5·9559505 | 7·2623915 |
| 14 | 5·9688869 | 7·2720062 | 14 | 5·9578611 | 7·2614832 | 14 | 5·9474816 | 7·2509590 |
| 15 | 5·9603551 | 7·2603372 | 15 | 5·9493293 | 7·2498396 | 15 | 5·9389498 | 7·2393428 |
| 16 | 5·9516848 | 7·2484775 | 16 | 5·9406590 | 7·2380054 | 16 | 5·9302795 | 7·2275358 |
| 17 | 5·9428140 | 7·2364239 | 17 | 5·9317882 | 7·2259770 | 17 | 5·9214087 | 7·2155342 |
| 18 | 5·9336935 | 7·2241753 | 18 | 5·9226677 | 7·2137534 | 18 | 5·9122882 | 7·2033375 |
| 19 | 5·9242877 | 7·2117338 | 19 | 5·9132619 | 7·2013365 | 19 | 5·9028824 | 7·1909471 |
| 20 | 5·9145739 | 7·1991038 | 20 | 5·9035481 | 7·1887309 | 20 | 5·8931686 | 7·1783673 |
| 21 | 5·9045427 | 7·1862903 | 21 | 5·8935169 | 7·1759413 | 21 | 5·8831374 | 7·1656040 |
| 22 | 5·8944311 | 7·1733002 | 22 | 5·8834053 | 7·1629749 | 22 | 5·8730258 | 7·1526631 |
| 23 | 5·8842418 | 7·1601272 | 23 | 5·8732160 | 7·1498255 | 23 | 5·8628365 | 7·1395391 |
| 24 | 5·8739766 | 7·1467647 | 24 | 5·8629508 | 7·1364859 | 24 | 5·8525713 | 7·1262249 |
| 25 | 5·8636365 | 7·1332061 | 25 | 5·8526107 | 7·1229498 | 25 | 5·8422312 | 7·1127132 |
| 26 | 5·8532216 | 7·1194427 | 26 | 5·8421958 | 7·1092089 | 26 | 5·8318163 | 7·0989965 |
| 27 | 5·8427312 | 7·1054662 | 27 | 5·8317054 | 7·0952545 | 27 | 5·8213259 | 7·0850664 |
| 28 | 5·8321637 | 7·0912678 | 28 | 5·8211379 | 7·0810776 | 28 | 5·8107584 | 7·0709129 |
| 29 | 5·8215169 | 7·0768374 | 29 | 5·8104911 | 7·0666684 | 29 | 5·8001116 | 7·0565272 |
| 30 | 5·8107875 | 7·0621648 | 30 | 5·7997617 | 7·0520168 | 30 | 5·7893822 | 7·0418982 |
| 31 | 5·7999715 | 7·0472383 | 31 | 5·7889457 | 7·0371108 | 31 | 5·7785662 | 7·0270151 |
| 32 | 5·7890640 | 7·0320461 | 32 | 5·7780382 | 7·0219390 | 32 | 5·7676587 | 7·0118656 |
| 33 | 5·7780593 | 7·0165754 | 33 | 5·7670335 | 7·0064884 | 33 | 5·7566540 | 6·9964370 |
| 34 | 5·7669509 | 7·0008126 | 34 | 5·7559251 | 6·9907456 | 34 | 5·7455456 | 6·9807162 |
| 35 | 5·7557314 | 6·9847437 | 35 | 5·7447056 | 6·9746962 | 35 | 5·7343261 | 6·9646884 |
| 36 | 5·7443926 | 6·9683531 | 36 | 5·7333668 | 6·9583247 | 36 | 5·7229873 | 6·9483385 |
| 37 | 5·7329254 | 6·9516241 | 37 | 5·7218996 | 6·9416155 | 37 | 5·7115201 | 6·9316504 |
| 38 | 5·7213200 | 6·9345401 | 38 | 5·7102942 | 6·9245501 | 38 | 5·6999147 | 6·9146068 |
| 39 | 5·7095656 | 6·9170826 | 39 | 5·6985398 | 6·9071115 | 39 | 5·6881603 | 6·8971889 |
| 40 | 5·6976508 | 6·8992319 | 40 | 5·6866250 | 6·8892794 | 40 | 5·6762455 | 6·8793778 |
| 41 | 5·6855631 | 6·8809674 | 41 | 5·6745373 | 6·8710333 | 41 | 5·6641578 | 6·8611527 |
| 42 | 5·6732893 | 6·8622666 | 42 | 5·6622635 | 6·8523514 | 42 | 5·6518840 | 6·8424916 |
| 43 | 5·6608153 | 6·8431063 | 43 | 5·6497895 | 6·8332093 | 43 | 5·6394100 | 6·8233709 |
| 44 | 5·6481264 | 6·8234615 | 44 | 5·6371006 | 6·8135826 | 44 | 5·6267211 | 6·8037648 |
| 45 | 5·6352067 | 6·8033051 | 45 | 5·6241809 | 6·7934442 | 45 | 5·6138014 | 6·7836474 |
| 46 | 5·6220397 | 6·7826080 | 46 | 5·6110139 | 6·7727653 | 46 | 5·6006344 | 6·7629892 |
| 47 | 5·6086080 | 6·7613396 | 47 | 5·5975822 | 6·7515144 | 47 | 5·5872027 | 6·7417595 |
| 48 | 5·5948934 | 6·7394661 | 48 | 5·5838676 | 6·7296587 | 48 | 5·5734881 | 6·7199243 |
| 49 | 5·5808768 | 6·7169515 | 49 | 5·5698510 | 6·7071614 | 49 | 5·5594715 | 6·6974481 |
| 50 | 5·5665384 | 6·6937567 | 50 | 5·5555126 | 6·6839837 | 50 | 5·5451331 | 6·6742910 |
| 51 | 5·5518574 | 6·6698384 | 51 | 5·5408316 | 6·6600828 | 51 | 5·5304521 | 6·6504106 |
| 52 | 5·5365677 | 6·6451500 | 52 | 5·5255419 | 6·6354112 | 52 | 5·5151624 | 6·6257601 |
| 53 | 5·5208332 | 6·6196607 | 53 | 5·5098074 | 6·6099380 | 53 | 5·4994279 | 6·6003077 |
| 54 | 5·5046366 | 6·5933215 | 54 | 5·4936108 | 6·5836149 | 54 | 5·4832313 | 6·5740048 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 6 | | 7 | | | 8 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda\ D_{x,\,6}$ | $\lambda\ N_{x,\,6}$ | Age of Male ($x$) | $\lambda\ D_{x,\,7}$ | $\lambda\ N_{x,\,7}$ | Age of Male ($x$) | $\lambda\ D_{x,\,8}$ | $\lambda\ N_{x,\,8}$ |
| 55 | 5·4879507 | 6·5660779 | 55 | 5·4769249 | 6·5563867 | 55 | 5·4665454 | 6·5467971 |
| 56 | 5·4707378 | 6·5378692 | 56 | 5·4597120 | 6·5281934 | 56 | 5·4493325 | 6·5186237 |
| 57 | 5·4529498 | 6·5086305 | 57 | 5·4419240 | 6·4989684 | 57 | 5·4315445 | 6·4894189 |
| 58 | 5·4345283 | 6·4782896 | 58 | 5·4235025 | 6·4686410 | 58 | 5·4131230 | 6·4591103 |
| 59 | 5·4154047 | 6·4467689 | 59 | 5·4043789 | 6·4371330 | 59 | 5·3939994 | 6·4276211 |
| 60 | 5·3954999 | 6·4139847 | 60 | 5·3844741 | 6·4043605 | 60 | 5·3740946 | 6·3948670 |
| 61 | 5·3747246 | 6·3798474 | 61 | 5·3636988 | 6·3702334 | 61 | 5·3533193 | 6·3607575 |
| 62 | 5·3529791 | 6·3442604 | 62 | 5·3419533 | 6·3346554 | 62 | 5·3315738 | 6·3251960 |
| 63 | 5·3301534 | 6·3071205 | 63 | 5·3191276 | 6·2975233 | 63 | 5·3087481 | 6·2880795 |
| 64 | 5·3061272 | 6·2683177 | 64 | 5·2951014 | 6·2587265 | 64 | 5·2847219 | 6·2492977 |
| 65 | 5·2807698 | 6·2277348 | 65 | 5·2697440 | 6·2181485 | 65 | 5·2593645 | 6·2087329 |
| 66 | 5·2539402 | 6·1852480 | 66 | 5·2429144 | 6·1756640 | 66 | 5·2325349 | 6·1662608 |
| 67 | 5·2254871 | 6·1407242 | 67 | 5·2144613 | 6·1311415 | 67 | 5·2040818 | 6·1217486 |
| 68 | 5·1952490 | 6·0940237 | 68 | 5·1842232 | 6·0844401 | 68 | 5·1738437 | 6·0750567 |
| 69 | 5·1630537 | 6·0449982 | 69 | 5·1520279 | 6·0354118 | 69 | 5·1416484 | 6·0260361 |
| 70 | 5·1287191 | 5·9934904 | 70 | 5·1176933 | 5·9838995 | 70 | 5·1073138 | 5·9745301 |
| 71 | 5·0920525 | 5·9393370 | 71 | 5·0810267 | 5·9297376 | 71 | 5·0706472 | 5·9203733 |
| 72 | 5·0528509 | 5·8823611 | 72 | 5·0418251 | 5·8727534 | 72 | 5·0314456 | 5·8633901 |
| 73 | 5·0109012 | 5·8223799 | 73 | 4·9998754 | 5·8127609 | 73 | 4·9894959 | 5·8033988 |
| 74 | 4·9659796 | 5·7592010 | 74 | 4·9549538 | 5·7495680 | 74 | 4·9445743 | 5·7402050 |
| 75 | 4·9178523 | 5·6926208 | 75 | 4·9068265 | 5·6829720 | 75 | 4·8964470 | 5·6736058 |
| 76 | 4·8662749 | 5·6224267 | 76 | 4·8552491 | 5·6127598 | 76 | 4·8448696 | 5·6033884 |
| 77 | 4·8109930 | 5·5483946 | 77 | 4·7999672 | 5·5387086 | 77 | 4·7895877 | 5·5293302 |
| 78 | 4·7517416 | 5·4702926 | 78 | 4·7407158 | 5·4605837 | 78 | 4·7303363 | 5·4511972 |
| 79 | 4·6882455 | 5·3878753 | 79 | 4·6772197 | 5·3781429 | 79 | 4·6668402 | 5·3687448 |
| 80 | 4·6202191 | 5·3008882 | 80 | 4·6091933 | 5·2911301 | 80 | 4·5988138 | 5·2817197 |
| 81 | 4·5473665 | 5·2090649 | 81 | 4·5363407 | 5·1992797 | 81 | 4·5259612 | 5·1898554 |
| 82 | 4·4693814 | 5·1121292 | 82 | 4·4583556 | 5·1023151 | 82 | 4·4479761 | 5·0928746 |
| 83 | 4·3859475 | 5·0097911 | 83 | 4·3749217 | 4·9999479 | 83 | 4·3645422 | 4·9904902 |
| 84 | 4·2967377 | 4·9017530 | 84 | 4·2857119 | 4·8918774 | 84 | 4·2753324 | 4·8824022 |
| 85 | 4·2014149 | 4·7877034 | 85 | 4·1903891 | 4·7777950 | 85 | 4·1800096 | 4·7682983 |
| 86 | 4·0996315 | 4·6673175 | 86 | 4·0886057 | 4·6573772 | 86 | 4·0782262 | 4·6478591 |
| 87 | 3·9910297 | 4·5402623 | 87 | 3·9800039 | 4·5302876 | 87 | 3·9696244 | 4·5207488 |
| 88 | 3·8752413 | 4·4061918 | 88 | 3·8642155 | 4·3961829 | 88 | 3·8538360 | 4·3866211 |
| 89 | 3·7518879 | 4·2647477 | 89 | 3·7408621 | 4·2547037 | 89 | 3·7304826 | 4·2451187 |
| 90 | 3·6205804 | 4·1155589 | 90 | 3·6095546 | 4·1054802 | 90 | 3·5991751 | 4·0958704 |
| 91 | 3·4809199 | 3·9582418 | 91 | 3·4698941 | 3·9481282 | 91 | 3·4595146 | 3·9384942 |
| 92 | 3·3324968 | 3·7924001 | 92 | 3·3214710 | 3·7822511 | 92 | 3·3110915 | 3·7725924 |
| 93 | 3·1748913 | 3·6176209 | 93 | 3·1638655 | 3·6074368 | 93 | 3·1534860 | 3·5977533 |
| 94 | 3·0076732 | 3·4334754 | 94 | 2·9966474 | 3·4232560 | 94 | 2·9862679 | 3·4135464 |
| 95 | 2·8304021 | 3·2395082 | 95 | 2·8193763 | 3·2292548 | 95 | 2·8089968 | 3·2195195 |
| 96 | 2·6426272 | 3·0352356 | 96 | 2·6316014 | 3·0249473 | 96 | 2·6212219 | 3·0151865 |
| 97 | 2·4438873 | 2·8201193 | 97 | 2·4328615 | 2·8097960 | 97 | 2·4224820 | 2·8000087 |
| 98 | 2·2337110 | 2·5935308 | 98 | 2·2226852 | 2·5831716 | 98 | 2·2123057 | 2·5733567 |
| 99 | 2·0116166 | 2·3546692 | 99 | 2·0005908 | 2·3442723 | 99 | 1·9902113 | 2·3344288 |
| 100 | 1·7771118 | 2·1023935 | 100 | 1·7660860 | 2·0919524 | 100 | 1·7557065 | 2·0820766 |
| 101 | 1·5296943 | 1·8348262 | 101 | 1·5186685 | 1·8243322 | 101 | 1·5082890 | 1·8144148 |
| 102 | 1·2688513 | 1·5484238 | 102 | 1·2578255 | 1·5378594 | 102 | 1·2474460 | 1·5278876 |
| 103 | 0·9940597 | 1·2354880 | 103 | 0·9830339 | 1·2248204 | 103 | 0·9726544 | 1·2147671 |
| 104 | 0·7047861 | 0·8761659 | 104 | 0·6937603 | 0·8653527 | 104 | 0·6833808 | 0·8551677 |
| 105 | 0·4004867 | | 105 | 0·3894609 | | 105 | 0·3790814 | |
| 106 | 0·0806075 | | 106 | 0·0695817 | | 106 | 0·0592022 | |
| 107 | 9·7445841 | | 107 | 9·7335583 | | 107 | 9·7231788 | |
| 108 | 9·3918418 | | 108 | 9·3808160 | | 108 | 9·3704365 | |
| 109 | 9·0217955 | | 109 | 9·0107697 | | 109 | 9·0003902 | |

## JOINT LIVES :—Male and Female Life.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 9 | | | 10 | | | 11 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | λ $D_{x,\,9}$ | λ $N_{x,\,9}$ | Age of Male ($x$) | λ $D_{x,\,10}$ | λ $N_{x,\,10}$ | Age of Male ($x$) | λ $D_{x,\,11}$ | λ $N_{x,\,11}$ |
| 0 | 6·1975894 | 7·4024463 | 0 | 6·1882870 | 7·3914845 | 0 | 6·1793198 | 7·3804251 |
| 1 | 6·1135872 | 7·3854358 | 1 | 6·1042848 | 7·3744668 | 1 | 6·0953176 | 7·3633942 |
| 2 | 6·0783063 | 7·3725256 | 2 | 6·0690039 | 7·3615678 | 2 | 6·0600367 | 7·3505045 |
| 3 | 6·0561930 | 7·3608277 | 3 | 6·0468906 | 7·3498877 | 3 | 6·0379234 | 7·3388412 |
| 4 | 6·0392913 | 7·3496588 | 4 | 6·0299889 | 7·3387401 | 4 | 6·0210217 | 7·3277146 |
| 5 | 6·0250639 | 7·3387630 | 5 | 6·0157615 | 7·3278684 | 5 | 6·0067943 | 7·3168664 |
| 6 | 6·0127027 | 7·3280120 | 6 | 6·0034003 | 7·3171433 | 6 | 5·9944331 | 7·3061672 |
| 7 | 6·0015592 | 7·3173160 | 7 | 5·9922568 | 7·3064744 | 7 | 5·9832896 | 7·2955257 |
| 8 | 5·9911450 | 7·3066146 | 8 | 5·9818426 | 7·2958012 | 8 | 5·9728754 | 7·2848811 |
| 9 | 5·9813976 | 7·2958691 | 9 | 5·9720952 | 7·2850850 | 9 | 5·9631280 | 7·2741946 |
| 10 | 5·9721624 | 7·2850433 | 10 | 5·9628600 | 7·2742888 | 10 | 5·9538928 | 7·2634291 |
| 11 | 5·9632979 | 7·2741061 | 11 | 5·9539955 | 7·2633818 | 11 | 5·9450283 | 7·2525528 |
| 12 | 5·9546759 | 7·2630322 | 12 | 5·9453735 | 7·2523383 | 12 | 5·9364063 | 7·2415407 |
| 13 | 5·9461814 | 7·2518014 | 13 | 5·9368790 | 7·2411379 | 13 | 5·9279118 | 7·2303720 |
| 14 | 5·9377125 | 7·2403980 | 14 | 5·9284101 | 7·2297652 | 14 | 5·9194429 | 7·2190307 |
| 15 | 5·9291807 | 7·2288111 | 15 | 5·9198783 | 7·2182085 | 15 | 5·9109111 | 7·2075059 |
| 16 | 5·9205104 | 7·2170329 | 16 | 5·9112080 | 7·2064608 | 16 | 5·9022408 | 7·1957896 |
| 17 | 5·9116396 | 7·2050601 | 17 | 5·9023372 | 7·1945179 | 17 | 5·8933700 | 7·1838783 |
| 18 | 5·9025191 | 7·1928915 | 18 | 5·8932167 | 7·1823793 | 18 | 5·8842495 | 7·1717706 |
| 19 | 5·8931133 | 7·1805293 | 19 | 5·8838109 | 7·1700469 | 19 | 5·8748437 | 7·1594692 |
| 20 | 5·8833995 | 7·1679778 | 20 | 5·8740971 | 7·1575244 | 20 | 5·8651299 | 7·1469775 |
| 21 | 5·8733683 | 7·1552415 | 21 | 5·8640659 | 7·1448179 | 21 | 5·8550987 | 7·1343014 |
| 22 | 5·8632567 | 7·1423282 | 22 | 5·8539543 | 7·1319332 | 22 | 5·8449871 | 7·1214476 |
| 23 | 5·8530674 | 7·1292313 | 23 | 5·8437650 | 7·1188650 | 23 | 5·8347978 | 7·1084090 |
| 24 | 5·8428022 | 7·1159439 | 24 | 5·8334998 | 7·1056056 | 24 | 5·8245326 | 7·0951799 |
| 25 | 5·8324621 | 7·1024587 | 25 | 5·8231597 | 7·0921489 | 25 | 5·8141925 | 7·0817522 |
| 26 | 5·8220472 | 7·0887682 | 26 | 5·8127448 | 7·0784858 | 26 | 5·8037776 | 7·0681186 |
| 27 | 5·8115568 | 7·0748632 | 27 | 5·8022544 | 7·0646085 | 27 | 5·7932872 | 7·0542701 |
| 28 | 5·8009893 | 7·0607356 | 28 | 5·7916869 | 7·0505078 | 28 | 5·7827197 | 7·0401980 |
| 29 | 5·7903425 | 7·0463751 | 29 | 5·7810401 | 7·0361741 | 29 | 5·7720729 | 7·0258922 |
| 30 | 5·7796131 | 7·0317708 | 30 | 5·7703107 | 7·0215956 | 30 | 5·7613435 | 7·0113421 |
| 31 | 5·7687971 | 7·0169118 | 31 | 5·7594947 | 7·0067635 | 31 | 5·7505275 | 6·9965366 |
| 32 | 5·7578896 | 7·0017866 | 32 | 5·7485872 | 6·9916635 | 32 | 5·7396200 | 6·9814641 |
| 33 | 5·7468849 | 6·9863821 | 33 | 5·7375825 | 6·9762845 | 33 | 5·7286153 | 6·9661117 |
| 34 | 5·7357765 | 6·9706849 | 34 | 5·7264741 | 6·9606125 | 34 | 5·7175069 | 6·9504663 |
| 35 | 5·7245570 | 6·9546806 | 35 | 5·7152546 | 6·9446331 | 35 | 5·7062874 | 6·9345131 |
| 36 | 5·7132182 | 6·9383541 | 36 | 5·7039158 | 6·9283314 | 36 | 5·6949486 | 6·9182371 |
| 37 | 5·7017510 | 6·9216890 | 37 | 5·6924486 | 6·9116909 | 37 | 5·6834814 | 6·9016225 |
| 38 | 5·6901456 | 6·9046683 | 38 | 5·6808432 | 6·8946946 | 38 | 5·6718760 | 6·8846518 |
| 39 | 5·6783912 | 6·8872737 | 39 | 5·6690888 | 6·8773242 | 39 | 5·6601216 | 6·8673070 |
| 40 | 5·6664764 | 6·8694854 | 40 | 5·6571740 | 6·8595608 | 40 | 5·6482068 | 6·8495684 |
| 41 | 5·6543887 | 6·8512832 | 41 | 5·6450863 | 6·8413824 | 41 | 5·6361191 | 6·8314161 |
| 42 | 5·6421149 | 6·8326449 | 42 | 5·6328125 | 6·8227685 | 42 | 5·6238453 | 6·8128271 |
| 43 | 5·6296409 | 6·8135469 | 43 | 5·6203385 | 6·8036947 | 43 | 5·6113713 | 6·7937789 |
| 44 | 5·6169520 | 6·7939643 | 44 | 5·6076496 | 6·7841365 | 44 | 5·5986824 | 6·7742459 |
| 45 | 5·6040323 | 6·7738696 | 45 | 5·5947299 | 6·7640668 | 45 | 5·5857627 | 6·7542016 |
| 46 | 5·5908653 | 6·7532346 | 46 | 5·5815629 | 6·7434562 | 46 | 5·5725957 | 6·7336171 |
| 47 | 5·5774336 | 6·7320279 | 47 | 5·5681312 | 6·7222745 | 47 | 5·5591640 | 6·7124608 |
| 48 | 5·5637190 | 6·7102164 | 48 | 5·5544166 | 6·7004877 | 48 | 5·5454494 | 6·6907002 |
| 49 | 5·5497024 | 6·6877633 | 49 | 5·5404000 | 6·6780601 | 49 | 5·5314328 | 6·6682987 |
| 50 | 5·5353640 | 6·6646300 | 50 | 5·5260616 | 6·6549518 | 50 | 5·5170944 | 6·6452172 |
| 51 | 5·5206830 | 6·6407730 | 51 | 5·5113806 | 6·6311206 | 51 | 5·5024134 | 6·6214124 |
| 52 | 5·5053933 | 6·6161460 | 52 | 5·4960909 | 6·6065192 | 52 | 5·4871237 | 6·5968381 |
| 53 | 5·4896588 | 6·5907181 | 53 | 5·4803564 | 6·5811170 | 53 | 5·4713892 | 6·5714631 |
| 54 | 5·4734622 | 6·5644392 | 54 | 5·4641598 | 6·5548647 | 54 | 5·4551926 | 6·5452381 |

## JOINT LIVES :—Male and Female Life.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female ($y$) | 9 | | 10 | | | 11 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda\ D_{x,9}$ | $\lambda\ N_{x,9}$ | Age of Male ($x$) | $\lambda\ D_{x,10}$ | $\lambda\ N_{x,10}$ | Age of Male ($x$) | $\lambda\ D_{x,11}$ | $\lambda\ N_{x,11}$ |
| 55 | 5·4567763 | 6·5372551 | 55 | 5·4474739 | 6·5277072 | 55 | 5·4385067 | 6·5181088 |
| 56 | 5·4395634 | 6·5091056 | 56 | 5·4302610 | 6·4995843 | 56 | 5·4212938 | 6·4900142 |
| 57 | 5·4217754 | 6·4799249 | 57 | 5·4124730 | 6·4704300 | 57 | 5·4035058 | 6·4608884 |
| 58 | 5·4033539 | 6·4496406 | 58 | 5·3940515 | 6·4401729 | 58 | 5·3850843 | 6·4306596 |
| 59 | 5·3842303 | 6·4181744 | 59 | 5·3749279 | 6·4087343 | 59 | 5·3659607 | 6·3992501 |
| 60 | 5·3643255 | 6·3854436 | 60 | 5·3550231 | 6·3760298 | 60 | 5·3460559 | 6·3665756 |
| 61 | 5·3435502 | 6·3513574 | 61 | 5·3342478 | 6·3419704 | 61 | 5·3252806 | 6·3325448 |
| 62 | 5·3218047 | 6·3158187 | 62 | 5·3125023 | 6·3064587 | 62 | 5·3035351 | 6·2970624 |
| 63 | 5·2989790 | 6·2787241 | 63 | 5·2896766 | 6·2693908 | 63 | 5·2807094 | 6·2600244 |
| 64 | 5·2749528 | 6·2399636 | 64 | 5·2656504 | 6·2306566 | 64 | 5·2566832 | 6·2213198 |
| 65 | 5·2495954 | 6·1994197 | 65 | 5·2402930 | 6·1901386 | 65 | 5·2313258 | 6·1808310 |
| 66 | 5·2227658 | 6·1569672 | 66 | 5·2134634 | 6·1477119 | 66 | 5·2044962 | 6·1384335 |
| 67 | 5·1943127 | 6·1124739 | 67 | 5·1850103 | 6·1032432 | 67 | 5·1760431 | 6·0939940 |
| 68 | 5·1640746 | 6·0657996 | 68 | 5·1547722 | 6·0565932 | 68 | 5·1458050 | 6·0473723 |
| 69 | 5·1318793 | 6·0167957 | 69 | 5·1225769 | 6·0076126 | 69 | 5·1136097 | 5·9984197 |
| 70 | 5·0975447 | 5·9653057 | 70 | 5·0882423 | 5·9561444 | 70 | 5·0792751 | 5·9469791 |
| 71 | 5·0608781 | 5·9111581 | 71 | 5·0515757 | 5·9020236 | 71 | 5·0426085 | 5·8928845 |
| 72 | 5·0216765 | 5·8541930 | 72 | 5·0123741 | 5·8450738 | 72 | 5·0034069 | 5·8359618 |
| 73 | 4·9797268 | 5·7942121 | 73 | 4·9704244 | 5·7851131 | 73 | 4·9614572 | 5·7760259 |
| 74 | 4·9348052 | 5·7310278 | 74 | 4·9255028 | 5·7219467 | 74 | 4·9165356 | 5·7128843 |
| 75 | 4·8866779 | 5·6644368 | 75 | 4·8773755 | 5·6553724 | 75 | 4·8684083 | 5·6463332 |
| 76 | 4·8351005 | 5·5942259 | 76 | 4·8257981 | 5·5851770 | 76 | 4·8168309 | 5·5761602 |
| 77 | 4·7798186 | 5·5201719 | 77 | 4·7705162 | 5·5111374 | 77 | 4·7615490 | 5·5021420 |
| 78 | 4·7205672 | 5·4420419 | 78 | 4·7112648 | 5·4330196 | 78 | 4·7022976 | 5·4240446 |
| 79 | 4·6570711 | 5·3595918 | 79 | 4·6477687 | 5·3505806 | 79 | 4·6388015 | 5·3416239 |
| 80 | 4·5890447 | 5·2725654 | 80 | 4·5797423 | 5·2635648 | 80 | 4·5707751 | 5·2546256 |
| 81 | 4·5161921 | 5·1806992 | 81 | 4·5068897 | 5·1717057 | 81 | 4·4979225 | 5·1627839 |
| 82 | 4·4382070 | 5·0837151 | 82 | 4·4289046 | 5·0747287 | 82 | 4·4199374 | 5·0658205 |
| 83 | 4·3547731 | 4·9813252 | 83 | 4·3454707 | 4·9723440 | 83 | 4·3365035 | 4·9634502 |
| 84 | 4·2655633 | 4·8732311 | 84 | 4·2562609 | 4·8642530 | 84 | 4·2472937 | 4·8553714 |
| 85 | 4·1702405 | 4·7591207 | 85 | 4·1609381 | 4·7501457 | 85 | 4·1519709 | 4·7412738 |
| 86 | 4·0684571 | 4·6386709 | 86 | 4·0591547 | 4·6296980 | 86 | 4·0501875 | 4·6208364 |
| 87 | 3·9598553 | 4·5115505 | 87 | 3·9505529 | 4·5025763 | 87 | 3·9415857 | 4·4937236 |
| 88 | 3·8440669 | 4·3774115 | 88 | 3·8347645 | 4·3684363 | 88 | 3·8257973 | 4·3595902 |
| 89 | 3·7207135 | 4·2358967 | 89 | 3·7114111 | 4·2269189 | 89 | 3·7024439 | 4·2180789 |
| 90 | 3·5894060 | 4·0866357 | 90 | 3·5801036 | 4·0776545 | 90 | 3·5711364 | 4·0688194 |
| 91 | 3·4497455 | 3·9292447 | 91 | 3·4404431 | 3·9202600 | 91 | 3·4314759 | 3·9114288 |
| 92 | 3·3013224 | 3·7633291 | 92 | 3·2920200 | 3·7543376 | 92 | 3·2830528 | 3·7455104 |
| 93 | 3·1437169 | 3·5884745 | 93 | 3·1344145 | 3·5794783 | 93 | 3·1254473 | 3·5706515 |
| 94 | 2·9764988 | 3·4042532 | 94 | 2·9671964 | 3·3952502 | 94 | 2·9582292 | 3·3864253 |
| 95 | 2·7992277 | 3·2102104 | 95 | 2·7899253 | 3·2012010 | 95 | 2·7809581 | 3·1923765 |
| 96 | 2·6114528 | 3·0058615 | 96 | 2·6021504 | 2·9968443 | 96 | 2·5931832 | 2·9880205 |
| 97 | 2·4127129 | 2·7906672 | 97 | 2·4034105 | 2·7816427 | 97 | 2·3944433 | 2·7728181 |
| 98 | 2·2025366 | 2·5639981 | 98 | 2·1932342 | 2·5549650 | 98 | 2·1842670 | 2·5461403 |
| 99 | 1·9804422 | 2·3250512 | 99 | 1·9711398 | 2·3160089 | 99 | 1·9621726 | 2·3071831 |
| 100 | 1·7459374 | 2·0726774 | 100 | 1·7366350 | 2·0636234 | 100 | 1·7276678 | 2·0547957 |
| 101 | 1·4985199 | 1·8049894 | 101 | 1·4892175 | 1·7959203 | 101 | 1·4802503 | 1·7870876 |
| 102 | 1·2376769 | 1·5184218 | 102 | 1·2283745 | 1·5093316 | 102 | 1·2194073 | 1·5004904 |
| 103 | 0·9628853 | 1·2052450 | 103 | 0·9535829 | 1·1961126 | 103 | 0·9446157 | 1·1872555 |
| 104 | 0·6736117 | 0·8455507 | 104 | 0·6643093 | 0·8363621 | 104 | 0·6553421 | 0·8274597 |
| 105 | 0·3693123 | | 105 | 0·3600099 | | 105 | 0·3510427 | |
| 106 | 0·0494331 | | 106 | 0·0401307 | | 106 | 0·0311635 | |
| 107 | 9·7134097 | | 107 | 9·7041073 | | 107 | 9·6951401 | |
| 108 | 9·3606674 | | 108 | 9·3513650 | | 108 | 9·3423978 | |
| 109 | 8·9906211 | | 109 | 8·9813187 | | 109 | 8·9723515 | |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female (y) | 12 | | | 13 | | | 14 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (x) | λ $D_{x,12}$ | λ $N_{x,12}$ | Age of Male (x) | λ $D_{x,13}$ | λ $N_{x,13}$ | Age of Male (x) | λ $D_{x,14}$ | λ $N_{x,14}$ |
| 0 | 6·1705685 | 7·3692427 | 0 | 6·1619263 | 7·3579175 | 0 | 6·1532984 | 7·3464338 |
| 1 | 6·0865663 | 7·3521945 | 1 | 6·0779241 | 7·3408485 | 1 | 6·0692962 | 7·3293416 |
| 2 | 6·0512854 | 7·3393123 | 2 | 6·0426432 | 7·3279724 | 2 | 6·0340153 | 7·3164709 |
| 3 | 6·0291721 | 7·3276650 | 3 | 6·0205299 | 7·3163407 | 3 | 6·0119020 | 7·3048538 |
| 4 | 6·0122704 | 7·3165589 | 4 | 6·0036282 | 7·3052549 | 4 | 5·9950003 | 7·2937878 |
| 5 | 5·9980430 | 7·3057341 | 5 | 5·9894008 | 7·2944532 | 5 | 5·9807729 | 7·2830099 |
| 6 | 5·9856818 | 7·2950608 | 6 | 5·9770396 | 7·2838056 | 6 | 5·9684117 | 7·2723875 |
| 7 | 5·9745383 | 7·2844470 | 7 | 5·9658961 | 7·2732194 | 7 | 5·9572682 | 7·2618289 |
| 8 | 5·9641241 | 7·2738313 | 8 | 5·9554819 | 7·2626328 | 8 | 5·9468540 | 7·2512717 |
| 9 | 5·9543767 | 7·2631749 | 9 | 5·9457345 | 7·2520069 | 9 | 5·9371066 | 7·2406763 |
| 10 | 5·9451415 | 7·2524402 | 10 | 5·9364993 | 7·2413034 | 10 | 5·9278714 | 7·2300047 |
| 11 | 5·9362770 | 7·2415958 | 11 | 5·9276348 | 7·2304913 | 11 | 5·9190069 | 7·2192247 |
| 12 | 5·9276550 | 7·2306158 | 12 | 5·9190128 | 7·2195439 | 12 | 5·9103849 | 7·2083108 |
| 13 | 5·9191605 | 7·2194795 | 13 | 5·9105183 | 7·2084406 | 13 | 5·9018904 | 7·1972414 |
| 14 | 5·9106916 | 7·2081706 | 14 | 5·9020494 | 7·1971655 | 14 | 5·8934215 | 7·1860000 |
| 15 | 5·9021598 | 7·1966785 | 15 | 5·8935176 | 7·1857067 | 15 | 5·8848897 | 7·1745756 |
| 16 | 5·8934895 | 7·1849948 | 16 | 5·8848473 | 7·1740566 | 16 | 5·8762194 | 7·1629600 |
| 17 | 5·8846187 | 7·1731160 | 17 | 5·8759765 | 7·1622112 | 17 | 5·8673486 | 7·1511492 |
| 18 | 5·8754982 | 7·1610408 | 18 | 5·8668560 | 7·1501698 | 18 | 5·8582281 | 7·1391421 |
| 19 | 5·8660924 | 7·1487717 | 19 | 5·8574502 | 7·1379340 | 19 | 5·8488223 | 7·1269408 |
| 20 | 5·8563786 | 7·1363121 | 20 | 5·8477364 | 7·1255076 | 20 | 5·8391085 | 7·1145486 |
| 21 | 5·8463474 | 7·1236678 | 21 | 5·8377052 | 7·1128965 | 21 | 5·8290773 | 7·1019718 |
| 22 | 5·8362358 | 7·1108455 | 22 | 5·8275936 | 7·1001068 | 22 | 5·8189657 | 7·0892165 |
| 23 | 5·8260465 | 7·0978388 | 23 | 5·8174043 | 7·0871331 | 23 | 5·8087764 | 7·0762767 |
| 24 | 5·8157813 | 7·0846403 | 24 | 5·8071391 | 7·0739676 | 24 | 5·7985112 | 7·0631449 |
| 25 | 5·8054412 | 7·0712441 | 25 | 5·7967990 | 7·0606031 | 25 | 5·7881711 | 7·0498140 |
| 26 | 5·7950263 | 7·0576406 | 26 | 5·7863841 | 7·0470319 | 26 | 5·7777562 | 7·0362759 |
| 27 | 5·7845359 | 7·0438227 | 27 | 5·7758937 | 7·0332452 | 27 | 5·7672658 | 7·0225225 |
| 28 | 5·7739684 | 7·0297803 | 28 | 5·7653262 | 7·0192345 | 28 | 5·7566983 | 7·0085436 |
| 29 | 5·7633216 | 7·0155036 | 29 | 5·7546794 | 7·0049883 | 29 | 5·7460515 | 6·9943302 |
| 30 | 5·7525922 | 7·0009830 | 30 | 5·7439500 | 6·9904977 | 30 | 5·7353221 | 6·9798710 |
| 31 | 5·7417762 | 6·9862063 | 31 | 5·7331340 | 6·9757509 | 31 | 5·7245061 | 6·9651553 |
| 32 | 5·7308687 | 6·9711619 | 32 | 5·7222265 | 6·9607363 | 32 | 5·7135986 | 6·9501714 |
| 33 | 5·7198640 | 6·9558375 | 33 | 5·7112218 | 6·9454409 | 33 | 5·7025939 | 6·9349063 |
| 34 | 5·7087556 | 6·9402195 | 34 | 5·7001134 | 6·9298516 | 34 | 5·6914855 | 6·9193466 |
| 35 | 5·6975361 | 6·9242938 | 35 | 5·6888939 | 6·9139538 | 35 | 5·6802660 | 6·9034782 |
| 36 | 5·6861973 | 6·9080448 | 36 | 5·6775551 | 6·8977330 | 36 | 5·6689272 | 6·8872860 |
| 37 | 5·6747301 | 6·8914567 | 37 | 5·6660879 | 6·8811726 | 37 | 5·6574600 | 6·8707540 |
| 38 | 5·6631247 | 6·8745126 | 38 | 5·6544825 | 6·8642556 | 38 | 5·6458546 | 6·8538650 |
| 39 | 5·6513703 | 6·8571941 | 39 | 5·6427281 | 6·8469642 | 39 | 5·6341002 | 6·8366011 |
| 40 | 5·6394555 | 6·8394818 | 40 | 5·6308133 | 6·8292788 | 40 | 5·6221854 | 6·8189431 |
| 41 | 5·6273678 | 6·8213553 | 41 | 5·6187256 | 6·8111788 | 41 | 5·6100977 | 6·8008704 |
| 42 | 5·6150940 | 6·8027928 | 42 | 5·6064518 | 6·7926425 | 42 | 5·5978239 | 6·7823610 |
| 43 | 5·6026200 | 6·7837701 | 43 | 5·5939778 | 6·7736470 | 43 | 5·5853499 | 6·7633918 |
| 44 | 5·5899311 | 6·7642633 | 44 | 5·5812889 | 6·7541661 | 44 | 5·5726610 | 6·7439382 |
| 45 | 5·5770114 | 6·7442450 | 45 | 5·5683692 | 6·7341741 | 45 | 5·5597413 | 6·7239724 |
| 46 | 5·5638444 | 6·7236866 | 46 | 5·5552022 | 6·7136421 | 46 | 5·5465743 | 6·7034667 |
| 47 | 5·5504127 | 6·7025572 | 47 | 5·5417705 | 6·6925391 | 47 | 5·5331426 | 6·6823902 |
| 48 | 5·5366981 | 6·6808226 | 48 | 5·5280559 | 6·6708317 | 48 | 5·5194280 | 6·6607094 |
| 49 | 5·5226815 | 6·6584480 | 49 | 5·5140393 | 6·6484835 | 49 | 5·5054114 | 6·6383881 |
| 50 | 5·5083431 | 6·6353933 | 50 | 5·4997009 | 6·6254559 | 50 | 5·4910730 | 6·6153869 |
| 51 | 5·4936621 | 6·6116160 | 51 | 5·4850199 | 6·6017058 | 51 | 5·4763920 | 6·5916637 |
| 52 | 5·4783724 | 6·5870689 | 52 | 5·4697302 | 6·5771866 | 52 | 5·4611023 | 6·5671715 |
| 53 | 5·4626379 | 6·5617218 | 53 | 5·4539957 | 6·5518668 | 53 | 5·4453678 | 6·5418794 |
| 54 | 5·4464413 | 6·5355249 | 54 | 5·4377991 | 6·5256981 | 54 | 5·4291712 | 6·5157381 |

## ENGLISH LIFE TABLE, No. 3.

### JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female ($y$) | 12 | | 13 | | | 14 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda D_{x,12}$ | $\lambda N_{x,12}$ | Age of Male ($x$) | $\lambda D_{x,13}$ | $\lambda N_{x,13}$ | Age of Male ($x$) | $\lambda D_{x,14}$ | $\lambda N_{x,14}$ |
| 55 | 5·4297554 | 6·5084238 | 55 | 5·4211132 | 6·4986255 | 55 | 5·4124853 | 6·4886934 |
| 56 | 5·4125425 | 6·4803586 | 56 | 5·4039003 | 6·4705887 | 56 | 5·3952724 | 6·4606849 |
| 57 | 5·3947545 | 6·4512619 | 57 | 5·3861123 | 6·4415218 | 57 | 5·3774844 | 6·4316463 |
| 58 | 5·3763330 | 6·4210627 | 58 | 5·3676908 | 6·4113522 | 58 | 5·3590629 | 6·4015063 |
| 59 | 5·3572094 | 6·3896830 | 59 | 5·3485672 | 6·3800023 | 59 | 5·3399393 | 6·3701857 |
| 60 | 5·3373046 | 6·3570387 | 60 | 5·3286624 | 6·3473885 | 60 | 5·3200345 | 6·3376012 |
| 61 | 5·3165293 | 6·3230394 | 61 | 5·3078871 | 6·3134195 | 61 | 5·2992592 | 6·3036625 |
| 62 | 5·2947838 | 6·2875873 | 62 | 5·2861416 | 6·2779991 | 62 | 5·2775137 | 6·2682723 |
| 63 | 5·2719581 | 6·2505798 | 63 | 5·2633159 | 6·2410227 | 63 | 5·2546880 | 6·2313273 |
| 64 | 5·2479319 | 6·2119064 | 64 | 5·2392897 | 6·2023807 | 64 | 5·2306618 | 6·1927160 |
| 65 | 5·2225745 | 6·1714492 | 65 | 5·2139323 | 6·1619552 | 65 | 5·2053044 | 6·1523217 |
| 66 | 5·1957449 | 6·1290824 | 66 | 5·1871027 | 6·1196210 | 66 | 5·1784748 | 6·1100190 |
| 67 | 5·1672918 | 6·0846746 | 67 | 5·1586496 | 6·0752447 | 67 | 5·1500217 | 6·0656750 |
| 68 | 5·1370537 | 6·0370843 | 68 | 5·1284115 | 6·0286868 | 68 | 5·1197836 | 6·0191483 |
| 69 | 5·1048584 | 5·9891623 | 69 | 5·0962162 | 5·9797973 | 69 | 5·0875883 | 5·9702911 |
| 70 | 5·0705238 | 5·9377525 | 70 | 5·0618816 | 5·9284189 | 70 | 5·0532537 | 5·9189457 |
| 71 | 5·0338572 | 5·8836881 | 71 | 5·0252150 | 5·8743867 | 71 | 5·0165871 | 5·8649446 |
| 72 | 4·9946556 | 5·8267949 | 72 | 4·9860134 | 5·8175253 | 72 | 4·9773855 | 5·8081152 |
| 73 | 4·9527059 | 5·7668885 | 73 | 4·9440637 | 5·7576501 | 73 | 4·9354358 | 5·7482723 |
| 74 | 4·9077843 | 5·7037755 | 74 | 4·8991421 | 5·6945683 | 74 | 4·8905142 | 5·6852218 |
| 75 | 4·8596570 | 5·6372528 | 75 | 4·8510148 | 5·6280759 | 75 | 4·8423869 | 5·6187610 |
| 76 | 4·8080796 | 5·5671068 | 76 | 4·7994374 | 5·5579604 | 76 | 4·7908095 | 5·5486763 |
| 77 | 4·7527977 | 5·4931147 | 77 | 4·7441555 | 5·4839975 | 77 | 4·7355276 | 5·4747447 |
| 78 | 4·6935463 | 5·4150431 | 78 | 4·6849041 | 5·4059542 | 78 | 4·6762762 | 5·3967317 |
| 79 | 4·6300502 | 5·3326469 | 79 | 4·6214080 | 5·3235866 | 79 | 4·6127801 | 5·3143934 |
| 80 | 4·5620238 | 5·2456716 | 80 | 4·5533816 | 5·2366388 | 80 | 4·5447537 | 5·2274750 |
| 81 | 4·4891712 | 5·1538520 | 81 | 4·4805290 | 5·1448450 | 81 | 4·4719011 | 5·1357101 |
| 82 | 4·4111861 | 5·0569110 | 82 | 4·4025439 | 5·0479295 | 82 | 4·3939160 | 5·0388216 |
| 83 | 4·3277522 | 4·9545590 | 83 | 4·3191100 | 4·9456030 | 83 | 4·3104821 | 4·9365228 |
| 84 | 4·2385424 | 4·8464998 | 84 | 4·2299002 | 4·8375657 | 84 | 4·2212723 | 4·8285123 |
| 85 | 4·1432196 | 4·7324203 | 85 | 4·1345774 | 4·7235090 | 85 | 4·1259495 | 4·7144798 |
| 86 | 4·0414362 | 4·6119982 | 86 | 4·0327940 | 4·6031086 | 86 | 4·0241661 | 4·5941040 |
| 87 | 3·9328344 | 4·4849010 | 87 | 3·9241922 | 4·4760316 | 87 | 3·9155643 | 4·4670509 |
| 88 | 3·8170460 | 4·3507821 | 88 | 3·8084038 | 4·3419317 | 88 | 3·7997759 | 4·3329734 |
| 89 | 3·6936926 | 4·2092830 | 89 | 3·6850504 | 4·2004513 | 89 | 3·6764225 | 4·1915147 |
| 90 | 3·5623851 | 4·0600354 | 90 | 3·5537429 | 4·0512198 | 90 | 3·5451150 | 4·0423046 |
| 91 | 3·4227246 | 3·9026550 | 91 | 3·4140824 | 3·8938555 | 91 | 3·4054545 | 3·8849595 |
| 92 | 3·2743015 | 3·7367462 | 92 | 3·2656593 | 3·7279615 | 92 | 3·2570314 | 3·7190843 |
| 93 | 3·1166960 | 3·5618976 | 93 | 3·1080538 | 3·5531266 | 93 | 3·0994259 | 3·5442665 |
| 94 | 2·9494779 | 3·3776779 | 94 | 2·9408357 | 3·3689205 | 94 | 2·9322078 | 3·3600782 |
| 95 | 2·7722068 | 3·1836362 | 95 | 2·7635646 | 3·1748913 | 95 | 2·7549367 | 3·1660653 |
| 96 | 2·5844319 | 2·9792866 | 96 | 2·5757897 | 2·9705533 | 96 | 2·5671618 | 2·9617432 |
| 97 | 2·3856920 | 2·7640909 | 97 | 2·3770498 | 2·7553687 | 97 | 2·3684219 | 2·7465742 |
| 98 | 2·1755157 | 2·5374186 | 98 | 2·1668735 | 2·5287085 | 98 | 2·1582456 | 2·5199290 |
| 99 | 1·9534213 | 2·2984675 | 99 | 1·9447791 | 2·2897695 | 99 | 1·9361512 | 2·2810070 |
| 100 | 1·7189165 | 2·0460865 | 100 | 1·7102743 | 2·0374003 | 100 | 1·7016464 | 2·0286563 |
| 101 | 1·4714990 | 1·7783835 | 101 | 1·4628568 | 1·7697118 | 101 | 1·4542289 | 1·7609869 |
| 102 | 1·2106560 | 1·4917888 | 102 | 1·2020138 | 1·4831307 | 102 | 1·1933859 | 1·4744290 |
| 103 | 0·9358644 | 1·1785539 | 103 | 0·9272222 | 1·1699065 | 103 | 0·9185943 | 1·1612302 |
| 104 | 0·6465908 | 0·8187470 | 104 | 0·6379486 | 0·8101115 | 104 | 0·6293207 | 0·8014586 |
| 105 | 0·3422914 | | 105 | 0·3336492 | | 105 | 0·3250213 | |
| 106 | 0·0224122 | | 106 | 0·0137700 | | 106 | 0·0051421 | |
| 107 | 9·6863888 | | 107 | 9·6777466 | | 107 | 9·6691187 | |
| 108 | 9·3336465 | | 108 | 9·3250043 | | 108 | 9·3163764 | |
| 109 | 8·9636002 | | 109 | 8·9549580 | | 109 | 8·9463301 | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female ($y$) | 15 | | 16 | | | 17 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | λ $D_{x,15}$ | λ $N_{x,15}$ | Age of Male ($x$) | λ $D_{x,16}$ | λ $N_{x,16}$ | Age of Male ($x$) | λ $D_{x,17}$ | λ $N_{x,17}$ |
| 0 | 6·1446022 | 7·3347795 | 0 | 6·1357674 | 7·3229481 | 0 | 6·1267360 | 7·3109326 |
| 1 | 6·0606000 | 7·3176626 | 1 | 6·0517652 | 7·3058052 | 1 | 6·0427338 | 7·2937662 |
| 2 | 6·0253191 | 7·3047970 | 2 | 6·0164843 | 7·2929442 | 2 | 6·0074529 | 7·2809090 |
| 3 | 6·0032058 | 7·2931945 | 3 | 5·9943710 | 7·2813561 | 3. | 5·9853396 | 7·2693352 |
| 4 | 5·9863041 | 7·2821481 | 4 | 5·9774693 | 7·2703292 | 4 | 5·9684379 | 7·2583278 |
| 5 | 5·9720767 | 7·2713929 | 5 | 5·9632419 | 7·2595970 | 5 | 5·9542105 | 7·2476184 |
| 6 | 5·9597155 | 7·2607967 | 6 | 5·9508807 | 7·2490264 | 6 | 5·9418493 | 7·2370733 |
| 7 | 5·9485720 | 7·2502658 | 7 | 5·9397372 | 7·2385231 | 7 | 5·9307058 | 7·2265976 |
| 8 | 5·9381578 | 7·2397376 | 8 | 5·9293230 | 7·2280242 | 8 | 5·9202916 | 7·2161282 |
| 9 | 5·9284104 | 7·2291728 | 9 | 5·9195756 | 7·2174900 | 9 | 5·9105442 | 7·2056250 |
| 10 | 5·9191752 | 7·2185332 | 10 | 5·9103404 | 7·2068822 | 10 | 5·9013090 | 7·1950490 |
| 11 | 5·9103107 | 7·2077862 | 11 | 5·9014759 | 7·1961685 | 11 | 5·8924445 | 7·1843686 |
| 12 | 5·9016887 | 7·1969056 | 12 | 5·8928539 | 7·1853221 | 12 | 5·8838225 | 7·1735560 |
| 13 | 5·8931942 | 7·1858705 | 13 | 5·8843594 | 7·1743209 | 13 | 5·8753280 | 7·1625901 |
| 14 | 5·8847253 | 7·1746638 | 14 | 5·8758905 | 7·1631497 | 14 | 5·8668591 | 7·1514541 |
| 15 | 5·8761935 | 7·1632744 | 15 | 5·8673587 | 7·1517959 | 15 | 5·8583273 | 7·1401364 |
| 16 | 5·8675232 | 7·1516941 | 16 | 5·8586884 | 7·1402513 | 16 | 5·8496570 | 7·1286283 |
| 17 | 5·8586524 | 7·1399185 | 17 | 5·8498176 | 7·1285117 | 17 | 5·8407862 | 7·1169258 |
| 18 | 5·8495319 | 7·1279466 | 18 | 5·8406971 | 7·1165762 | 18 | 5·8316657 | 7·1050273 |
| 19 | 5·8401261 | 7·1157805 | 19 | 5·8312913 | 7·1044469 | 19 | 5·8222599 | 7·0929350 |
| 20 | 5·8304123 | 7·1034243 | 20 | 5·8215775 | 7·0921267 | 20 | 5·8125461 | 7·0806525 |
| 21 | 5·8203811 | 7·0908828 | 21 | 5·8115463 | 7·0796218 | 21 | 5·8025149 | 7·0681853 |
| 22 | 5·8102695 | 7·0781627 | 22 | 5·8014347 | 7·0669388 | 22 | 5·7924033 | 7·0555401 |
| 23 | 5·8000802 | 7·0652582 | 23 | 5·7912454 | 7·0540705 | 23 | 5·7822140 | 7·0427094 |
| 24 | 5·7898150 | 7·0521617 | 24 | 5·7809802 | 7·0410104 | 24 | 5·7719488 | 7·0296870 |
| 25 | 5·7794749 | 7·0388657 | 25 | 5·7706401 | 7·0277507 | 25 | 5·7616087 | 7·0164651 |
| 26 | 5·7690600 | 7·0253624 | 26 | 5·7602252 | 7·0142832 | 26 | 5·7511938 | 7·0030347 |
| 27 | 5·7585696 | 7·0116427 | 27 | 5·7497348 | 7·0005992 | 27 | 5·7407034 | 6·9893882 |
| 28 | 5·7480021 | 6·9976979 | 28 | 5·7391673 | 6·9866893 | 28 | 5·7301359 | 6·9755151 |
| 29 | 5·7373553 | 6·9835176 | 29 | 5·7285205 | 6·9725440 | 29 | 5·7194891 | 6·9614056 |
| 30 | 5·7266259 | 6·9690916 | 30 | 5·7177911 | 6·9581520 | 30 | 5·7087597 | 6·9470495 |
| 31 | 5·7158099 | 6·9544083 | 31 | 5·7069751 | 6·9435027 | 31 | 5·6979437 | 6·9324352 |
| 32 | 5·7049024 | 6·9394561 | 32 | 5·6960676 | 6·9285838 | 32 | 5·6870362 | 6·9175510 |
| 33 | 5·6938977 | 6·9242223 | 33 | 5·6850629 | 6·9133823 | 33 | 5·6760315 | 6·9023837 |
| 34 | 5·6827893 | 6·9086936 | 34 | 5·6739545 | 6·8978856 | 34 | 5·6649231 | 6·8869200 |
| 35 | 5·6715698 | 6·8928553 | 35 | 5·6627350 | 6·8820789 | 35 | 5·6537036 | 6·8711459 |
| 36 | 5·6602310 | 6·8766928 | 36 | 5·6513962 | 6·8659472 | 36 | 5·6423648 | 6·8550464 |
| 37 | 5·6487638 | 6·8601900 | 37 | 5·6399290 | 6·8494747 | 37 | 5·6308976 | 6·8386050 |
| 38 | 5·6371584 | 6·8433301 | 38 | 5·6283236 | 6·8326440 | 38 | 5·6192922 | 6·8218053 |
| 39 | 5·6254040 | 6·8260945 | 39 | 5·6165692 | 6·8154378 | 39 | 5·6075378 | 6·8046286 |
| 40 | 5·6134892 | 6·8084643 | 40 | 5·6046544 | 6·7978362 | 40 | 5·5956230 | 6·7870568 |
| 41 | 5·6014015 | 6·7904192 | 41 | 5·5925667 | 6·7798191 | 41 | 5·5835353 | 6·7690683 |
| 42 | 5·5891277 | 6·7719371 | 42 | 5·5802929 | 6·7613647 | 42 | 5·5712615 | 6·7506421 |
| 43 | 5·5766537 | 6·7529949 | 43 | 5·5678189 | 6·7424498 | 43 | 5·5587875 | 6·7317550 |
| 44 | 5·5639648 | 6·7335676 | 44 | 5·5551300 | 6·7230495 | 44 | 5·5460986 | 6·7123821 |
| 45 | 5·5510451 | 6·7136291 | 45 | 5·5422103 | 6·7031372 | 45 | 5·5331789 | 6·6924967 |
| 46 | 5·5378781 | 6·6931493 | 46 | 5·5290433 | 6·6826848 | 46 | 5·5200119 | 6·6720702 |
| 47 | 5·5244464 | 6·6720992 | 47 | 5·5156116 | 6·6616602 | 47 | 5·5065802 | 6·6510727 |
| 48 | 5·5107318 | 6·6504446 | 48 | 5·5018970 | 6·6400315 | 48 | 5·4928656 | 6·6294694 |
| 49 | 5·4967152 | 6·6281496 | 49 | 5·4878804 | 6·6177626 | 49 | 5·4788490 | 6·6072258 |
| 50 | 5·4823768 | 6·6051750 | 50 | 5·4735420 | 6·5948138 | 50 | 5·4645106 | 6·5843026 |
| 51 | 5·4676958 | 6·5814780 | 51 | 5·4588610 | 6·5711428 | 51 | 5·4498296 | 6·5606568 |
| 52 | 5·4524061 | 6·5570122 | 52 | 5·4435713 | 6·5467024 | 52 | 5·4345399 | 6·5362419 |
| 53 | 5·4366716 | 6·5317467 | 53 | 5·4278368 | 6·5214628 | 53 | 5·4188054 | 6·5110271 |
| 54 | 5·4204750 | 6·5056326 | 54 | 5·4116402 | 6·4953746 | 54 | 5·4026088 | 6·4849639 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 15 | | 16 | | | 17 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda\ D_{x,\,15}$ | $\lambda\ N_{x,\,15}$ | Age of Male ($x$) | $\lambda\ D_{x,\,16}$ | $\lambda\ N_{x,\,16}$ | Age of Male ($x$) | $\lambda\ D_{x,\,17}$ | $\lambda\ N_{x,\,17}$ |
| 55 | 5·4037891 | 6·4786148 | 55 | 5·3949543 | 6·4683832 | 55 | 5·3859229 | 6·4579977 |
| 56 | 5·3865762 | 6·4506336 | 56 | 5·3777414 | 6·4404281 | 56 | 5·3687100 | 6·4300680 |
| 57 | 5·3687882 | 6·4216227 | 57 | 5·3599534 | 6·4114436 | 57 | 5·3509220 | 6·4011085 |
| 58 | 5·3503667 | 6·3915101 | 58 | 5·3415319 | 6·3813577 | 58 | 5·3325005 | 6·3710480 |
| 59 | 5·3312431 | 6·3602186 | 59 | 5·3224083 | 6·3500926 | 59 | 5·3133769 | 6·3398081 |
| 60 | 5·3113383 | 6·3276623 | 60 | 5·3025035 | 6·3175644 | 60 | 5·2934721 | 6·3073050 |
| 61 | 5·2905630 | 6·2937525 | 61 | 5·2817282 | 6·2836813 | 61 | 5·2726968 | 6·2734486 |
| 62 | 5·2688175 | 6·2583916 | 62 | 5·2599827 | 6·2483481 | 62 | 5·2509513 | 6·2381403 |
| 63 | 5·2459918 | 6·2214758 | 63 | 5·2371570 | 6·2114601 | 63 | 5·2281256 | 6·2012783 |
| 64 | 5·2219656 | 6·1828949 | 64 | 5·2131308 | 6·1729070 | 64 | 5·2040994 | 6·1627514 |
| 65 | 5·1966082 | 6·1425303 | 65 | 5·1877734 | 6·1325708 | 65 | 5·1787420 | 6·1224413 |
| 66 | 5·1697786 | 6·1002575 | 66 | 5·1609438 | 6·0903265 | 66 | 5·1519124 | 6·0802230 |
| 67 | 5·1413255 | 6·0559438 | 67 | 5·1324907 | 6·0460411 | 67 | 5·1234593 | 6·0359642 |
| 68 | 5·1110874 | 6·0094484 | 68 | 5·1022526 | 5·9995742 | 68 | 5·0932212 | 5·9895233 |
| 69 | 5·0788921 | 5·9606216 | 69 | 5·0700573 | 5·9507765 | 69 | 5·0610259 | 5·9407520 |
| 70 | 5·0445575 | 5·9093067 | 70 | 5·0357227 | 5·8994906 | 70 | 5·0266913 | 5·8894928 |
| 71 | 5·0078909 | 5·8553380 | 71 | 4·9990561 | 5·8455503 | 71 | 4·9900247 | 5·8355788 |
| 72 | 4·9686893 | 5·7985390 | 72 | 4·9598545 | 5·7887809 | 72 | 4·9508231 | 5·7788357 |
| 73 | 4·9267396 | 5·7387269 | 73 | 4·9179048 | 5·7289979 | 73 | 4·9088734 | 5·7190794 |
| 74 | 4·8818180 | 5·6757075 | 74 | 4·8729832 | 5·6660076 | 74 | 4·8639518 | 5·6561155 |
| 75 | 4·8336907 | 5·6092774 | 75 | 4·8248559 | 5·5996067 | 75 | 4·8158245 | 5·5897408 |
| 76 | 4·7821133 | 5·5392234 | 76 | 4·7732785 | 5·5295814 | 76 | 4·7642471 | 5·5197422 |
| 77 | 4·7268314 | 5·4653221 | 77 | 4·7179966 | 5·4557088 | 77 | 4·7089652 | 5·4458954 |
| 78 | 4·6675800 | 5·3873395 | 78 | 4·6587452 | 5·3777547 | 78 | 4·6497138 | 5·3679675 |
| 79 | 4·6040839 | 5·3050310 | 79 | 4·5952491 | 5·2954749 | 79 | 4·5862177 | 5·2857135 |
| 80 | 4·5360575 | 5·2181418 | 80 | 4·5272227 | 5·2086138 | 80 | 4·5181913 | 5·1988783 |
| 81 | 4·4632049 | 5·1264062 | 81 | 4·4543701 | 5·1169059 | 81 | 4·4453387 | 5·1071957 |
| 82 | 4·3852198 | 5·0295461 | 82 | 4·3763850 | 5·0200740 | 82 | 4·3673536 | 5·0103886 |
| 83 | 4·3017859 | 4·9272744 | 83 | 4·2929511 | 4·9178289 | 83 | 4·2839197 | 4·9081697 |
| 84 | 4·2125761 | 4·8192918 | 84 | 4·2037413 | 4·8098727 | 84 | 4·1947099 | 4·8002372 |
| 85 | 4·1172533 | 4·7052863 | 85 | 4·1084185 | 4·6958939 | 85 | 4·0993871 | 4·6862823 |
| 86 | 4·0154699 | 4·5849359 | 86 | 4·0066351 | 4·5755688 | 86 | 3·9976037 | 4·5659823 |
| 87 | 3·9068681 | 4·4579081 | 87 | 3·8980333 | 4·4485662 | 87 | 3·8890019 | 4·4390025 |
| 88 | 3·7910797 | 4·3238551 | 88 | 3·7822449 | 4·3145377 | 88 | 3·7732135 | 4·3049974 |
| 89 | 3·6677263 | 4·1824199 | 89 | 3·6588915 | 4·1731266 | 89 | 3·6498601 | 4·1636089 |
| 90 | 3·5364188 | 4·0332323 | 90 | 3·5275840 | 4·0239620 | 90 | 3·5185526 | 4·0144668 |
| 91 | 3·3967583 | 3·8759099 | 91 | 3·3879235 | 3·8666624 | 91 | 3·3788921 | 3·8571883 |
| 92 | 3·2483352 | 3·7100556 | 92 | 3·2395004 | 3·7008300 | 92 | 3·2304690 | 3·6913777 |
| 93 | 3·0907297 | 3·5352586 | 93 | 3·0818949 | 3·5260535 | 93 | 3·0728635 | 3·5166226 |
| 94 | 2·9235116 | 3·3510895 | 94 | 2·9146768 | 3·3419056 | 94 | 2·9056454 | 3·3324938 |
| 95 | 2·7462405 | 3·1570951 | 95 | 2·7374057 | 3·1479319 | 95 | 2·7283743 | 3·1385398 |
| 96 | 2·5584656 | 2·9527914 | 96 | 2·5496308 | 2·9436478 | 96 | 2·5405994 | 2·9342757 |
| 97 | 2·3597257 | 2·7376410 | 97 | 2·3508909 | 2·7285161 | 97 | 2·3418595 | 2·7191638 |
| 98 | 2·1495494 | 2·5110139 | 98 | 2·1407146 | 2·5019105 | 98 | 2·1316832 | 2·4925760 |
| 99 | 1·9274550 | 2·2721114 | 99 | 1·9186202 | 2·2630274 | 99 | 1·9095888 | 2·2537147 |
| 100 | 1·6929502 | 2·0197828 | 100 | 1·6841154 | 2·0107228 | 100 | 1·6750840 | 2·0014330 |
| 101 | 1·4455327 | 1·7521392 | 101 | 1·4366979 | 1·7431082 | 101 | 1·4276665 | 1·7338470 |
| 102 | 1·1846897 | 1·4656104 | 102 | 1·1758549 | 1·4566150 | 102 | 1·1668235 | 1·4473922 |
| 103 | 0·9098981 | 1·1524473 | 103 | 0·9010633 | 1·1434957 | 103 | 0·8920319 | 1·1343237 |
| 104 | 0·6206245 | 0·7927208 | 104 | 0·6117897 | 0·7838179 | 104 | 0·6027583 | 0·7747067 |
| 105 | 0·3163251 | | 105 | 0·3074903 | | 105 | 0·2984589 | |
| 106 | 9·9964459 | | 106 | 9·9876111 | | 106 | 9·9785797 | |
| 107 | 9·6604225 | | 107 | 9·6515877 | | 107 | 9·6425563 | |
| 108 | 9·3076802 | | 108 | 9·2988454 | | 108 | 9·2898140 | |
| 109 | 8·9376339 | | 109 | 8·9287991 | | 109 | 8·9197677 | |

## JOINT LIVES:—Male and Female Life.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 18 | | 19 | | | 20 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda\, D_{x,\,18}$ | $\lambda\, N_{x,\,18}$ | Age of Male ($x$) | $\lambda\, D_{x,\,19}$ | $\lambda\, N_{x,\,19}$ | Age of Male ($x$) | $\lambda\, D_{x,\,20}$ | $\lambda\, N_{x,\,20}$ |
| 0 | 6·1174622 | 7·2987347 | 0 | 6·1079123 | 7·2863552 | 0 | 6·0980649 | 7·2737980 |
| 1 | 6·0334600 | 7·2815426 | 1 | 6·0239101 | 7·2691392 | 1 | 6·0140627 | 7·2565595 |
| 2 | 5·9981791 | 7·2686919 | 2 | 5·9886292 | 7·2562924 | 2 | 5·9787818 | 7·2437175 |
| 3 | 5·9760658 | 7·2571317 | 3 | 5·9665159 | 7·2447482 | 3 | 5·9566685 | 7·2321867 |
| 4 | 5·9591641 | 7·2461437 | 4 | 5·9496142 | 7·2337786 | 4 | 5·9397668 | 7·2212381 |
| 5 | 5·9449367 | 7·2354570 | 5 | 5·9353868 | 7·2231150 | 5 | 5·9255394 | 7·2105961 |
| 6 | 5·9325755 | 7·2249371 | 6 | 5·9230256 | 7·2126203 | 6 | 5·9131782 | 7·2001271 |
| 7 | 5·9214320 | 7·2144892 | 7 | 5·9118821 | 7·2021997 | 7 | 5·9020347 | 7·1897337 |
| 8 | 5·9110178 | 7·2040489 | 8 | 5·9014679 | 7·1917890 | 8 | 5·8916205 | 7·1793521 |
| 9 | 5·9012704 | 7·1935768 | 9 | 5·8917205 | 7·1813476 | 9 | 5·8818731 | 7·1689416 |
| 10 | 5·8920352 | 7·1830332 | 10 | 5·8824853 | 7·1708362 | 10 | 5·8726379 | 7·1584626 |
| 11 | 5·8831707 | 7·1723858 | 11 | 5·8736208 | 7·1602224 | 11 | 5·8637734 | 7·1478821 |
| 12 | 5·8745487 | 7·1616075 | 12 | 5·8649988 | 7·1494784 | 12 | 5·8551514 | 7·1371729 |
| 13 | 5·8660542 | 7·1506767 | 13 | 5·8565043 | 7·1385831 | 13 | 5·8466569 | 7·1263133 |
| 14 | 5·8575853 | 7·1395769 | 14 | 5·8480354 | 7·1275194 | 14 | 5·8381880 | 7·1152860 |
| 15 | 5·8490535 | 7·1282955 | 15 | 5·8395036 | 7·1162750 | 15 | 5·8296562 | 7·1040789 |
| 16 | 5·8403832 | 7·1168245 | 16 | 5·8308333 | 7·1048413 | 16 | 5·8209859 | 7·0926835 |
| 17 | 5·8315124 | 7·1051595 | 17 | 5·8219625 | 7·0932147 | 17 | 5·8121151 | 7·0810952 |
| 18 | 5·8223919 | 7·0932988 | 18 | 5·8128420 | 7·0813927 | 18 | 5·8029946 | 7·0693128 |
| 19 | 5·8129861 | 7·0812447 | 19 | 5·8034362 | 7·0693777 | 19 | 5·7935888 | 7·0573378 |
| 20 | 5·8032723 | 7·0690007 | 20 | 5·7937224 | 7·0571729 | 20 | 5·7838750 | 7·0451734 |
| 21 | 5·7932411 | 7·0565722 | 21 | 5·7836912 | 7·0447843 | 21 | 5·7738438 | 7·0328257 |
| 22 | 5·7831295 | 7·0439656 | 22 | 5·7735796 | 7·0322177 | 22 | 5·7637322 | 7·0203009 |
| 23 | 5·7729402 | 7·0311745 | 23 | 5·7633903 | 7·0194670 | 23 | 5·7535429 | 7·0075916 |
| 24 | 5·7626750 | 7·0181915 | 24 | 5·7531251 | 7·0065243 | 24 | 5·7432777 | 6·9946908 |
| 25 | 5·7523349 | 7·0050079 | 25 | 5·7427850 | 6·9933820 | 25 | 5·7329376 | 6·9815904 |
| 26 | 5·7419200 | 6·9916169 | 26 | 5·7323701 | 6·9800310 | 26 | 5·7225227 | 6·9682818 |
| 27 | 5·7314296 | 6·9780085 | 27 | 5·7218797 | 6·9664631 | 27 | 5·7120323 | 6·9547554 |
| 28 | 5·7208621 | 6·9641739 | 28 | 5·7113122 | 6·9526681 | 28 | 5·7014648 | 6·9410024 |
| 29 | 5·7102153 | 6·9501025 | 29 | 5·7006654 | 6·9386364 | 29 | 5·6908180 | 6·9270119 |
| 30 | 5·6994859 | 6·9357834 | 30 | 5·6899360 | 6·9243566 | 30 | 5·6800886 | 6·9127732 |
| 31 | 5·6886699 | 6·9212060 | 31 | 5·6791200 | 6·9098173 | 31 | 5·6692726 | 6·8982746 |
| 32 | 5·6777624 | 6·9063577 | 32 | 5·6682125 | 6·8950072 | 32 | 5·6583651 | 6·8835039 |
| 33 | 5·6667577 | 6·8912261 | 33 | 5·6572078 | 6·8799127 | 33 | 5·6473604 | 6·8684489 |
| 34 | 5·6556493 | 6·8757974 | 34 | 5·6460994 | 6·8645206 | 34 | 5·6362520 | 6·8530951 |
| 35 | 5·6444298 | 6·8600573 | 35 | 5·6348799 | 6·8488165 | 35 | 5·6250325 | 6·8374288 |
| 36 | 5·6330910 | 6·8439911 | 36 | 5·6235411 | 6·8327851 | 36 | 5·6136937 | 6·8214344 |
| 37 | 5·6216238 | 6·8275826 | 37 | 5·6120739 | 6·8164107 | 37 | 5·6022265 | 6·8050957 |
| 38 | 5·6100184 | 6·8108144 | 38 | 5·6004685 | 6·7996761 | 38 | 5·5906211 | 6·7883964 |
| 39 | 5·5982640 | 6·7936691 | 39 | 5·5887141 | 6·7825631 | 39 | 5·5788667 | 6·7713179 |
| 40 | 5·5863492 | 6·7761273 | 40 | 5·5767993 | 6·7650531 | 40 | 5·5669519 | 6·7538409 |
| 41 | 5·5742615 | 6·7581690 | 41 | 5·5647116 | 6·7471255 | 41 | 5·5548642 | 6·7359457 |
| 42 | 5·5619877 | 6·7397718 | 42 | 5·5524378 | 6·7287587 | 42 | 5·5425904 | 6·7176103 |
| 43 | 5·5495137 | 6·7209129 | 43 | 5·5399638 | 6·7099292 | 43 | 5·5301164 | 6·6988118 |
| 44 | 5·5368248 | 6·7015678 | 44 | 5·5272749 | 6·6906126 | 44 | 5·5174275 | 6·6795250 |
| 45 | 5·5239051 | 6·6817098 | 45 | 5·5143552 | 6·6707825 | 45 | 5·5045078 | 6·6597240 |
| 46 | 5·5107381 | 6·6613103 | 46 | 5·5011882 | 6·6504105 | 46 | 5·4913408 | 6·6393801 |
| 47 | 5·4973064 | 6·6403384 | 47 | 5·4877565 | 6·6294656 | 47 | 5·4779091 | 6·6184628 |
| 48 | 5·4835918 | 6·6187618 | 48 | 5·4740419 | 6·6079147 | 48 | 5·4641945 | 6·5969391 |
| 49 | 5·4695752 | 6·5965433 | 49 | 5·4600253 | 6·5857227 | 49 | 5·4501779 | 6·5747727 |
| 50 | 5·4552368 | 6·5736451 | 50 | 5·4456869 | 6·5628492 | 50 | 5·4358395 | 6·5519259 |
| 51 | 5·4405558 | 6·5500244 | 51 | 5·4310059 | 6·5392531 | 51 | 5·4211585 | 6·5283544 |
| 52 | 5·4252661 | 6·5256340 | 52 | 5·4157162 | 6·5148872 | 52 | 5·4058688 | 6·5040129 |
| 53 | 5·4095316 | 6·5004440 | 53 | 5·3999817 | 6·4897212 | 53 | 5·3901343 | 6·4788711 |
| 54 | 5·3933350 | 6·4744048 | 54 | 5·3837851 | 6·4637064 | 54 | 5·3739377 | 6·4528798 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female (y) | 18 | | 19 | | | 20 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (x) | λ $D_{x,\,18}$ | λ $N_{x,\,18}$ | Age of Male (x) | λ $D_{x,\,19}$ | λ $N_{x,\,19}$ | Age of Male (x) | λ $D_{x,\,20}$ | λ $N_{x,\,20}$ |
| 55 | 5·3766491 | 6·4474627 | 55 | 5·3670992 | 6·4367876 | 55 | 5·3572518 | 6·4259850 |
| 56 | 5·3594362 | 6·4195573 | 56 | 5·3498863 | 6·4089054 | 56 | 5·3400389 | 6·3981257 |
| 57 | 5·3416482 | 6·3906221 | 57 | 5·3320983 | 6·3799937 | 57 | 5·3222509 | 6·3692365 |
| 58 | 5·3232267 | 6·3605855 | 58 | 5·3136768 | 6·3499804 | 58 | 5·3038294 | 6·3392458 |
| 59 | 5·3041031 | 6·3293696 | 59 | 5·2945532 | 6·3187873 | 59 | 5·2847058 | 6·3080754 |
| 60 | 5·2841983 | 6·2968904 | 60 | 5·2746484 | 6·2863309 | 60 | 5·2648010 | 6·2756409 |
| 61 | 5·2634230 | 6·2630576 | 61 | 5·2538731 | 6·2525205 | 61 | 5·2440257 | 6·2418524 |
| 62 | 5·2416775 | 6·2277744 | 62 | 5·2321276 | 6·2172593 | 62 | 5·2222802 | 6·2066124 |
| 63 | 5·2188518 | 6·1909357 | 63 | 5·2093019 | 6·1804442 | 63 | 5·1994545 | 6·1698180 |
| 64 | 5·1948256 | 6·1524327 | 64 | 5·1852757 | 6·1419628 | 64 | 5·1754283 | 6·1313585 |
| 65 | 5·1694682 | 6·1121470 | 65 | 5·1599183 | 6·1016990 | 65 | 5·1500709 | 6·0911149 |
| 66 | 5·1426386 | 6·0699528 | 66 | 5·1330887 | 6·0595271 | 66 | 5·1232413 | 6·0489633 |
| 67 | 5·1141855 | 6·0257175 | 67 | 5·1046356 | 6·0153136 | 67 | 5·0947882 | 6·0047706 |
| 68 | 5·0839474 | 5·9793007 | 68 | 5·0743975 | 5·9689179 | 68 | 5·0645501 | 5·9583952 |
| 69 | 5·0517521 | 5·9305527 | 69 | 5·0422022 | 5·9201922 | 69 | 5·0323548 | 5·9096881 |
| 70 | 5·0174175 | 5·8793173 | 70 | 5·0078676 | 5·8689775 | 70 | 4·9980202 | 5·8584932 |
| 71 | 4·9807509 | 5·8254273 | 71 | 4·9712010 | 5·8151089 | 71 | 4·9613536 | 5·8046433 |
| 72 | 4·9415493 | 5·7687081 | 72 | 4·9319994 | 5·7584102 | 72 | 4·9221520 | 5·7479634 |
| 73 | 4·8995996 | 5·7089749 | 73 | 4·8900497 | 5·6986980 | 73 | 4·8802023 | 5·6882692 |
| 74 | 4·8546780 | 5·6460345 | 74 | 4·8451281 | 5·6357778 | 74 | 4·8352807 | 5·6253673 |
| 75 | 4·8065507 | 5·5796832 | 75 | 4·7970008 | 5·5694468 | 75 | 4·7871534 | 5·5590537 |
| 76 | 4·7549733 | 5·5097076 | 76 | 4·7454234 | 5·4994912 | 76 | 4·7355760 | 5·4891155 |
| 77 | 4·6996914 | 5·4358844 | 77 | 4·6901415 | 5·4256874 | 77 | 4·6802941 | 5·4153286 |
| 78 | 4·6404400 | 5·3579786 | 78 | 4·6308901 | 5·3478021 | 78 | 4·6210427 | 5·3374597 |
| 79 | 4·5769439 | 5·2757475 | 79 | 4·5673940 | 5·2655895 | 79 | 4·5575466 | 5·2552641 |
| 80 | 4·5089175 | 5·1889347 | 80 | 4·4993676 | 5·1787960 | 80 | 4·4895202 | 5·1684855 |
| 81 | 4·4360649 | 5·0972747 | 81 | 4·4265150 | 5·0871544 | 81 | 4·4166676 | 5·0768599 |
| 82 | 4·3580798 | 5·0004897 | 82 | 4·3485299 | 4·9903881 | 82 | 4·3386825 | 4·9801089 |
| 83 | 4·2746459 | 4·8982918 | 83 | 4·2650960 | 4·8882087 | 83 | 4·2552486 | 4·8779441 |
| 84 | 4·1854361 | 4·7903823 | 84 | 4·1758862 | 4·7803166 | 84 | 4·1660388 | 4·7700667 |
| 85 | 4·0901133 | 4·6764485 | 85 | 4·0805634 | 4·6664010 | 85 | 4·0707160 | 4·6561653 |
| 86 | 3·9883299 | 4·5561690 | 86 | 3·9787800 | 4·5461389 | 86 | 3·9689326 | 4·5359167 |
| 87 | 3·8797281 | 4·4292100 | 87 | 3·8701782 | 4·4191967 | 87 | 3·8603308 | 4·4089884 |
| 88 | 3·7639397 | 4·2952250 | 88 | 3·7543898 | 4·2852286 | 88 | 3·7445424 | 4·2750332 |
| 89 | 3·6405863 | 4·1538566 | 89 | 3·6310364 | 4·1438766 | 89 | 3·6211890 | 4·1336940 |
| 90 | 3·5092788 | 4·0047345 | 90 | 3·4997289 | 3·9947705 | 90 | 3·4898815 | 3·9846002 |
| 91 | 3·3696183 | 3·8474758 | 91 | 3·3600684 | 3·8375278 | 91 | 3·3502210 | 3·8273699 |
| 92 | 3·2211952 | 3·6816835 | 92 | 3·2116453 | 3·6717521 | 92 | 3·2017979 | 3·6616054 |
| 93 | 3·0635897 | 3·5069473 | 93 | 3·0540398 | 3·4970306 | 93 | 3·0441924 | 3·4868964 |
| 94 | 2·8963716 | 3·3228369 | 94 | 2·8868217 | 3·3129357 | 94 | 2·8769743 | 3·3028126 |
| 95 | 2·7191005 | 3·1289009 | 95 | 2·7095506 | 3·1190146 | 95 | 2·6997032 | 3·1089027 |
| 96 | 2·5313256 | 2·9246545 | 96 | 2·5217757 | 2·9147825 | 96 | 2·5119283 | 2·9046820 |
| 97 | 2·3325857 | 2·7095608 | 97 | 2·3230358 | 2·6997042 | 97 | 2·3131884 | 2·6896134 |
| 98 | 2·1224094 | 2·4829922 | 98 | 2·1128595 | 2·4731511 | 98 | 2·1030121 | 2·4630729 |
| 99 | 1·9003150 | 2·2441489 | 99 | 1·8907651 | 2·2343237 | 99 | 1·8809177 | 2·2242575 |
| 100 | 1·6658102 | 1·9918877 | 100 | 1·6562603 | 1·9820799 | 100 | 1·6464129 | 1·9720264 |
| 101 | 1·4183927 | 1·7243266 | 101 | 1·4088428 | 1·7145393 | 101 | 1·3989954 | 1·7045006 |
| 102 | 1·1575497 | 1·4379074 | 102 | 1·1479998 | 1·4281461 | 102 | 1·1381524 | 1·4181255 |
| 103 | 0·8827581 | 1·1248888 | 103 | 0·8732082 | 1·1151710 | 103 | 0·8633608 | 1·1051762 |
| 104 | 0·5934845 | 0·7653481 | 104 | 0·5839346 | 0·7556996 | 104 | 0·5740872 | 0·7457538 |
| 105 | 0·2891851 | | 105 | 0·2796352 | | 105 | 0·2697878 | |
| 106 | 9·9693059 | | 106 | 9·9597560 | | 106 | 9·9499086 | |
| 107 | 9·6332825 | | 107 | 9·6237326 | | 107 | 9·6138852 | |
| 108 | 9·2805402 | | 108 | 9·2709903 | | 108 | 9·2611429 | |
| 109 | 8·9104939 | | 109 | 8·9009440 | | 109 | 8·8910966 | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 21 | | | 22 | | | 23 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | λ $D_{x,\,21}$ | λ $N_{x,\,21}$ | Age of Male ($x$) | λ $D_{x,\,22}$ | λ $N_{x,\,22}$ | Age of Male ($x$) | λ $D_{x,\,23}$ | λ $N_{x,\,23}$ |
| 0 | 6·0879109 | 7·2610706 | 0 | 6·0776593 | 7·2481823 | 0 | 6·0673137 | 7·2351296 |
| 1 | 6·0039087 | 7·2438092 | 1 | 5·9936571 | 7·2308971 | 1 | 5·9833115 | 7·2178186 |
| 2 | 5·9686278 | 7·2309727 | 2 | 5·9583762 | 7·2180642 | 2 | 5·9480306 | 7·2049891 |
| 3 | 5·9465145 | 7·2194559 | 3 | 5·9362629 | 7·2065614 | 3 | 5·9259173 | 7·1934992 |
| 4 | 5·9296128 | 7·2085252 | 4 | 5·9193612 | 7·1956495 | 4 | 5·9090156 | 7·1826055 |
| 5 | 5·9153854 | 7·1979078 | 5 | 5·9051338 | 7·1850529 | 5 | 5·8947882 | 7·1720311 |
| 6 | 5·9030242 | 7·1874626 | 6 | 5·8927726 | 7·1746351 | 6 | 5·8824270 | 7·1616366 |
| 7 | 5·8918807 | 7·1770967 | 7 | 5·8816291 | 7·1642952 | 7 | 5·8712835 | 7·1513261 |
| 8 | 5·8814665 | 7·1667441 | 8 | 5·8712149 | 7·1539718 | 8 | 5·8608693 | 7·1410307 |
| 9 | 5·8717191 | 7·1563644 | 9 | 5·8614675 | 7·1436227 | 9 | 5·8511219 | 7·1307119 |
| 10 | 5·8624839 | 7·1459176 | 10 | 5·8522323 | 7·1332083 | 10 | 5·8418867 | 7·1203297 |
| 11 | 5·8536194 | 7·1353709 | 11 | 5·8433678 | 7·1226952 | 11 | 5·8330222 | 7·1098504 |
| 12 | 5·8449974 | 7·1246965 | 12 | 5·8347458 | 7·1120558 | 12 | 5·8244002 | 7·0992459 |
| 13 | 5·8365029 | 7·1138728 | 13 | 5·8262513 | 7·1012682 | 13 | 5·8159057 | 7·0884945 |
| 14 | 5·8280340 | 7·1028821 | 14 | 5·8177824 | 7·0903149 | 14 | 5·8074368 | 7·0775783 |
| 15 | 5·8195022 | 7·0917127 | 15 | 5·8092506 | 7·0791830 | 15 | 5·7989050 | 7·0664855 |
| 16 | 5·8108319 | 7·0803559 | 16 | 5·8005803 | 7·0678654 | 16 | 5·7902347 | 7·0552067 |
| 17 | 5·8019611 | 7·0688073 | 17 | 5·7917095 | 7·0563564 | 17 | 5·7813639 | 7·0437384 |
| 18 | 5·7928406 | 7·0570644 | 18 | 5·7825890 | 7·0446547 | 18 | 5·7722434 | 7·0320778 |
| 19 | 5·7834348 | 7·0441304 | 19 | 5·7731832 | 7·0327618 | 19 | 5·7628376 | 7·0202275 |
| 20 | 5·7737210 | 7·0330078 | 20 | 5·7634694 | 7·0206817 | 20 | 5·7531238 | 7·0081904 |
| 21 | 5·7636898 | 7·0207018 | 21 | 5·7534382 | 7·0084192 | 21 | 5·7430926 | 6·9959718 |
| 22 | 5·7535782 | 7·0082194 | 22 | 5·7433266 | 6·9959803 | 22 | 5·7329810 | 6·9835784 |
| 23 | 5·7433889 | 6·9955532 | 23 | 5·7331373 | 6·9833586 | 23 | 5·7227917 | 6·9710022 |
| 24 | 5·7331237 | 6·9826958 | 24 | 5·7228721 | 6·9705462 | 24 | 5·7125265 | 6·9582361 |
| 25 | 5·7227836 | 6·9696390 | 25 | 5·7125320 | 6·9575346 | 25 | 5·7021864 | 6·9452714 |
| 26 | 5·7123687 | 6·9563742 | 26 | 5·7021171 | 6·9443152 | 26 | 5·6917715 | 6·9320993 |
| 27 | 5·7018783 | 6·9428921 | 27 | 5·6916267 | 6·9308786 | 27 | 5·6812811 | 6·9187102 |
| 28 | 5·6913108 | 6·9291823 | 28 | 5·6810592 | 6·9172150 | 28 | 5·6707136 | 6·9050941 |
| 29 | 5·6806640 | 6·9152352 | 29 | 5·6704124 | 6·9033130 | 29 | 5·6600668 | 6·8912402 |
| 30 | 5·6699346 | 6·9010395 | 30 | 5·6596830 | 6·8891627 | 30 | 5·6493374 | 6·8771369 |
| 31 | 5·6591186 | 6·8865837 | 31 | 5·6488670 | 6·8747515 | 31 | 5·6385214 | 6·8627731 |
| 32 | 5·6482111 | 6·8718552 | 32 | 5·6379595 | 6·8600676 | 32 | 5·6276139 | 6·8481356 |
| 33 | 5·6372064 | 6·8568410 | 33 | 5·6269548 | 6·8450974 | 33 | 5·6166092 | 6·8332120 |
| 34 | 5·6260980 | 6·8415282 | 34 | 5·6158464 | 6·8298271 | 34 | 5·6055008 | 6·8179875 |
| 35 | 5·6148785 | 6·8259015 | 35 | 5·6046269 | 6·8142430 | 35 | 5·5942813 | 6·8024480 |
| 36 | 5·6035397 | 6·8099462 | 36 | 5·5932881 | 6·7983291 | 36 | 5·5829425 | 6·7865784 |
| 37 | 5·5920725 | 6·7936459 | 37 | 5·5818209 | 6·7820695 | 37 | 5·5714753 | 6·7703617 |
| 38 | 5·5804671 | 6·7769836 | 38 | 5·5702155 | 6·7654469 | 38 | 5·5598699 | 6·7537815 |
| 39 | 5·5687127 | 6·7599414 | 39 | 5·5584611 | 6·7484431 | 39 | 5·5481155 | 6·7368190 |
| 40 | 5·5567979 | 6·7425000 | 40 | 5·5465463 | 6·7310394 | 40 | 5·5362007 | 6·7194553 |
| 41 | 5·5447102 | 6·7246389 | 41 | 5·5344586 | 6·7132152 | 41 | 5·5241130 | 6·7016702 |
| 42 | 5·5324364 | 6·7063368 | 42 | 5·5221848 | 6·6949484 | 42 | 5·5118392 | 6·6834417 |
| 43 | 5·5199624 | 6·6875704 | 43 | 5·5097108 | 6·6762167 | 43 | 5·4993652 | 6·6647465 |
| 44 | 5·5072735 | 6·6683155 | 44 | 5·4970219 | 6·6569950 | 44 | 5·4866763 | 6·6455606 |
| 45 | 5·4943538 | 6·6485447 | 45 | 5·4841022 | 6·6372570 | 45 | 5·4737566 | 6·6258571 |
| 46 | 5·4811868 | 6·6282305 | 46 | 5·4709352 | 6·6169742 | 46 | 5·4605896 | 6·6056082 |
| 47 | 5·4677551 | 6·6073422 | 47 | 5·4575035 | 6·5961162 | 47 | 5·4471579 | 6·5847826 |
| 48 | 5·4540405 | 6·5858464 | 48 | 5·4437889 | 6·5746501 | 48 | 5·4334433 | 6·5633479 |
| 49 | 5·4400239 | 6·5637077 | 49 | 5·4297723 | 6·5525401 | 49 | 5·4194267 | 6·5412687 |
| 50 | 5·4256855 | 6·5408866 | 50 | 5·4154339 | 6·5297476 | 50 | 5·4050883 | 6·5185054 |
| 51 | 5·4110045 | 6·5173419 | 51 | 5·4007529 | 6·5062291 | 51 | 5·3904073 | 6·4950162 |
| 52 | 5·3957148 | 6·4930252 | 52 | 5·3854632 | 6·4819398 | 52 | 5·3751176 | 6·4707539 |
| 53 | 5·3799803 | 6·4679078 | 53 | 5·3697287 | 6·4568479 | 53 | 5·3593831 | 6·4456900 |
| 54 | 5·3637837 | 6·4419409 | 54 | 5·3535321 | 6·4309058 | 54 | 5·3431865 | 6·4197739 |

## JOINT LIVES :—Male and Female Life.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female (y) | 21 | | | 22 | | | 23 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (x) | λ $D_{x,\,21}$ | λ $N_{x,\,21}$ | Age of Male (x) | λ $D_{x,\,22}$ | λ $N_{x,\,22}$ | Age of Male (x) | λ $D_{x,\,23}$ | λ $N_{x,\,23}$ |
| 55 | 5·3470978 | 6·4150696 | 55 | 5·3368462 | 6·4040592 | 55 | 5·3265006 | 6·3929525 |
| 56 | 5·3298849 | 6·3872341 | 56 | 5·3196333 | 6·3762475 | 56 | 5·3092877 | 6·3651661 |
| 57 | 5·3120969 | 6·3583676 | 57 | 5·3018453 | 6·3474052 | 57 | 5·2914997 | 6·3363480 |
| 58 | 5·2936754 | 6·3283992 | 58 | 5·2834238 | 6·3174597 | 58 | 5·2730782 | 6·3064269 |
| 59 | 5·2745518 | 6·2972511 | 59 | 5·2643002 | 6·2863339 | 59 | 5·2539546 | 6·2753245 |
| 60 | 5·2546470 | 6·2648386 | 60 | 5·2443954 | 6·2539440 | 60 | 5·2340498 | 6·2429569 |
| 61 | 5·2338717 | 6·2310713 | 61 | 5·2236201 | 6·2201988 | 61 | 5·2132745 | 6·2092345 |
| 62 | 5·2121262 | 6·1958529 | 62 | 5·2018746 | 6·1850017 | 62 | 5·1915290 | 6·1740595 |
| 63 | 5·1893005 | 6·1590788 | 63 | 5·1790489 | 6·1482490 | 63 | 5·1687033 | 6·1373282 |
| 64 | 5·1652743 | 6·1206394 | 64 | 5·1550227 | 6·1098299 | 64 | 5·1446771 | 6·0989305 |
| 65 | 5·1399169 | 6·0804165 | 65 | 5·1296653 | 6·0696271 | 65 | 5·1193197 | 6·0587479 |
| 66 | 5·1130873 | 6·0382840 | 66 | 5·1028357 | 6·0275152 | 66 | 5·0924901 | 6·0166561 |
| 67 | 5·0846342 | 5·9941103 | 67 | 5·0743826 | 5·9833601 | 67 | 5·0640370 | 5·9725217 |
| 68 | 5·0543961 | 5·9477542 | 68 | 5·0441445 | 5·9370231 | 68 | 5·0337989 | 5·9262030 |
| 69 | 5·0222008 | 5·8990661 | 69 | 5·0119492 | 5·8883542 | 69 | 5·0016036 | 5·8775528 |
| 70 | 4·9878662 | 5·8478890 | 70 | 4·9776146 | 5·8371950 | 70 | 4·9672690 | 5·8264123 |
| 71 | 4·9511996 | 5·7940568 | 71 | 4·9409480 | 5·7833806 | 71 | 4·9306024 | 5·7726156 |
| 72 | 4·9119980 | 5·7373943 | 72 | 4·9017464 | 5·7267355 | 72 | 4·8914008 | 5·7159879 |
| 73 | 4·8700483 | 5·6777171 | 73 | 4·8597967 | 5·6670753 | 73 | 4·8494511 | 5·6563447 |
| 74 | 4·8251267 | 5·6148315 | 74 | 4·8148751 | 5·6042060 | 74 | 4·8045295 | 5·5934921 |
| 75 | 4·7769994 | 5·5485342 | 75 | 4·7667478 | 5·5379246 | 75 | 4·7564022 | 5·5272266 |
| 76 | 4·7254220 | 5·4786113 | 76 | 4·7151704 | 5·4680175 | 76 | 4·7048248 | 5·4573349 |
| 77 | 4·6701401 | 5·4048400 | 77 | 4·6598885 | 5·3942610 | 77 | 4·6495429 | 5·3835935 |
| 78 | 4·6108887 | 5·3269856 | 78 | 4·6006371 | 5·3164214 | 78 | 4·5902915 | 5·3057683 |
| 79 | 4·5473926 | 5·2448042 | 79 | 4·5371410 | 5·2342538 | 79 | 4·5267954 | 5·2236151 |
| 80 | 4·4793662 | 5·1580403 | 80 | 4·4691146 | 5·1475035 | 80 | 4·4587690 | 5·1368780 |
| 81 | 4·4065136 | 5·0664270 | 81 | 4·3962620 | 5·0559045 | 81 | 4·3859164 | 5·0452921 |
| 82 | 4·3285285 | 4·9696894 | 82 | 4·3182769 | 4·9591784 | 82 | 4·3079313 | 4·9485797 |
| 83 | 4·2450946 | 4·8675376 | 83 | 4·2348430 | 4·8570392 | 83 | 4·2244974 | 4·8464516 |
| 84 | 4·1558848 | 4·7596716 | 84 | 4·1456332 | 4·7491858 | 84 | 4·1352876 | 4·7386102 |
| 85 | 4·0605620 | 4·6457817 | 85 | 4·0503104 | 4·6353068 | 85 | 4·0399648 | 4·6247430 |
| 86 | 3·9587786 | 4·5255446 | 86 | 3·9485270 | 4·5150808 | 86 | 3·9381814 | 4·5045278 |
| 87 | 3·8501768 | 4·3986271 | 87 | 3·8399252 | 4·3881737 | 87 | 3·8295796 | 4·3776310 |
| 88 | 3·7343884 | 4·2646826 | 88 | 3·7241368 | 4·2542396 | 88 | 3·7137912 | 4·2437066 |
| 89 | 3·6110350 | 4·1233531 | 89 | 3·6007834 | 4·1129202 | 89 | 3·5904378 | 4·1023974 |
| 90 | 3·4797275 | 3·9742693 | 90 | 3·4694759 | 3·9638454 | 90 | 3·4591303 | 3·9533320 |
| 91 | 3·3400670 | 3·8170475 | 91 | 3·3298154 | 3·8066330 | 91 | 3·3194698 | 3·7961280 |
| 92 | 3·1916439 | 3·6512926 | 92 | 3·1813923 | 3·6408857 | 92 | 3·1710467 | 3·6303903 |
| 93 | 3·0340384 | 3·4765911 | 93 | 3·0237868 | 3·4661942 | 93 | 3·0134412 | 3·4557050 |
| 94 | 2·8668203 | 3·2925163 | 94 | 2·8565687 | 3·2821264 | 94 | 2·8462231 | 3·2716463 |
| 95 | 2·6895492 | 3·0986143 | 95 | 2·6792976 | 3·0882326 | 95 | 2·6689520 | 3·0777595 |
| 96 | 2·5017743 | 2·8944013 | 96 | 2·4915227 | 2·8840269 | 96 | 2·4811771 | 2·8735618 |
| 97 | 2·3030344 | 2·6793406 | 97 | 2·2927828 | 2·6689746 | 97 | 2·2824372 | 2·6585160 |
| 98 | 2·0928581 | 2·4528058 | 98 | 2·0826065 | 2·4424468 | 98 | 2·0722609 | 2·4319970 |
| 99 | 1·8707637 | 2·2140002 | 99 | 1·8605121 | 2·2036485 | 99 | 1·8501665 | 2·1932050 |
| 100 | 1·6362589 | 1·9617788 | 100 | 1·6260073 | 1·9514357 | 100 | 1·6156617 | 1·9410008 |
| 101 | 1·3888414 | 1·6942629 | 101 | 1·3785898 | 1·6839309 | 101 | 1·3682442 | 1·6735056 |
| 102 | 1·1279984 | 1·4079005 | 102 | 1·1177468 | 1·3975802 | 102 | 1·1074012 | 1·3871691 |
| 103 | 0·8532068 | 1·0949670 | 103 | 0·8429552 | 1·0846621 | 103 | 0·8326096 | 1·0742641 |
| 104 | 0·5639332 | 0·7355670 | 104 | 0·5536816 | 0·7252826 | 104 | 0·5433360 | 0·7149079 |
| 105 | 0·2596338 | | 105 | 0·2493822 | | 105 | 0·2390366 | |
| 106 | 9·9397546 | | 106 | 9·9295030 | | 106 | 9·9191574 | |
| 107 | 9·6037312 | | 107 | 9·5934796 | | 107 | 9·5831340 | |
| 108 | 9·2509889 | | 108 | 9·2407373 | | 108 | 9·2303917 | |
| 109 | 8·8809426 | | 109 | 8·8706910 | | 109 | 8·8603454 | |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| **Age** of **Female** ($y$) | 24 | | | 25 | | | 26 | |
|---|---|---|---|---|---|---|---|---|
| **Age** of **Male** ($x$) | $\lambda\ D_{x,\,24}$ | $\lambda\ N_{x,\,24}$ | **Age** of **Male** ($x$) | $\lambda\ D_{x,\,25}$ | $\lambda\ N_{x,\,25}$ | **Age** of **Male** ($x$) | $\lambda\ D_{x,\,26}$ | $\lambda\ N_{x,\,26}$ |
| 0 | 6·0568767 | 7·2219079 | 0 | 6·0463510 | 7·2085126 | 0 | 6·0357383 | 7·1949373 |
| 1 | 5·9728745 | 7·2045693 | 1 | 5·9623488 | 7·1911441 | 1 | 5·9517361 | 7·1775371 |
| 2 | 5·9375936 | 7·1917422 | 2 | 5·9270679 | 7·1783181 | 2 | 5·9164552 | 7·1647115 |
| 3 | 5·9154803 | 7·1802645 | 3 | 5·9049546 | 7·1668524 | 3 | 5·8943419 | 7·1532568 |
| 4 | 5·8985786 | 7·1693888 | 4 | 5·8880529 | 7·1559939 | 4 | 5·8774402 | 7·1424154 |
| 5 | 5·8843512 | 7·1588357 | 5 | 5·8738255 | 7·1454622 | 5 | 5·8632128 | 7·1319040 |
| 6 | 5·8719900 | 7·1484658 | 6 | 5·8614643 | 7·1351165 | 6 | 5·8508516 | 7·1215821 |
| 7 | 5·8608465 | 7·1381808 | 7 | 5·8503208 | 7·1248578 | 7 | 5·8397081 | 7·1113502 |
| 8 | 5·8504323 | 7·1279153 | 8 | 5·8399066 | 7·1146207 | 8 | 5·8292939 | 7·1011413 |
| 9 | 5·8406849 | 7·1176276 | 9 | 5·8301592 | 7·1043635 | 9 | 5·8195465 | 7·0909142 |
| 10 | 5·8314497 | 7·1072775 | 10 | 5·8209240 | 7·0940459 | 10 | 5·8103113 | 7·0806279 |
| 11 | 5·8225852 | 7·0968315 | 11 | 5·8120595 | 7·0836330 | 11 | 5·8014468 | 7·0702493 |
| 12 | 5·8139632 | 7·0862619 | 12 | 5·8034375 | 7·0730986 | 12 | 5·7928248 | 7·0597497 |
| 13 | 5·8054687 | 7·0755467 | 13 | 5·7949430 | 7·0624195 | 13 | 5·7843303 | 7·0491068 |
| 14 | 5·7969998 | 7·0646684 | 14 | 5·7864741 | 7·0515785 | 14 | 5·7758614 | 7·0383034 |
| 15 | 5·7884680 | 7·0536140 | 15 | 5·7779423 | 7·0405628 | 15 | 5·7673296 | 7·0273264 |
| 16 | 5·7797977 | 7·0423752 | 16 | 5·7692720 | 7·0293644 | 16 | 5·7586593 | 7·0161677 |
| 17 | 5·7709269 | 7·0309469 | 17 | 5·7604012 | 7·0179774 | 17 | 5·7497885 | 7·0048226 |
| 18 | 5·7618064 | 7·0193286 | 18 | 5·7512807 | 7·0064011 | 18 | 5·7406680 | 6·9932888 |
| 19 | 5·7524006 | 7·0075211 | 19 | 5·7418749 | 6·9946370 | 19 | 5·7312622 | 6·9815685 |
| 20 | 5·7426868 | 6·9955281 | 20 | 5·7321611 | 6·9826886 | 20 | 5·7215484 | 6·9696654 |
| 21 | 5·7326556 | 6·9833546 | 21 | 5·7221299 | 6·9705611 | 21 | 5·7115172 | 6·9575842 |
| 22 | 5·7225440 | 6·9710071 | 22 | 5·7120183 | 6·9582605 | 22 | 5·7014056 | 6·9453318 |
| 23 | 5·7123547 | 6·9584782 | 23 | 5·7018290 | 6·9457796 | 23 | 5·6912163 | 6·9328998 |
| 24 | 5·7020895 | 6·9457596 | 24 | 5·6915638 | 6·9331104 | 24 | 5·6809511 | 6·9202807 |
| 25 | 5·6917494 | 6·9328434 | 25 | 5·6812237 | 6·9202439 | 25 | 5·6706110 | 6·9074656 |
| 26 | 5·6813345 | 6·9197202 | 26 | 5·6708088 | 6·9071711 | 26 | 5·6601961 | 6·8944450 |
| 27 | 5·6708441 | 6·9063803 | 27 | 5·6603184 | 6·8938825 | 27 | 5·6497057 | 6·8812090 |
| 28 | 5·6602766 | 6·8928138 | 28 | 5·6497509 | 6·8803673 | 28 | 5·6391382 | 6·8677475 |
| 29 | 5·6496298 | 6·8790096 | 29 | 5·6391041 | 6·8666151 | 29 | 5·6284914 | 6·8540490 |
| 30 | 5·6389004 | 6·8649565 | 30 | 5·6283747 | 6·8526138 | 30 | 5·6177620 | 6·8401019 |
| 31 | 5·6280844 | 6·8506418 | 31 | 5·6175587 | 6·8383516 | 31 | 5·6069460 | 6·8258938 |
| 32 | 5·6171769 | 6·8360539 | 32 | 5·6066512 | 6·8238149 | 32 | 5·5960385 | 6·8114118 |
| 33 | 5·6061722 | 6·8211787 | 33 | 5·5956465 | 6·8089914 | 33 | 5·5850338 | 6·7966420 |
| 34 | 5·5950638 | 6·8060028 | 34 | 5·5845381 | 6·7938662 | 34 | 5·5739254 | 6·7815708 |
| 35 | 5·5838443 | 6·7905109 | 35 | 5·5733186 | 6·7784249 | 35 | 5·5627059 | 6·7661825 |
| 36 | 5·5725055 | 6·7746877 | 36 | 5·5619798 | 6·7626515 | 36 | 5·5513671 | 6·7504618 |
| 37 | 5·5610383 | 6·7585173 | 37 | 5·5505126 | 6·7465294 | 37 | 5·5398999 | 6·7343918 |
| 38 | 5·5494329 | 6·7419818 | 38 | 5·5389072 | 6·7300422 | 38 | 5·5282945 | 6·7179551 |
| 39 | 5·5376785 | 6·7250636 | 39 | 5·5271528 | 6·7131706 | 39 | 5·5165401 | 6·7011339 |
| 40 | 5·5257637 | 6·7077429 | 40 | 5·5152380 | 6·6958960 | 40 | 5·5046253 | 6·6839078 |
| 41 | 5·5136760 | 6·6899992 | 41 | 5·5031503 | 6·6781972 | 41 | 5·4925376 | 6·6662571 |
| 42 | 5·5014022 | 6·6718114 | 42 | 5·4908765 | 6·6600526 | 42 | 5·4802638 | 6·6481592 |
| 43 | 5·4889282 | 6·6531561 | 43 | 5·4784025 | 6·6414395 | 43 | 5·4677898 | 6·6295912 |
| 44 | 5·4762393 | 6·6340080 | 44 | 5·4657136 | 6·6223329 | 44 | 5·4551009 | 6·6105287 |
| 45 | 5·4633196 | 6·6143419 | 45 | 5·4527939 | 6·6027060 | 45 | 5·4421812 | 6·5909449 |
| 46 | 5·4501526 | 6·5941285 | 46 | 5·4396269 | 6·5825313 | 46 | 5·4290142 | 6·5708111 |
| 47 | 5·4367209 | 6·5733380 | 47 | 5·4261952 | 6·5617778 | 47 | 5·4155825 | 6·5500979 |
| 48 | 5·4230063 | 6·5519369 | 48 | 5·4124806 | 6·5404131 | 48 | 5·4018679 | 6·5287712 |
| 49 | 5·4089897 | 6·5298898 | 49 | 5·3984640 | 6·5184006 | 49 | 5·3878513 | 6·5067967 |
| 50 | 5·3946513 | 6·5071584 | 50 | 5·3841256 | 6·4957025 | 50 | 5·3735129 | 6·4841342 |
| 51 | 5·3799703 | 6·4836994 | 51 | 5·3694446 | 6·4722763 | 51 | 5·3588319 | 6·4607426 |
| 52 | 5·3646806 | 6·4594672 | 52 | 5·3541549 | 6·4480752 | 52 | 5·3435422 | 6·4365753 |
| 53 | 5·3489461 | 6·4344308 | 53 | 5·3384204 | 6·4230699 | 53 | 5·3278077 | 6·4116021 |
| 54 | 5·3327495 | 6·4085433 | 54 | 5·3222238 | 6·3972108 | 54 | 5·3116111 | 6·3857750 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female ($y$) | 24 | | 25 | | | 26 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda D_{x,24}$ | $\lambda N_{x,24}$ | Age of Male ($x$) | $\lambda D_{x,25}$ | $\lambda N_{x,25}$ | Age of Male ($x$) | $\lambda D_{x,26}$ | $\lambda N_{x,26}$ |
| 55 | 5·3160636 | 6·3817489 | 55 | 5·3055379 | 6·3704456 | 55 | 5·2949252 | 6·3590390 |
| 56 | 5·2988507 | 6·3539881 | 56 | 5·2883250 | 6·3427124 | 56 | 5·2777123 | 6·3313358 |
| 57 | 5·2810627 | 6·3251958 | 57 | 5·2705370 | 6·3139463 | 57 | 5·2599243 | 6·3025980 |
| 58 | 5·2626412 | 6·2952994 | 58 | 5·2521155 | 6·2840761 | 58 | 5·2415028 | 6·2727548 |
| 59 | 5·2435176 | 6·2642216 | 59 | 5·2329919 | 6·2530235 | 59 | 5·2223792 | 6·2417291 |
| 60 | 5·2236128 | 6·2318777 | 60 | 5·2130871 | 6·2207050 | 60 | 5·2024744 | 6·2094359 |
| 61 | 5·2028375 | 6·1981780 | 61 | 5·1923118 | 6·1870289 | 61 | 5·1816991 | 6·1757858 |
| 62 | 5·1810920 | 6·1630259 | 62 | 5·1705663 | 6·1518998 | 62 | 5·1599536 | 6·1406805 |
| 63 | 5·1582663 | 6·1263169 | 63 | 5·1477406 | 6·1152140 | 63 | 5·1371279 | 6·1040178 |
| 64 | 5·1342401 | 6·0879403 | 64 | 5·1237144 | 6·0768599 | 64 | 5·1131017 | 6·0656872 |
| 65 | 5·1088827 | 6·0477793 | 65 | 5·0983570 | 6·0367199 | 65 | 5·0877443 | 6·0255701 |
| 66 | 5·0820531 | 6·0057077 | 66 | 5·0715274 | 5·9946699 | 66 | 5·0609147 | 5·9835411 |
| 67 | 5·0536000 | 5·9615933 | 67 | 5·0430743 | 5·9505756 | 67 | 5·0324616 | 5·9394683 |
| 68 | 5·0233619 | 5·9152948 | 68 | 5·0128362 | 5·9042973 | 68 | 5·0022235 | 5·8932101 |
| 69 | 4·9911666 | 5·8666631 | 69 | 4·9806409 | 5·8556850 | 69 | 4·9700282 | 5·8446182 |
| 70 | 4·9568320 | 5·8155413 | 70 | 4·9463063 | 5·8045822 | 70 | 4·9356936 | 5·7935345 |
| 71 | 4·9201654 | 5·7617629 | 71 | 4·9096397 | 5·7508222 | 71 | 4·8990270 | 5·7397934 |
| 72 | 4·8809638 | 5·7051527 | 72 | 4·8704381 | 5·6942300 | 72 | 4·8598254 | 5·6832193 |
| 73 | 4·8390141 | 5·6455265 | 73 | 4·8284884 | 5·6346209 | 73 | 4·8178757 | 5·6236281 |
| 74 | 4·7940925 | 5·5826905 | 74 | 4·7835668 | 5·5718019 | 74 | 4·7729541 | 5·5608259 |
| 75 | 4·7459652 | 5·5164413 | 75 | 4·7354395 | 5·5055688 | 75 | 4·7248268 | 5·4946095 |
| 76 | 4·6943878 | 5·4465650 | 76 | 4·6838621 | 5·4357086 | 76 | 4·6732494 | 5·4247651 |
| 77 | 4·6391059 | 5·3728386 | 77 | 4·6285802 | 5·3619972 | 77 | 4·6179675 | 5·3510697 |
| 78 | 4·5798545 | 5·2950280 | 78 | 4·5693288 | 5·2842013 | 78 | 4·5587161 | 5·2732884 |
| 79 | 4·5163584 | 5·2128889 | 79 | 4·5058327 | 5·2020762 | 79 | 4·4952200 | 5·1911777 |
| 80 | 4·4483320 | 5·1261659 | 80 | 4·4378063 | 5·1153669 | 80 | 4·4271936 | 5·1044820 |
| 81 | 4·3754794 | 5·0345924 | 81 | 4·3649537 | 5·0238070 | 81 | 4·3543410 | 5·0129355 |
| 82 | 4·2974943 | 4·9378924 | 82 | 4·2869686 | 4·9271192 | 82 | 4·2763559 | 4·9162607 |
| 83 | 4·2140604 | 4·8357774 | 83 | 4·2035347 | 4·8250163 | 83 | 4·1929220 | 4·8141697 |
| 84 | 4·1248506 | 4·7279469 | 84 | 4·1143249 | 4·7171985 | 84 | 4·1037122 | 4·7063627 |
| 85 | 4·0295278 | 4·6140912 | 85 | 4·0190021 | 4·6033533 | 85 | 4·0083894 | 4·5925309 |
| 86 | 3·9277444 | 4·4938869 | 86 | 3·9172187 | 4·4831599 | 86 | 3·9066060 | 4·4723472 |
| 87 | 3·8191426 | 4·3670006 | 87 | 3·8086169 | 4·3562838 | 87 | 3·7980042 | 4·3454818 |
| 88 | 3·7033542 | 4·2330860 | 88 | 3·6928285 | 4·2223796 | 88 | 3·6822158 | 4·2115871 |
| 89 | 3·5800008 | 4·0917858 | 89 | 3·5694751 | 4·0810884 | 89 | 3·5588624 | 4·0703061 |
| 90 | 3·4486933 | 3·9427301 | 90 | 3·4381676 | 3·9320413 | 90 | 3·4275549 | 3·9212676 |
| 91 | 3·3090328 | 3·7855356 | 91 | 3·2985071 | 3·7748555 | 91 | 3·2878944 | 3·7640902 |
| 92 | 3·1606097 | 3·6198048 | 92 | 3·1500840 | 3·6091342 | 92 | 3·1394713 | 3·5983768 |
| 93 | 3·0030042 | 3·4451292 | 93 | 2·9924785 | 3·4344657 | 93 | 2·9818658 | 3·4237172 |
| 94 | 2·8357861 | 3·2610773 | 94 | 2·8252604 | 3·2504222 | 94 | 2·8146477 | 3·2396808 |
| 95 | 2·6585150 | 3·0671985 | 95 | 2·6479893 | 3·0565502 | 95 | 2·6373766 | 3·0458173 |
| 96 | 2·4707401 | 2·8630074 | 96 | 2·4602144 | 2·8523672 | 96 | 2·4496017 | 2·8416404 |
| 97 | 2·2720002 | 2·6479695 | 97 | 2·2614745 | 2·6373356 | 97 | 2·2508618 | 2·6266165 |
| 98 | 2·0618239 | 2·4214575 | 98 | 2·0512982 | 2·4108312 | 98 | 2·0406855 | 2·4001182 |
| 99 | 1·8397295 | 2·1826737 | 99 | 1·8292038 | 2·1720551 | 99 | 1·8185911 | 2·1613497 |
| 100 | 1·6052247 | 1·9304763 | 100 | 1·5946990 | 1·9198665 | 100 | 1·5840863 | 1·9091703 |
| 101 | 1·3578072 | 1·6629910 | 101 | 1·3472815 | 1·6523885 | 101 | 1·3366688 | 1·6417031 |
| 102 | 1·0969642 | 1·3766664 | 102 | 1·0864385 | 1·3660754 | 102 | 1·0758258 | 1·3553978 |
| 103 | 0·8221726 | 1·0637836 | 103 | 0·8116469 | 1·0532053 | 103 | 0·8010342 | 1·0425440 |
| 104 | 0·5328990 | 0·7044337 | 104 | 0·5223733 | 0·6938940 | 104 | 0·5117606 | 0·6832452 |
| 105 | 0·2285996 | | 105 | 0·2180739 | | 105 | 0·2074612 | |
| 106 | 9·9087204 | | 106 | 9·8981947 | | 106 | 9·8875820 | |
| 107 | 9·5726970 | | 107 | 9·5621713 | | 107 | 9·5515586 | |
| 108 | 9·2199547 | | 108 | 9·2094290 | | 108 | 9·1988163 | |
| 109 | 8·8499084 | | 109 | 8·8393827 | | 109 | 8·8287700 | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 27 | | 28 | | | 29 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda$ $D_{x,\,27}$ | $\lambda$ $N_{x,\,27}$ | Age of Male ($x$) | $\lambda$ $D_{x,\,28}$ | $\lambda$ $N_{x,\,28}$ | Age of Male ($x$) | $\lambda$ $D_{x,\,29}$ | $\lambda$ $N_{x,\,29}$ |
| 0 | 6·0250403 | 7·1811768 | 0 | 6·0142580 | 7·1672243 | 0 | 6·0033919 | 7·1530724 |
| 1 | 5·9410381 | 7·1637420 | 1 | 5·9302558 | 7·1497525 | 1 | 5·9193897 | 7·1355610 |
| 2 | 5·9057572 | 7·1509160 | 2 | 5·8949749 | 7·1369244 | 2 | 5·8841088 | 7·1227298 |
| 3 | 5·8836439 | 7·1394717 | 3 | 5·8728616 | 7·1254901 | 3 | 5·8619955 | 7·1113041 |
| 4 | 5·8667422 | 7·1286464 | 4 | 5·8559599 | 7·1146807 | 4 | 5·8450938 | 7·1005105 |
| 5 | 5·8525148 | 7·1181559 | 5 | 5·8417325 | 7·1042098 | 5 | 5·8308664 | 7·0900590 |
| 6 | 5·8401536 | 7·1078572 | 6 | 5·8293713 | 7·0939346 | 6 | 5·8185052 | 7·0798066 |
| 7 | 5·8290101 | 7·0976511 | 7 | 5·8182278 | 7·0837538 | 7 | 5·8073617 | 7·0696516 |
| 8 | 5·8185959 | 7·0874705 | 8 | 5·8078136 | 7·0736011 | 8 | 5·7969475 | 7·0595260 |
| 9 | 5·8088485 | 7·0772734 | 9 | 5·7980662 | 7·0634340 | 9 | 5·7872001 | 7·0493883 |
| 10 | 5·7996133 | 7·0670192 | 10 | 5·7888310 | 7·0532110 | 10 | 5·7779649 | 7·0391968 |
| 11 | 5·7907488 | 7·0566735 | 11 | 5·7799665 | 7·0428987 | 11 | 5·7691004 | 7·0289172 |
| 12 | 5·7821268 | 7·0462088 | 12 | 5·7713445 | 7·0324685 | 12 | 5·7604784 | 7·0185217 |
| 13 | 5·7736323 | 7·0356018 | 13 | 5·7628500 | 7·0218977 | 13 | 5·7519839 | 7·0079866 |
| 14 | 5·7651634 | 7·0248357 | 14 | 5·7543811 | 7·0111690 | 14 | 5·7435150 | 6·9972952 |
| 15 | 5·7566316 | 7·0138977 | 15 | 5·7458493 | 7·0002696 | 15 | 5·7349832 | 6·9864344 |
| 16 | 5·7479613 | 7·0027793 | 16 | 5·7371790 | 6·9891911 | 16 | 5·7263129 | 6·9753959 |
| 17 | 5·7390905 | 6·9914753 | 17 | 5·7283082 | 6·9779288 | 17 | 5·7174421 | 6·9641748 |
| 18 | 5·7299700 | 6·9799847 | 18 | 5·7191877 | 6·9664812 | 18 | 5·7083216 | 6·9527705 |
| 19 | 5·7205642 | 6·9683087 | 19 | 5·7097819 | 6·9548498 | 19 | 5·6989158 | 6·9411837 |
| 20 | 5·7108504 | 6·9564510 | 20 | 5·7000681 | 6·9430382 | 20 | 5·6892020 | 6·9294185 |
| 21 | 5·7008192 | 6·9444171 | 21 | 5·6900369 | 6·9310517 | 21 | 5·6791708 | 6·9174800 |
| 22 | 5·6907076 | 6·9322131 | 22 | 5·6799253 | 6·9188970 | 22 | 5·6690592 | 6·9053748 |
| 23 | 5·6805183 | 6·9198314 | 23 | 5·6697360 | 6·9065659 | 23 | 5·6588699 | 6·8930952 |
| 24 | 5·6702531 | 6·9072635 | 24 | 5·6594708 | 6·8940505 | 24 | 5·6486047 | 6·8806327 |
| 25 | 5·6599130 | 6·8945009 | 25 | 5·6491307 | 6·8813414 | 25 | 5·6382646 | 6·8679784 |
| 26 | 5·6494981 | 6·8815339 | 26 | 5·6387158 | 6·8684293 | 26 | 5·6278497 | 6·8551224 |
| 27 | 5·6390077 | 6·8683525 | 27 | 5·6282254 | 6·8553039 | 27 | 5·6173593 | 6·8420543 |
| 28 | 5·6284402 | 6·8549459 | 28 | 5·6176579 | 6·8419544 | 28 | 5·6067918 | 6·8287635 |
| 29 | 5·6177934 | 6·8413033 | 29 | 5·6070111 | 6·8283694 | 29 | 5·5961450 | 6·8152380 |
| 30 | 5·6070640 | 6·8274124 | 30 | 5·5962817 | 6·8145370 | 30 | 5·5854156 | 6·8014660 |
| 31 | 5·5962480 | 6·8132611 | 31 | 5·5854657 | 6·8004444 | 31 | 5·5745996 | 6·7874344 |
| 32 | 5·5853405 | 6·7988357 | 32 | 5·5745582 | 6·7860783 | 32 | 5·5636921 | 6·7731301 |
| 33 | 5·5743358 | 6·7841231 | 33 | 5·5635535 | 6·7714250 | 33 | 5·5526874 | 6·7585386 |
| 34 | 5·5632274 | 6·7691079 | 34 | 5·5524451 | 6·7564696 | 34 | 5·5415790 | 6·7436452 |
| 35 | 5·5520079 | 6·7537760 | 35 | 5·5412256 | 6·7411963 | 35 | 5·5303595 | 6·7284345 |
| 36 | 5·5406691 | 6·7381108 | 36 | 5·5298868 | 6·7255901 | 36 | 5·5190207 | 6·7128895 |
| 37 | 5·5292019 | 6·7220961 | 37 | 5·5184196 | 6·7096331 | 37 | 5·5075535 | 6·6969943 |
| 38 | 5·5175965 | 6·7057135 | 38 | 5·5068142 | 6·6933086 | 38 | 5·4959481 | 6·6807304 |
| 39 | 5·5058421 | 6·6889451 | 39 | 5·4950598 | 6·6765967 | 39 | 5·4841937 | 6·6640789 |
| 40 | 5·4939273 | 6·6717716 | 40 | 5·4831450 | 6·6594784 | 40 | 5·4722789 | 6·6470198 |
| 41 | 5·4818396 | 6·6541715 | 41 | 5·4710573 | 6·6419334 | 41 | 5·4601912 | 6·6295324 |
| 42 | 5·4695658 | 6·6361240 | 42 | 5·4587835 | 6·6239385 | 42 | 5·4479174 | 6·6115952 |
| 43 | 5·4570918 | 6·6176045 | 43 | 5·4463095 | 6·6054718 | 43 | 5·4354434 | 6·5931836 |
| 44 | 5·4444029 | 6·5985890 | 44 | 5·4336206 | 6·5865070 | 44 | 5·4227545 | 6·5742737 |
| 45 | 5·4314832 | 6·5790512 | 45 | 5·4207009 | 6·5670181 | 45 | 5·4098348 | 6·5548378 |
| 46 | 5·4183162 | 6·5589622 | 46 | 5·4075339 | 6·5469772 | 46 | 5·3966678 | 6·5348478 |
| 47 | 5·4048845 | 6·5382915 | 47 | 5·3941022 | 6·5263530 | 47 | 5·3832361 | 6·5142740 |
| 48 | 5·3911699 | 6·5170069 | 48 | 5·3803876 | 6·5051127 | 48 | 5·3695215 | 6·4930822 |
| 49 | 5·3771533 | 6·4950719 | 49 | 5·3663710 | 6·4832213 | 49 | 5·3555049 | 6·4712371 |
| 50 | 5·3628149 | 6·4724488 | 50 | 5·3520326 | 6·4606395 | 50 | 5·3411665 | 6·4487006 |
| 51 | 5·3481339 | 6·4490941 | 51 | 5·3373516 | 6·4373258 | 51 | 5·3264855 | 6·4254298 |
| 52 | 5·3328442 | 6·4249627 | 52 | 5·3220619 | 6·4132323 | 52 | 5·3111958 | 6·4013790 |
| 53 | 5·3171097 | 6·4000243 | 53 | 5·3063274 | 6·3883312 | 53 | 5·2954613 | 6·3765174 |
| 54 | 5·3009131 | 6·3742304 | 54 | 5·2901308 | 6·3625735 | 54 | 5·2792647 | 6·3507985 |

## ENGLISH LIFE TABLE, No. 3.

### JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| **Age** of **Female** (y) | 27 | | | 28 | | | 29 | |
|---|---|---|---|---|---|---|---|---|
| **Age** of **Male** (x) | λ $D_{x,\,27}$ | λ $N_{x,\,27}$ | **Age** of **Male** (x) | λ $D_{x,\,28}$ | λ $N_{x,\,28}$ | **Age** of **Male** (x) | λ $D_{x,\,29}$ | λ $N_{x,\,29}$ |
| 55 | 5·2842272 | 6·3475274 | 55 | 5·2734449 | 6·3359048 | 55 | 5·2625788 | 6·3241671 |
| 56 | 5·2670143 | 6·3198545 | 56 | 5·2562320 | 6·3082657 | 56 | 5·2453659 | 6·2965636 |
| 57 | 5·2492263 | 6·2911475 | 57 | 5·2384440 | 6·2795901 | 57 | 5·2275779 | 6·2679230 |
| 58 | 5·2308048 | 6·2613333 | 58 | 5·2200225 | 6·2498077 | 58 | 5·2091564 | 6·2381726 |
| 59 | 5·2116812 | 6·2303350 | 59 | 5·2008989 | 6·2188392 | 59 | 5·1900328 | 6·2072371 |
| 60 | 5·1917764 | 6·1980693 | 60 | 5 1809941 | 6·1866015 | 60 | 5·1701280 | 6·1750300 |
| 61 | 5·1710011 | 6·1644451 | 61 | 5·1602188 | 6·1530055 | 61 | 5·1493527 | 6·1414626 |
| 62 | 5·1492556 | 6·1293664 | 62 | 5·1384733 | 6·1179531 | 62 | 5·1276072 | 6·1064391 |
| 63 | 5·1264299 | 6·0927276 | 63 | 5·1156476 | 6·0813416 | 63 | 5·1047815 | 6·0698545 |
| 64 | 5·1024037 | 6·0544204 | 64 | 5·0916214 | 6·0430588 | 64 | 5·0807553 | 6·0315996 |
| 65 | 5·0770463 | 6·0143273 | 65 | 5·0662640 | 6·0029889 | 65 | 5·0553979 | 5·9915543 |
| 66 | 5·0502167 | 5·9723209 | 66 | 5·0394344 | 5·9610070 | 66 | 5·0285683 | 5·9495964 |
| 67 | 5·0217636 | 5·9282698 | 67 | 5·0109813 | 5·9169784 | 67 | 5·0001152 | 5·9055924 |
| 68 | 4·9915255 | 5·8820330 | 68 | 4·9807432 | 5·8707636 | 68 | 4·9698771 | 5·8594001 |
| 69 | 4·9593302 | 5·8334614 | 69 | 4·9485479 | 5·8222133 | 69 | 4·9376818 | 5·8108721 |
| 70 | 4·9249956 | 5·7823978 | 70 | 4·9142133 | 5·7711703 | 70 | 4·9033472 | 5·7598504 |
| 71 | 4·8883290 | 5·7286757 | 71 | 4·8775467 | 5·7174682 | 71 | 4·8666806 | 5·7061688 |
| 72 | 4·8491274 | 5·6721204 | 72 | 4·8383451 | 5·6609318 | 72 | 4·8274790 | 5·6496525 |
| 73 | 4·8071777 | 5·6125473 | 73 | 4·7963954 | 5·6013775 | 73 | 4·7855293 | 5·5901170 |
| 74 | 4·7622561 | 5·5497626 | 74 | 4·7514738 | 5·5386108 | 74 | 4·7406077 | 5·5273691 |
| 75 | 4·7141288 | 5·4835629 | 75 | 4·7033465 | 5·4724285 | 75 | 4·6924804 | 5·4612046 |
| 76 | 4·6625514 | 5·4137350 | 76 | 4·6517691 | 5·4026171 | 76 | 4·6409030 | 5·3914104 |
| 77 | 4·6072695 | 5·3400551 | 77 | 4·5964872 | 5·3289533 | 77 | 4·5856211 | 5·3177629 |
| 78 | 4·5480181 | 5·2622894 | 78 | 4·5372358 | 5·2512030 | 78 | 4·5263697 | 5·2400288 |
| 79 | 4·4845220 | 5·1801930 | 79 | 4·4737397 | 5·1691220 | 79 | 4·4628736 | 5·1579627 |
| 80 | 4·4164956 | 5·0935114 | 80 | 4·4057133 | 5·0824543 | 80 | 4·3948472 | 5·0713105 |
| 81 | 4·3436430 | 5·0019781 | 81 | 4·3328607 | 4·9909348 | 81 | 4·3219946 | 4·9798046 |
| 82 | 4·2656579 | 4·9053166 | 82 | 4·2548756 | 4·8942862 | 82 | 4·2440095 | 4·8831695 |
| 83 | 4 1822240 | 4·8032378 | 83 | 4·1714417 | 4·7922207 | 83 | 4·1605756 | 4·7811160 |
| 84 | 4·0930142 | 4·6954432 | 84 | 4·0822319 | 4·6844378 | 84 | 4·0713658 | 4·6733463 |
| 85 | 3·9976914 | 4·5816210 | 85 | 3·9869091 | 4·5706272 | 85 | 3·9760430 | 4·5595476 |
| 86 | 3·8959080 | 4·4614498 | 86 | 3·8851257 | 4·4504668 | 86 | 3·8742596 | 4·4393983 |
| 87 | 3·7873062 | 4·3345945 | 87 | 3·7765239 | 4·3236224 | 87 | 3·7656578 | 4·3125645 |
| 88 | 3·6715178 | 4·2007101 | 88 | 3·6607355 | 4·1897480 | 88 | 3·6498694 | 4·1787007 |
| 89 | 3·5481644 | 4·0594384 | 89 | 3·5373821 | 4·0484861 | 89 | 3·5265160 | 4·0374485 |
| 90 | 3·4168569 | 3·9104098 | 90 | 3·4060746 | 3·8994665 | 90 | 3·3952085 | 3·8884385 |
| 91 | 3·2771964 | 3·7532405 | 91 | 3·2664141 | 3·7423071 | 91 | 3·2555480 | 3·7312873 |
| 92 | 3·1287733 | 3·5875359 | 92 | 3·1179910 | 3·5766097 | 92 | 3·1071249 | 3·5655999 |
| 93 | 2·9711678 | 3·4128836 | 93 | 2·9603855 | 3·4019660 | 93 | 2·9495194 | 3·3909636 |
| 94 | 2·8039497 | 3·2288552 | 94 | 2·7931674 | 3·2179449 | 94 | 2·7823013 | 3·2069504 |
| 95 | 2·6266786 | 3·0349984 | 95 | 2·6158963 | 3·0240960 | 95 | 2·6050302 | 3·0131087 |
| 96 | 2·4389037 | 2·8308305 | 96 | 2·4281214 | 2·8199340 | 96 | 2·4172553 | 2·8089546 |
| 97 | 2·2401638 | 2·6158123 | 97 | 2·2293815 | 2·6049255 | 97 | 2·2185154 | 2·5939514 |
| 98 | 2·0299875 | 2·3893221 | 98 | 2·0192052 | 2·3784397 | 98 | 2·0083391 | 2·3674771 |
| 99 | 1·8078931 | 2·1505605 | 99 | 1·7971108 | 2·1396871 | 99 | 1·7862447 | 2·1287295 |
| 100 | 1·5733883 | 1·8983884 | 100 | 1·5626060 | 1·8875228 | 100 | 1·5517399 | 1·8765735 |
| 101 | 1·3259708 | 1·6309311 | 101 | 1·3151885 | 1·6200746 | 101 | 1·3043224 | 1·6091342 |
| 102 | 1·0651278 | 1·3446398 | 102 | 1·0543455 | 1·3337958 | 102 | 1·0434794 | 1·3228661 |
| 103 | 0·7903362 | 1·0317962 | 103 | 0·7795539 | 1·0209700 | 103 | 0·7686878 | 1·0100582 |
| 104 | 0·5010626 | 0·6725227 | 104 | 0·4902803 | 0·6617086 | 104 | 0·4794142 | 0·6508222 |
| 105 | 0·1967632 | | 105 | 0·1859809 | | 105 | 0·1751148 | |
| 106 | 9·8768840 | | 106 | 9 8661017 | | 106 | 9·8552356 | |
| 107 | 9·5408606 | | 107 | 9·5300783 | | 107 | 9·5192122 | |
| 108 | 9·1881183 | | 108 | 9·1773360 | | 108 | 9·1664699 | |
| 109 | 8·8180720 | | 109 | 8·8072897 | | 109 | 8·7964236 | |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female (*y*) | 30 | | Age of Male (*x*) | 31 | | Age of Male (*x*) | 32 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (*x*) | $\lambda\ D_{x,\,30}$ | $\lambda\ N_{x,\,30}$ | | $\lambda\ D_{x,\,31}$ | $\lambda\ N_{x,\,31}$ | | $\lambda\ D_{x,\,32}$ | $\lambda\ N_{x,\,32}$ |
| 0 | 5·9924420 | 7·1387134 | 0 | 5·9814081 | 7·1241392 | 0 | 5·9702893 | 7·1093403 |
| 1 | 5·9084398 | 7·1211598 | 1 | 5·8974059 | 7·1065401 | 1 | 5·8862871 | 7·0916920 |
| 2 | 5·8731589 | 7·1083241 | 2 | 5·8621250 | 7·0936984 | 2 | 5·8510062 | 7·0788435 |
| 3 | 5·8510456 | 7·0969065 | 3 | 5·8400117 | 7·0822880 | 3 | 5·8288929 | 7·0674395 |
| 4 | 5·8341439 | 7·0861274 | 4 | 5·8231100 | 7·0715231 | 4 | 5·8119912 | 7·0566876 |
| 5 | 5·8199165 | 7·0756951 | 5 | 5·8088826 | 7·0611094 | 5 | 5·7977638 | 7·0462927 |
| 6 | 5·8075553 | 7·0654652 | 6 | 5·7965214 | 7·0509016 | 6 | 5·7854026 | 7·0361062 |
| 7 | 5·7964118 | 7·0553348 | 7 | 5·7853779 | 7·0407962 | 7 | 5·7742591 | 7·0260252 |
| 8 | 5·7859976 | 7·0452369 | 8 | 5·7749637 | 7·0307252 | 8 | 5·7638449 | 7·0159810 |
| 9 | 5·7762502 | 7·0351282 | 9 | 5·7652163 | 7·0206456 | 9 | 5·7540975 | 7·0059300 |
| 10 | 5·7670150 | 7·0249683 | 10 | 5·7559811 | 7·0105158 | 10 | 5·7448623 | 6·9958312 |
| 11 | 5·7581505 | 7·0147214 | 11 | 5·7471166 | 7·0003017 | 11 | 5·7359978 | 6·9856489 |
| 12 | 5·7495285 | 7·0043598 | 12 | 5·7384946 | 6·9899740 | 12 | 5·7273758 | 6·9753549 |
| 13 | 5·7410340 | 6·9938603 | 13 | 5·7300001 | 6·9795100 | 13 | 5·7188813 | 6·9649262 |
| 14 | 5·7325651 | 6·9832059 | 14 | 5·7215312 | 6·9688924 | 14 | 5·7104124 | 6·9543450 |
| 15 | 5·7240333 | 6·9723837 | 15 | 5·7129994 | 6·9581084 | 15 | 5·7018806 | 6·9435989 |
| 16 | 5·7153630 | 6·9613849 | 16 | 5·7043291 | 6·9471495 | 16 | 5·6932103 | 6·9326794 |
| 17 | 5·7064922 | 6·9502055 | 17 | 5·6954583 | 6·9360111 | 17 | 5·6843395 | 6·9215822 |
| 18 | 5·6973717 | 6·9388437 | 18 | 5·6863378 | 6·9246922 | 18 | 5·6752190 | 6·9103059 |
| 19 | 5·6879659 | 6·9273017 | 19 | 5·6769320 | 6·9131945 | 19 | 5·6658132 | 6·8988526 |
| 20 | 5·6782521 | 6·9155829 | 20 | 5·6672182 | 6·9015222 | 20 | 5·6560994 | 6·8872264 |
| 21 | 5·6682209 | 6·9036928 | 21 | 5·6571870 | 6·8896805 | 21 | 5·6460682 | 6·8754331 |
| 22 | 5·6581093 | 6·8916376 | 22 | 5·6470754 | 6·8776759 | 22 | 5·6359566 | 6·8634789 |
| 23 | 5·6479200 | 6·8794098 | 23 | 5·6368861 | 6·8655004 | 23 | 5·6257673 | 6·8513563 |
| 24 | 5·6376548 | 6·8670012 | 24 | 5·6266209 | 6·8531458 | 24 | 5·6155021 | 6·8390565 |
| 25 | 5·6273147 | 6·8544022 | 25 | 5·6162808 | 6·8406033 | 25 | 5·6051620 | 6·8265705 |
| 26 | 5·6168998 | 6·8416035 | 26 | 5·6058659 | 6·8278624 | 26 | 5·5947471 | 6·8138886 |
| 27 | 5·6064094 | 6·8285941 | 27 | 5·5953755 | 6·8149129 | 27 | 5·5842567 | 6·8009996 |
| 28 | 5·5958419 | 6·8153633 | 28 | 5·5848080 | 6·8017433 | 28 | 5·5736892 | 6·7878928 |
| 29 | 5·5851951 | 6·8018992 | 29 | 5·5741612 | 6·7883422 | 29 | 5·5630424 | 6·7745557 |
| 30 | 5·5744657 | 6·7881894 | 30 | 5·5634318 | 6·7746966 | 30 | 5·5523130 | 6·7609759 |
| 31 | 5·5636497 | 6·7742210 | 31 | 5·5526158 | 6·7607935 | 31 | 5·5414970 | 6·7471400 |
| 32 | 5·5527422 | 6·7599806 | 32 | 5·5417083 | 6·7466190 | 32 | 5·5305895 | 6·7330339 |
| 33 | 5·5417375 | 6·7454536 | 33 | 5·5307036 | 6·7321590 | 33 | 5·5195848 | 6·7186430 |
| 34 | 5·5306291 | 6·7306251 | 34 | 5·5195952 | 6·7173979 | 34 | 5·5084764 | 6·7039520 |
| 35 | 5·5194096 | 6·7154793 | 35 | 5·5083757 | 6·7023200 | 35 | 5·4972569 | 6·6889447 |
| 36 | 5·5080708 | 6·6999997 | 36 | 5·4970369 | 6·6869085 | 36 | 5·4859181 | 6·6736043 |
| 37 | 5·4966036 | 6·6841688 | 37 | 5·4855697 | 6·6711460 | 37 | 5·4744509 | 6·6579130 |
| 38 | 5·4849982 | 6·6679691 | 38 | 5·4739643 | 6·6550136 | 38 | 5·4628455 | 6·6418524 |
| 39 | 5·4732438 | 6·6513812 | 39 | 5·4622099 | 6·6384932 | 39 | 5·4510911 | 6·6254024 |
| 40 | 5·4613290 | 6·6343855 | 40 | 5·4502951 | 6·6215638 | 40 | 5·4391763 | 6·6085436 |
| 41 | 5·4492413 | 6·6169600 | 41 | 5·4382074 | 6·6042046 | 41 | 5·4270886 | 6·5912541 |
| 42 | 5·4369675 | 6·5990831 | 42 | 5·4259336 | 6·5863925 | 42 | 5·4148148 | 6·5735115 |
| 43 | 5·4244935 | 6·5807317 | 43 | 5·4134596 | 6·5681042 | 43 | 5·4023408 | 6·5552909 |
| 44 | 5·4118046 | 6·5618794 | 44 | 5·4007707 | 6·5493150 | 44 | 5·3896519 | 6·5365678 |
| 45 | 5·3988849 | 6·5425011 | 45 | 5·3878510 | 6·5299969 | 45 | 5·3767322 | 6·5173156 |
| 46 | 5·3857179 | 6·5225664 | 46 | 5·3746840 | 6·5101225 | 46 | 5·3635652 | 6·4975044 |
| 47 | 5·3722862 | 6·5020457 | 47 | 5·3612523 | 6·4896597 | 47 | 5·3501335 | 6·4771045 |
| 48 | 5·3585716 | 6·4809065 | 48 | 5·3475377 | 6·4685760 | 48 | 5·3364189 | 6·4560815 |
| 49 | 5·3445550 | 6·4591119 | 49 | 5·3335211 | 6·4468364 | 49 | 5·3224023 | 6·4343999 |
| 50 | 5·3302166 | 6·4366237 | 50 | 5·3191827 | 6·4244009 | 50 | 5·3080639 | 6·4120218 |
| 51 | 5·3155356 | 6·4134000 | 51 | 5·3045017 | 6·4012277 | 51 | 5·2933829 | 6·3889036 |
| 52 | 5·3002459 | 6·3893940 | 52 | 5·2892120 | 6·3772707 | 52 | 5·2780932 | 6·3649995 |
| 53 | 5·2845114 | 6·3645769 | 53 | 5·2734775 | 6·3525003 | 53 | 5·2623587 | 6·3402803 |
| 54 | 5·2683148 | 6·3388990 | 54 | 5·2572809 | 6·3268686 | 54 | 5·2461621 | 6·3146973 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

## Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female ($y$) | 30 | | 31 | | | 32 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | λ $D_{x,30}$ | λ $N_{x,30}$ | Age of Male ($x$) | λ $D_{x,31}$ | λ $N_{x,31}$ | Age of Male ($x$) | λ $D_{x,32}$ | λ $N_{x,32}$ |
| 55 | 5·2516289 | 6·3123079 | 55 | 5·2405950 | 6·3003202 | 55 | 5·2294762 | 6·2881973 |
| 56 | 5·2344160 | 6·2847434 | 56 | 5·2233821 | 6·2727976 | 56 | 5·2122633 | 6·2607190 |
| 57 | 5·2166280 | 6·2561393 | 57 | 5·2055941 | 6·2442341 | 57 | 5·1944753 | 6·2321992 |
| 58 | 5·1982065 | 6·2264254 | 58 | 5·1871726 | 6·2145581 | 58 | 5·1760538 | 6·2025651 |
| 59 | 5·1790829 | 6·1955227 | 59 | 5·1680490 | 6·1836931 | 59 | 5·1569302 | 6·1717394 |
| 60 | 5·1591781 | 6·1633498 | 60 | 5·1481442 | 6·1515540 | 60 | 5·1370254 | 6·1396395 |
| 61 | 5·1384028 | 6·1298139 | 61 | 5·1273689 | 6·1180533 | 61 | 5·1162501 | 6·1061739 |
| 62 | 5·1166573 | 6·0948197 | 62 | 5·1056234 | 6·0830915 | 62 | 5·0945046 | 6·0712481 |
| 63 | 5·0938316 | 6·0582646 | 63 | 5·0827977 | 6·0465667 | 63 | 5·0716789 | 6·0347567 |
| 64 | 5·0698054 | 6·0200371 | 64 | 5·0587715 | 6·0083694 | 64 | 5·0476527 | 5·9965905 |
| 65 | 5·0444480 | 5·9800202 | 65 | 5·0334141 | 5·9683807 | 65 | 5·0222953 | 5·9566328 |
| 66 | 5·0176184 | 5·9380872 | 66 | 5·0065845 | 5·9264762 | 66 | 4·9954657 | 5·9147572 |
| 67 | 4·9891653 | 5·8941079 | 67 | 4·9781314 | 5·8825224 | 67 | 4·9670126 | 5·8708319 |
| 68 | 4·9589272 | 5·8479399 | 68 | 4·9478933 | 5·8363799 | 68 | 4·9367745 | 5·8247161 |
| 69 | 4·9267319 | 5·7994350 | 69 | 4·9156980 | 5·7878991 | 69 | 4·9045792 | 5·7762611 |
| 70 | 4·8923973 | 5·7484356 | 70 | 4·8813634 | 5·7369231 | 70 | 4·8702446 | 5·7253094 |
| 71 | 4·8557307 | 5·6947756 | 71 | 4·8446968 | 5·6832857 | 71 | 4·8335780 | 5·6716957 |
| 72 | 4·8165291 | 5·6382799 | 72 | 4·8054952 | 5·6268117 | 72 | 4·7943764 | 5·6152446 |
| 73 | 4·7745794 | 5·5787644 | 73 | 4·7635455 | 5·5673170 | 73 | 4·7524267 | 5·5557715 |
| 74 | 4·7296578 | 5·5160353 | 74 | 4·7186239 | 5·5046079 | 74 | 4·7075051 | 5·4930833 |
| 75 | 4·6815305 | 5·4498897 | 75 | 4·6704966 | 5·4384809 | 75 | 4·6593778 | 5·4269764 |
| 76 | 4·6299531 | 5·3801133 | 76 | 4·6189192 | 5·3687232 | 76 | 4·6078004 | 5·3572373 |
| 77 | 4·5746712 | 5·3064830 | 77 | 4·5636373 | 5·2951106 | 77 | 4·5525185 | 5·2836436 |
| 78 | 4·5154198 | 5·2287647 | 78 | 4·5043859 | 5·2174094 | 78 | 4·4932671 | 5·2059599 |
| 79 | 4·4519237 | 5·1467145 | 79 | 4·4408898 | 5·1353754 | 79 | 4·4297710 | 5·1239427 |
| 80 | 4·3838973 | 5·0600771 | 80 | 4·3728634 | 5·0487537 | 80 | 4·3617446 | 5·0373369 |
| 81 | 4·3110447 | 4·9685866 | 81 | 4·3000108 | 4·9572773 | 81 | 4·2888920 | 4·9458766 |
| 82 | 4·2330596 | 4·8719651 | 82 | 4·2220257 | 4·8606709 | 82 | 4·2109069 | 4·8492843 |
| 83 | 4·1496257 | 4·7699250 | 83 | 4·1385918 | 4·7586447 | 83 | 4·1274730 | 4·7472727 |
| 84 | 4·0604159 | 4·6621664 | 84 | 4·0493820 | 4·6508998 | 84 | 4·0382632 | 4·6395413 |
| 85 | 3·9650931 | 4·5483806 | 85 | 3·9540592 | 4·5371254 | 85 | 3·9429404 | 4·5257799 |
| 86 | 3·8633097 | 4·4282432 | 86 | 3·8522758 | 4·4169996 | 86 | 3·8411570 | 4·4056663 |
| 87 | 3·7547079 | 4·3014202 | 87 | 3·7436740 | 4·2901885 | 87 | 3·7325552 | 4·2788665 |
| 88 | 3·6389195 | 4·1675666 | 88 | 3·6278856 | 4·1563456 | 88 | 3·6167668 | 4·1450350 |
| 89 | 3·5155661 | 4·0263253 | 89 | 3·5045322 | 4·0151137 | 89 | 3·4934134 | 4·0038137 |
| 90 | 3·3842586 | 3·8773241 | 90 | 3·3732247 | 3·8661237 | 90 | 3·3621059 | 3·8548330 |
| 91 | 3·2445981 | 3·7201824 | 91 | 3·2335642 | 3·7089908 | 91 | 3·2224454 | 3·6977113 |
| 92 | 3·0961750 | 3·5545037 | 92 | 3·0851411 | 3·5433204 | 92 | 3·0740223 | 3·5320495 |
| 93 | 2·9385695 | 3·3798754 | 93 | 2·9275356 | 3·3687017 | 93 | 2·9164168 | 3·3574393 |
| 94 | 2·7713514 | 3·1958709 | 94 | 2·7603175 | 3·1847045 | 94 | 2·7491987 | 3·1734511 |
| 95 | 2·5940803 | 3·0020368 | 95 | 2·5830464 | 2·9908790 | 95 | 2·5719276 | 2·9796326 |
| 96 | 2·4063054 | 2·7978898 | 96 | 2·3952715 | 2·7867393 | 96 | 2·3841527 | 2·7755019 |
| 97 | 2·2075655 | 2·5828948 | 97 | 2·1965316 | 2·5717519 | 97 | 2·1854128 | 2·5605212 |
| 98 | 1·9973892 | 2·3564257 | 98 | 1·9863553 | 2·3452906 | 98 | 1·9752365 | 2·3340680 |
| 99 | 1·7752948 | 2·1176872 | 99 | 1·7642609 | 2·1065597 | 99 | 1·7531421 | 2·0953458 |
| 100 | 1·5407900 | 1·8655398 | 100 | 1·5297561 | 1·8544202 | 100 | 1·5186373 | 1·8432153 |
| 101 | 1·2933725 | 1·5981095 | 101 | 1·2823386 | 1·5870012 | 101 | 1·2712198 | 1·5758042 |
| 102 | 1·0325295 | 1·3118534 | 102 | 1·0214956 | 1·3007563 | 102 | 1·0103768 | 1·2895734 |
| 103 | 0·7577379 | 0·9990566 | 103 | 0·7467040 | 0·9879745 | 103 | 0·7355852 | 0·9768083 |
| 104 | 0·4684643 | 0·6398449 | 104 | 0·4574304 | 0·6287771 | 104 | 0·4463116 | 0·6176293 |
| 105 | 0·1641649 | | 105 | 0·1531310 | | 105 | 0·1420122 | |
| 106 | 9·8442857 | | 106 | 9·8332518 | | 106 | 9·8221330 | |
| 107 | 9·5082623 | | 107 | 9·4972284 | | 107 | 9·4861096 | |
| 108 | 9·1555200 | | 108 | 9·1444861 | | 108 | 9·1333673 | |
| 109 | 8·7854737 | | 109 | 8·7744398 | | 109 | 8·7633210 | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female ($y$) | 33 | | | 34 | | | 35 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda D_{x,33}$ | $\lambda N_{x,33}$ | Age of Male ($x$) | $\lambda D_{x,34}$ | $\lambda N_{x,34}$ | Age of Male ($x$) | $\lambda D_{x,35}$ | $\lambda N_{x,35}$ |
| 0 | 5·9590842 | 7·0943073 | 0 | 5·9477911 | 7·0790293 | 0 | 5·9364077 | 7·0634944 |
| 1 | 5·8750820 | 7·0766066 | 1 | 5·8637889 | 7·0612723 | 1 | 5·8524055 | 7·0456777 |
| 2 | 5·8398011 | 7·0637491 | 2 | 5·8285080 | 7·0484042 | 2 | 5·8171246 | 7·0327976 |
| 3 | 5·8176878 | 7·0523507 | 3 | 5·8063947 | 7·0370104 | 3 | 5·7950113 | 7·0214073 |
| 4 | 5·8007861 | 7·0416118 | 4 | 5·7894930 | 7·0262840 | 4 | 5·7781096 | 7·0106921 |
| 5 | 5·7865587 | 7·0312339 | 5 | 5·7752656 | 7·0159233 | 5 | 5·7638822 | 7·0003482 |
| 6 | 5·7741975 | 7·0210689 | 6 | 5·7629044 | 7·0057788 | 6 | 5·7515210 | 6·9902245 |
| 7 | 5·7630540 | 7·0110124 | 7 | 5·7517609 | 6·9957461 | 7 | 5·7403775 | 6·9802149 |
| 8 | 5·7526398 | 7·0009947 | 8 | 5·7413467 | 6·9857544 | 8 | 5·7299633 | 6·9702493 |
| 9 | 5·7428924 | 6·9909723 | 9 | 5·7315993 | 6·9757606 | 9 | 5·7202159 | 6·9602832 |
| 10 | 5·7336572 | 6·9809035 | 10 | 5·7223641 | 6·9657219 | 10 | 5·7109807 | 6·9502745 |
| 11 | 5·7247927 | 6·9707532 | 11 | 5·7134996 | 6·9556030 | 11 | 5·7021162 | 6·9401872 |
| 12 | 5·7161707 | 6·9604923 | 12 | 5·7048776 | 6·9453755 | 12 | 5·6934942 | 6·9299922 |
| 13 | 5·7076762 | 6·9500984 | 13 | 5·6963831 | 6·9350160 | 13 | 5·6849997 | 6·9196670 |
| 14 | 5·6992073 | 6·9395537 | 14 | 5·6879142 | 6·9245070 | 14 | 5·6765308 | 6·9091934 |
| 15 | 5·6906755 | 6·9288451 | 15 | 5·6793824 | 6·9138359 | 15 | 5·6679990 | 6·8985592 |
| 16 | 5·6820052 | 6·9179646 | 16 | 5·6707121 | 6·9029941 | 16 | 5·6593287 | 6·8877561 |
| 17 | 5·6731344 | 6·9069081 | 17 | 5·6618413 | 6·8919779 | 17 | 5·6504579 | 6·8767795 |
| 18 | 5·6640139 | 6·8956743 | 18 | 5·6527208 | 6·8807861 | 18 | 5·6413374 | 6·8656294 |
| 19 | 5·6546081 | 6·8842652 | 19 | 5·6433150 | 6·8694211 | 19 | 5·6319316 | 6·8543076 |
| 20 | 5·6448943 | 6·8726851 | 20 | 5·6336012 | 6·8578867 | 20 | 5·6222178 | 6·8428191 |
| 21 | 5·6348631 | 6·8609398 | 21 | 5·6235700 | 6·8461894 | 21 | 5·6121866 | 6·8311696 |
| 22 | 5·6247515 | 6·8490362 | 22 | 5·6134584 | 6·8343361 | 22 | 5·6020750 | 6·8193664 |
| 23 | 5·6145622 | 6·8369665 | 23 | 5·6032691 | 6·8223192 | 23 | 5·5918857 | 6·8074019 |
| 24 | 5·6042970 | 6·8247218 | 24 | 5·5930039 | 6·8101298 | 24 | 5·5816205 | 6·7952678 |
| 25 | 5·5939569 | 6·8122930 | 25 | 5·5826638 | 6·7977586 | 25 | 5·5712804 | 6·7829543 |
| 26 | 5·5835420 | 6·7996703 | 26 | 5·5722489 | 6·7851957 | 26 | 5·5608655 | 6·7704518 |
| 27 | 5·5730516 | 6·7868430 | 27 | 5·5617585 | 6·7724304 | 27 | 5·5503751 | 6·7577491 |
| 28 | 5·5624841 | 6·7737996 | 28 | 5·5511910 | 6·7594515 | 28 | 5·5398076 | 6·7448350 |
| 29 | 5·5518373 | 6·7605281 | 29 | 5·5405442 | 6·7462463 | 29 | 5·5291608 | 6·7316973 |
| 30 | 5·5411079 | 6·7470153 | 30 | 5·5298148 | 6·7328023 | 30 | 5·5184314 | 6·7183228 |
| 31 | 5·5302919 | 6·7332484 | 31 | 5·5189988 | 6·7191056 | 31 | 5·5076154 | 6·7046981 |
| 32 | 5·5193844 | 6·7192126 | 32 | 5·5080913 | 6·7051420 | 32 | 5·4967079 | 6·6908079 |
| 33 | 5·5083797 | 6·7048933 | 33 | 5·4970866 | 6·6908962 | 33 | 5·4857032 | 6·6766378 |
| 34 | 5·4972713 | 6·6902746 | 34 | 5·4859782 | 6·6763526 | 34 | 5·4745948 | 6·6621714 |
| 35 | 5·4860518 | 6·6753407 | 35 | 5·4747587 | 6·6614947 | 35 | 5·4633753 | 6·6473919 |
| 36 | 5·4747130 | 6·6600743 | 36 | 5·4634199 | 6·6463051 | 36 | 5·4520365 | 6·6322819 |
| 37 | 5·4632458 | 6·6444575 | 37 | 5·4519527 | 6·6307657 | 37 | 5·4405693 | 6·6168232 |
| 38 | 5·4516404 | 6·6284715 | 38 | 5·4403473 | 6·6148576 | 38 | 5·4289639 | 6·6009963 |
| 39 | 5·4398860 | 6·6120968 | 39 | 5·4285929 | 6·5985610 | 39 | 5·4172095 | 6·5847813 |
| 40 | 5·4279712 | 6·5953118 | 40 | 5·4166781 | 6·5818549 | 40 | 5·4052947 | 6·5681571 |
| 41 | 5·4158835 | 6·5780962 | 41 | 5·4045904 | 6·5647167 | 41 | 5·3932070 | 6·5511015 |
| 42 | 5·4036097 | 6·5604264 | 42 | 5·3923166 | 6·5471245 | 42 | 5·3809332 | 6·5335903 |
| 43 | 5·3911357 | 6·5422786 | 43 | 5·3798426 | 6·5290532 | 43 | 5·3684592 | 6·5156004 |
| 44 | 5·3784468 | 6·5236265 | 44 | 5·3671537 | 6·5104774 | 44 | 5·3557703 | 6·4971047 |
| 45 | 5·3655271 | 6·5044437 | 45 | 5·3542340 | 6·4913688 | 45 | 5·3428506 | 6·4780761 |
| 46 | 5·3523601 | 6·4847015 | 46 | 5·3410670 | 6·4716992 | 46 | 5·3296836 | 6·4584847 |
| 47 | 5·3389284 | 6·4643678 | 47 | 5·3276353 | 6·4514379 | 47 | 5·3162519 | 6·4382994 |
| 48 | 5·3252138 | 6·4434106 | 48 | 5·3139207 | 6·4305501 | 48 | 5·3025373 | 6·4174874 |
| 49 | 5·3111972 | 6·4217926 | 49 | 5·2999041 | 6·4090010 | 49 | 5·2885207 | 6·3960111 |
| 50 | 5·2968588 | 6·3994754 | 50 | 5·2855657 | 6·3867504 | 50 | 5·2741823 | 6·3738326 |
| 51 | 5·2821778 | 6·3764171 | 51 | 5·2708847 | 6·3637560 | 51 | 5·2595013 | 6·3509079 |
| 52 | 5·2668881 | 6·3525705 | 52 | 5·2555950 | 6·3399719 | 52 | 5·2442116 | 6·3271909 |
| 53 | 5·2511536 | 6·3279065 | 53 | 5·2398605 | 6·3153682 | 53 | 5·2284771 | 6·3026526 |
| 54 | 5·2349570 | 6·3023771 | 54 | 5·2236639 | 6·2898965 | 54 | 5·2122805 | 6·2772442 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female (y) | 33 | | 34 | | | 35 | | |
|---|---|---|---|---|---|---|---|---|
| **Age of Male** (x) | λ $D_{x,\,33}$ | λ $N_{x,\,33}$ | **Age of Male** (x) | λ $D_{x,\,34}$ | λ $N_{x,\,34}$ | **Age of Male** (x) | λ $D_{x,\,35}$ | λ $N_{x,\,35}$ |
| 55 | 5·2182711 | 6·2759279 | 55 | 5·2069780 | 6·2635032 | 55 | 5·1955946 | 6·2509113 |
| 56 | 5·2010582 | 6·2485000 | 56 | 5·1897651 | 6·2361287 | 56 | 5·1783817 | 6·2235954 |
| 57 | 5·1832702 | 6·2200265 | 57 | 5·1719771 | 6·2077075 | 57 | 5·1605937 | 6·1952300 |
| 58 | 5·1648487 | 6·1904379 | 58 | 5·1535556 | 6·1781674 | 58 | 5·1421722 | 6·1657446 |
| 59 | 5·1457251 | 6·1596559 | 59 | 5·1344320 | 6·1474327 | 59 | 5·1230486 | 6·1350605 |
| 60 | 5·1258203 | 6·1275965 | 60 | 5·1145272 | 6·1154192 | 60 | 5·1031438 | 6·1030960 |
| 61 | 5·1050450 | 6·0941717 | 61 | 5·0937519 | 6·0820360 | 61 | 5·0823685 | 6·0697607 |
| 62 | 5·0832995 | 6·0592824 | 62 | 5·0720064 | 6·0471889 | 62 | 5·0606230 | 6·0349571 |
| 63 | 5·0604738 | 6·0228279 | 63 | 5·0491807 | 6·0107726 | 63 | 5·0377973 | 5·9985841 |
| 64 | 5·0364476 | 5·9846961 | 64 | 5·0251545 | 5·9726786 | 64 | 5·0137711 | 5·9605303 |
| 65 | 5·0110902 | 5·9447703 | 65 | 4·9997971 | 5·9327884 | 65 | 4·9884137 | 5·9206788 |
| 66 | 4·9842606 | 5·9029264 | 66 | 4·9729675 | 5·8909780 | 66 | 4·9615841 | 5·8789049 |
| 67 | 4·9558075 | 5·8590312 | 67 | 4·9445144 | 5·8471148 | 67 | 4·9331310 | 5·8350762 |
| 68 | 4·9255694 | 5·8129440 | 68 | 4·9142763 | 5·8010583 | 68 | 4·9028929 | 5·7890528 |
| 69 | 4·8933741 | 5·7645163 | 69 | 4·8820810 | 5·7526598 | 69 | 4·8706976 | 5·7406857 |
| 70 | 4·8590395 | 5·7135910 | 70 | 4·8477464 | 5·7017623 | 70 | 4·8363630 | 5·6898182 |
| 71 | 4·8223729 | 5·6600018 | 71 | 4·8110798 | 5·6481999 | 71 | 4·7996964 | 5·6362842 |
| 72 | 4·7831713 | 5·6035745 | 72 | 4·7718782 | 5·5917976 | 72 | 4·7604948 | 5·5799092 |
| 73 | 4·7412216 | 5·5441248 | 73 | 4·7299285 | 5·5323718 | 73 | 4·7185451 | 5·5205087 |
| 74 | 4·6963000 | 5·4814583 | 74 | 4·6850069 | 5·4697290 | 74 | 4·6736235 | 5·4578903 |
| 75 | 4·6481727 | 5·4153723 | 75 | 4·6368796 | 5·4036650 | 75 | 4·6254962 | 5·3918501 |
| 76 | 4·5965953 | 5·3456534 | 76 | 4·5853022 | 5·3339671 | 76 | 4·5739188 | 5·3221744 |
| 77 | 4·5413134 | 5·2720782 | 77 | 4·5300203 | 5·2604123 | 77 | 4·5186369 | 5·2486406 |
| 78 | 4·4820620 | 5·1944136 | 78 | 4·4707689 | 5·1827661 | 78 | 4·4593855 | 5·1710149 |
| 79 | 4·4185659 | 5·1124140 | 79 | 4·4072728 | 5·1007857 | 79 | 4·3958894 | 5·0890527 |
| 80 | 4·3505395 | 5·0258248 | 80 | 4·3392464 | 5·0142139 | 80 | 4·3278630 | 5·0025004 |
| 81 | 4·2776869 | 4·9343803 | 81 | 4·2663938 | 4·9227861 | 81 | 4·2550104 | 4·9110899 |
| 82 | 4·1997018 | 4·8378036 | 82 | 4·1884087 | 4·8262252 | 82 | 4·1770253 | 4·8145459 |
| 83 | 4·1162679 | 4·7358064 | 83 | 4·1049748 | 4·7242431 | 83 | 4·0935914 | 4·7125799 |
| 84 | 4·0270581 | 4·6280894 | 84 | 4·0157650 | 4·6165406 | 84 | 4·0043816 | 4·6048921 |
| 85 | 3·9317353 | 4·5143412 | 85 | 3·9204422 | 4·5028066 | 85 | 3·9090588 | 4·4911729 |
| 86 | 3·8299519 | 4·3942407 | 86 | 3·8186588 | 4·3827191 | 86 | 3·8072754 | 4·3710991 |
| 87 | 3·7213501 | 4·2674529 | 87 | 3·7100570 | 4·2559444 | 87 | 3·6986736 | 4·2443372 |
| 88 | 3·6055617 | 4·1336325 | 88 | 3·5942686 | 4·1221362 | 88 | 3·5828852 | 4·1105419 |
| 89 | 3·4822083 | 3·9924228 | 89 | 3·4709152 | 3·9809369 | 89 | 3·4595318 | 3·9693548 |
| 90 | 3·3509008 | 3·8434520 | 90 | 3·3396077 | 3·8319779 | 90 | 3·3282243 | 3·8204064 |
| 91 | 3·2112403 | 3·6863395 | 91 | 3·1999472 | 3·6748749 | 91 | 3·1885638 | 3·6633145 |
| 92 | 3·0628172 | 3·5206892 | 92 | 3·0515241 | 3·5092335 | 92 | 3·0401407 | 3·4976828 |
| 93 | 2·9052117 | 3·3460870 | 93 | 2·8939186 | 3·3346421 | 93 | 2·8825352 | 3·3231017 |
| 94 | 2·7379936 | 3·1621074 | 94 | 2·7267005 | 3·1506714 | 94 | 2·7153171 | 3·1391402 |
| 95 | 2·5607225 | 2·9682980 | 95 | 2·5494294 | 2·9568707 | 95 | 2·5380460 | 2·9453484 |
| 96 | 2·3729476 | 2·7641739 | 96 | 2·3616545 | 2·7527558 | 96 | 2·3502711 | 2·7412423 |
| 97 | 2·1742077 | 2·5492032 | 97 | 2·1629146 | 2·5377914 | 97 | 2·1515312 | 2·5262876 |
| 98 | 1·9640314 | 2·3227571 | 98 | 1·9527383 | 2·3113548 | 98 | 1·9413549 | 2·2998582 |
| 99 | 1·7419370 | 2·0840423 | 99 | 1·7306439 | 2·0726491 | 99 | 1·7192605 | 2·0611617 |
| 100 | 1·5074322 | 1·8319215 | 100 | 1·4961391 | 1·8205364 | 100 | 1·4847557 | 1·8090592 |
| 101 | 1·2600147 | 1·5645216 | 101 | 1·2487216 | 1·5531485 | 101 | 1·2373382 | 1·5416803 |
| 102 | 0·9991717 | 1·2783008 | 102 | 0·9878786 | 1·2669416 | 102 | 0·9764952 | 1·2554896 |
| 103 | 0·7243801 | 0·9655545 | 103 | 0·7130870 | 0·9542087 | 103 | 0·7017036 | 0·9427717 |
| 104 | 0·4351065 | 0·6064029 | 104 | 0·4238134 | 0·5950772 | 104 | 0·4124300 | 0·5836634 |
| 105 | 0·1308071 | | 105 | 0·1195140 | | 105 | 0·1081306 | |
| 106 | 9·8109279 | | 106 | 9·7996348 | | 106 | 9·7882514 | |
| 107 | 9·4749045 | | 107 | 9·4636114 | | 107 | 9·4522280 | |
| 108 | 9·1221622 | | 108 | 9·1108691 | | 108 | 9·0994857 | |
| 109 | 8·7521159 | | 109 | 8·7408228 | | 109 | 8·7294394 | |

## JOINT LIVES :—Male and Female Life.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female ($y$) | 36 | | | 37 | | | 38 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | λ $D_{x,36}$ | λ $N_{x,36}$ | Age of Male ($x$) | λ $D_{x,37}$ | λ $N_{x,37}$ | Age of Male ($x$) | λ $D_{x,33}$ | λ $N_{x,38}$ |
| 0 | 5·9249312 | 7·0476914 | 0 | 5·9133586 | 7·0316065 | 0 | 5·9016861 | 7·0152253 |
| 1 | 5·8409290 | 7·0298102 | 1 | 5·8293564 | 7·0136561 | 1 | 5·8176839 | 6·9972010 |
| 2 | 5·8056481 | 7·0169160 | 2 | 5·7940755 | 7·0007459 | 2 | 5·7824030 | 6·9842732 |
| 3 | 5·7835348 | 7·0055280 | 3 | 5·7719622 | 6·9893595 | 3 | 5·7602897 | 6·9728868 |
| 4 | 5·7666331 | 6·9948235 | 4 | 5·7550605 | 6·9786652 | 4 | 5·7433880 | 6·9622017 |
| 5 | 5·7524057 | 6·9844959 | 5 | 5·7408331 | 6·9683531 | 5 | 5·7291606 | 6·9519048 |
| 6 | 5·7400445 | 6·9743925 | 6 | 5·7284719 | 6·9582694 | 6 | 5·7167994 | 6·9418405 |
| 7 | 5·7289010 | 6·9644064 | 7 | 5·7173284 | 6·9483061 | 7 | 5·7056559 | 6·9318998 |
| 8 | 5·7184868 | 6·9544660 | 8 | 5·7069142 | 6·9383914 | 8 | 5·6952417 | 6·9220101 |
| 9 | 5·7087394 | 6·9445279 | 9 | 5·6971668 | 6·9284805 | 9 | 5·6854943 | 6·9121267 |
| 10 | 5·6995042 | 6·9345484 | 10 | 5·6879316 | 6·9185304 | 10 | 5·6762591 | 6·9022055 |
| 11 | 5·6906397 | 6·9244924 | 11 | 5·6790671 | 6·9085051 | 11 | 5·6673946 | 6·8922109 |
| 12 | 5·6820177 | 6·9143302 | 12 | 5·6704451 | 6·8983753 | 12 | 5·6587726 | 6·8821129 |
| 13 | 5·6735232 | 6·9040387 | 13 | 5·6619506 | 6·8881174 | 13 | 5·6502781 | 6·8718884 |
| 14 | 5·6650543 | 6·8936003 | 14 | 5·6534817 | 6·8777138 | 14 | 5·6418092 | 6·8615194 |
| 15 | 5·6565225 | 6·8830024 | 15 | 5·6449499 | 6·8671523 | 15 | 5·6332774 | 6·8509934 |
| 16 | 5·6478522 | 6·8722372 | 16 | 5·6362796 | 6·8564242 | 16 | 5·6246071 | 6·8403026 |
| 17 | 5·6389814 | 6·8613005 | 17 | 5·6274088 | 6·8455264 | 17 | 5·6157363 | 6·8294430 |
| 18 | 5·6298609 | 6·8501913 | 18 | 5·6182883 | 6·8344584 | 18 | 5·6066158 | 6·8184151 |
| 19 | 5·6204551 | 6·8389127 | 19 | 5·6088825 | 6·8232220 | 19 | 5·5972100 | 6·8072211 |
| 20 | 5·6107413 | 6·8274692 | 20 | 5·5991687 | 6·8118232 | 20 | 5·5874962 | 6·7958661 |
| 21 | 5·6007101 | 6·8158673 | 21 | 5·5891375 | 6·8002681 | 21 | 5·5774650 | 6·7843576 |
| 22 | 5·5905985 | 6·8041141 | 22 | 5·5790259 | 6·7885644 | 22 | 5·5673534 | 6·7727028 |
| 23 | 5·5804092 | 6·7922017 | 23 | 5·5688366 | 6·7767045 | 23 | 5·5571641 | 6·7608945 |
| 24 | 5·5701440 | 6·7801225 | 24 | 5·5585714 | 6·7646798 | 24 | 5·5468989 | 6·7489245 |
| 25 | 5·5598039 | 6·7678668 | 25 | 5·5482313 | 6·7524815 | 25 | 5·5365588 | 6·7367832 |
| 26 | 5·5493890 | 6·7554246 | 26 | 5·5378164 | 6·7400996 | 26 | 5·5261439 | 6·7244615 |
| 27 | 5·5388986 | 6·7427850 | 27 | 5·5273260 | 6·7275233 | 27 | 5·5156535 | 6·7119483 |
| 28 | 5·5283311 | 6·7299364 | 28 | 5·5167585 | 6·7147407 | 28 | 5·5050860 | 6·6992318 |
| 29 | 5·5176843 | 6·7168668 | 29 | 5·5061117 | 6·7017396 | 29 | 5·4944392 | 6·6862998 |
| 30 | 5·5069549 | 6·7035628 | 30 | 5·4953823 | 6·6885068 | 30 | 5·4837098 | 6·6731388 |
| 31 | 5·4961389 | 6·6900107 | 31 | 5·4845663 | 6·6750286 | 31 | 5·4728938 | 6·6597352 |
| 32 | 5·4852314 | 6·6761961 | 32 | 5·4736588 | 6·6612901 | 32 | 5·4619863 | 6·6460739 |
| 33 | 5·4742267 | 6·6621029 | 33 | 5·4626541 | 6·6472760 | 33 | 5·4509816 | 6·6321395 |
| 34 | 5·4631183 | 6·6477157 | 34 | 5·4515457 | 6·6329694 | 34 | 5·4398732 | 6·6179157 |
| 35 | 5·4518988 | 6·6330169 | 35 | 5·4403262 | 6·6183538 | 35 | 5·4286537 | 6·6033846 |
| 36 | 5·4405600 | 6·6179893 | 36 | 5·4289874 | 6·6034106 | 36 | 5·4173149 | 6·5885285 |
| 37 | 5·4290928 | 6·6026139 | 37 | 5·4175202 | 6·5881215 | 37 | 5·4058477 | 6·5733279 |
| 38 | 5·4174874 | 6·5868715 | 38 | 5·4059148 | 6·5724666 | 38 | 5·3942423 | 6·5577635 |
| 39 | 5·4057330 | 6·5707418 | 39 | 5·3941604 | 6·5564253 | 39 | 5·3824879 | 6·5418138 |
| 40 | 5·3938182 | 6·5542031 | 40 | 5·3822456 | 6·5399761 | 40 | 5·3705731 | 6·5254574 |
| 41 | 5·3817305 | 6·5372333 | 41 | 5·3701579 | 6·5230959 | 41 | 5·3584854 | 6·5086711 |
| 42 | 5·3694567 | 6·5198089 | 42 | 5·3578841 | 6·5057615 | 42 | 5·3462116 | 6·4914307 |
| 43 | 5·3569827 | 6·5019038 | 43 | 5·3454101 | 6·4879474 | 43 | 5·3337376 | 6·4727112 |
| 44 | 5·3442938 | 6·4834934 | 44 | 5·3327212 | 6·4696262 | 44 | 5·3210487 | 6·4554852 |
| 45 | 5·3313741 | 6·4645492 | 45 | 5·3198015 | 6·4507712 | 45 | 5·3081290 | 6·4367239 |
| 46 | 5·3182071 | 6·4450413 | 46 | 5·3066345 | 6·4313519 | 46 | 5·2949620 | 6·4173983 |
| 47 | 5·3047754 | 6·4249381 | 47 | 5·2932028 | 6·4113363 | 47 | 5·2815303 | 6·3974756 |
| 48 | 5·2910608 | 6·4042059 | 48 | 5·2794882 | 6·3906904 | 48 | 5·2678157 | 6·3769215 |
| 49 | 5·2770442 | 6·3828092 | 49 | 5·2654716 | 6·3693773 | 49 | 5·2537991 | 6·3556990 |
| 50 | 5·2627058 | 6·3607070 | 50 | 5·2511332 | 6·3473585 | 50 | 5·2394607 | 6·3337682 |
| 51 | 5·2480248 | 6·3378578 | 51 | 5·2364522 | 6·3245896 | 51 | 5·2247797 | 6·3110866 |
| 52 | 5·2327351 | 6·3142139 | 52 | 5·2211625 | 6·3010248 | 52 | 5·2094900 | 6·2876063 |
| 53 | 5·2170006 | 6·2897459 | 53 | 5·2054280 | 6·2766336 | 53 | 5·1937555 | 6·2632980 |
| 54 | 5·2008040 | 6·2644060 | 54 | 5·1892314 | 6·2513675 | 54 | 5·1775589 | 6·2381127 |

## JOINT LIVES :—Male and Female Life.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female (y) | 36 | | 37 | | | 38 | | |
|---|---|---|---|---|---|---|---|---|
| **Age of Male** (x) | λ $D_{x,\,36}$ | λ $N_{x,\,36}$ | **Age of Male** (x) | λ $D_{x,\,37}$ | λ $N_{x,\,37}$ | **Age of Male** (x) | λ $D_{x,\,38}$ | λ $N_{x,\,38}$ |
| 55 | 5·1841181 | 6·2381398 | 55 | 5·1725455 | 6·2251730 | 55 | 5·1608730 | 6·2119958 |
| 56 | 5·1669052 | 6·2108867 | 56 | 5·1553326 | 6·1979901 | 56 | 5·1436601 | 6·1848882 |
| 57 | 5·1491172 | 6·1825830 | 57 | 5·1375446 | 6·1697520 | 57 | 5·1258721 | 6·1567235 |
| 58 | 5·1306957 | 6·1531559 | 58 | 5·1191231 | 6·1403896 | 58 | 5·1074506 | 6·1274301 |
| 59 | 5·1115721 | 6·1225288 | 59 | 5·0999995 | 6·1098234 | 59 | 5·0883270 | 6·0969320 |
| 60 | 5·0916673 | 6·0906174 | 60 | 5·0800947 | 6·0779719 | 60 | 5·0684222 | 6·0651442 |
| 61 | 5·0708920 | 6·0573332 | 61 | 5·0593194 | 6·0447431 | 61 | 5·0476469 | 6·0319777 |
| 62 | 5·0491465 | 6·0225794 | 62 | 5·0375739 | 6·0100430 | 62 | 5·0259014 | 5·9973353 |
| 63 | 5·0263208 | 5·9862521 | 63 | 5·0147482 | 5·9737668 | 63 | 5·0030757 | 5·9611158 |
| 64 | 5·0022946 | 5·9482428 | 64 | 4·9907220 | 5·9358055 | 64 | 4·9790495 | 5·9232077 |
| 65 | 4·9769372 | 5·9084330 | 65 | 4·9653646 | 5·8960419 | 65 | 4·9536921 | 5·8834945 |
| 66 | 4·9501076 | 5·8666992 | 66 | 4·9385350 | 5·8543515 | 66 | 4·9268625 | 5·8418518 |
| 67 | 4·9216545 | 5·8229083 | 67 | 4·9100819 | 5·8106022 | 67 | 4·8984094 | 5·7981475 |
| 68 | 4·8914164 | 5·7769207 | 68 | 4·8798438 | 5·7646535 | 68 | 4·8681713 | 5·7522419 |
| 69 | 4·8592211 | 5·7285875 | 69 | 4·8476485 | 5·7163573 | 69 | 4·8359760 | 5·7039860 |
| 70 | 4·8248865 | 5·6777521 | 70 | 4·8133139 | 5·6655568 | 70 | 4·8016414 | 5·6532238 |
| 71 | 4·7882199 | 5·6242487 | 71 | 4·7766473 | 5·6120865 | 71 | 4·7649748 | 5·5997895 |
| 72 | 4·7490183 | 5·5679027 | 72 | 4·7374457 | 5·5557719 | 72 | 4·7257732 | 5·5435088 |
| 73 | 4·7070686 | 5·5085301 | 73 | 4·6954960 | 5·4964287 | 73 | 4·6838235 | 5·4841982 |
| 74 | 4·6621470 | 5·4459372 | 74 | 4·6505744 | 5·4338645 | 74 | 4·6389019 | 5·4216639 |
| 75 | 4·6140197 | 5·3799218 | 75 | 4·6024471 | 5·3678751 | 75 | 4·5907746 | 5·3557037 |
| 76 | 4·5624423 | 5·3102703 | 76 | 4·5508697 | 5·2982488 | 76 | 4·5391972 | 5·2861038 |
| 77 | 4·5071604 | 5·2367589 | 77 | 4·4955878 | 5·2247617 | 77 | 4·4839153 | 5·2126424 |
| 78 | 4·4479090 | 5·1591546 | 78 | 4·4363364 | 5·1471800 | 78 | 4·4246639 | 5·1350855 |
| 79 | 4·3844129 | 5·0772131 | 79 | 4·3728403 | 5·0652600 | 79 | 4·3611678 | 5·0531884 |
| 80 | 4·3163865 | 4·9906788 | 80 | 4·3048139 | 4·9787469 | 80 | 4·2931414 | 4·9666968 |
| 81 | 4·2435339 | 4·8992880 | 81 | 4·2319613 | 4·8873742 | 81 | 4·2202888 | 4·8753455 |
| 82 | 4·1655488 | 4·8027614 | 82 | 4·1539762 | 4·7908669 | 82 | 4·1423037 | 4·7788564 |
| 83 | 4·0821149 | 4·7008119 | 83 | 4·0705423 | 4·6889348 | 83 | 4·0588698 | 4·6769440 |
| 84 | 3·9929051 | 4·5931404 | 84 | 3·9813325 | 4·5812800 | 84 | 3·9696600 | 4·5693065 |
| 85 | 3·8975823 | 4·4794360 | 85 | 3·8860097 | 4·4675916 | 85 | 3·8743372 | 4·4556349 |
| 86 | 3·7957989 | 4·3593767 | 86 | 3·7842263 | 4·3475475 | 86 | 3·7725538 | 4·3356065 |
| 87 | 3·6871971 | 4·2326285 | 87 | 3·6756245 | 4·2208137 | 87 | 3·6639520 | 4·2088877 |
| 88 | 3·5714087 | 4·0988459 | 88 | 3·5598361 | 4·0870446 | 88 | 3·5481636 | 4·0751333 |
| 89 | 3·4480553 | 3·9576714 | 89 | 3·4364827 | 3·9458830 | 89 | 3·4248102 | 3·9339851 |
| 90 | 3·3167478 | 3·8087355 | 90 | 3·3051752 | 3·7969592 | 90 | 3·2935027 | 3·7850742 |
| 91 | 3·1770873 | 3·6516540 | 91 | 3·1655147 | 3·6398907 | 91 | 3·1538422 | 3·6280178 |
| 92 | 3·0286642 | 3·4860336 | 92 | 3·0170916 | 3·4742804 | 92 | 3·0054191 | 3·4624205 |
| 93 | 2·8710587 | 3·3114620 | 93 | 2·8594861 | 3·2997196 | 93 | 2·8478136 | 3·2878696 |
| 94 | 2·7038406 | 3·1275104 | 94 | 2·6922680 | 3·1157779 | 94 | 2·6805955 | 3·1039388 |
| 95 | 2·5265695 | 2·9337277 | 95 | 2·5149969 | 2·9220052 | 95 | 2·5033244 | 2·9101760 |
| 96 | 2·3387946 | 2·7296313 | 96 | 2·3272220 | 2·7179175 | 96 | 2·3155495 | 2·7060988 |
| 97 | 2·1400547 | 2·5146845 | 97 | 2·1284821 | 2·5029813 | 97 | 2·1168096 | 2·4911711 |
| 98 | 1·9298784 | 2·2882646 | 98 | 1·9183058 | 2·2765700 | 98 | 1·9066333 | 2·2647706 |
| 99 | 1·7077840 | 2·0495769 | 99 | 1·6962114 | 2·0378921 | 99 | 1·6845389 | 2·0261025 |
| 100 | 1·4732792 | 1·7974850 | 100 | 1·4617066 | 1·7858102 | 100 | 1·4500341 | 1·7740314 |
| 101 | 1·2258617 | 1·5301190 | 101 | 1·2142891 | 1·5184560 | 101 | 1·2026166 | 1·5066890 |
| 102 | 0·9650187 | 1·2439379 | 102 | 0·9534461 | 1·2322920 | 102 | 0·9417736 | 1·2205396 |
| 103 | 0·6902271 | 0·9312442 | 103 | 0·6786545 | 0·9196115 | 103 | 0·6669820 | 0·9078841 |
| 104 | 0·4009535 | 0·5721511 | 104 | 0·3893809 | 0·5605522 | 104 | 0·3777084 | 0·5488437 |
| 105 | 0·0966541 | | 105 | 0·0850815 | | 105 | 0·0734090 | |
| 106 | 9·7767749 | | 106 | 9·7652023 | | 106 | 9·7535298 | |
| 107 | 9·4407515 | | 107 | 9·4291789 | | 107 | 9·4175064 | |
| 108 | 9·0880092 | | 108 | 9·0764366 | | 108 | 9·0647641 | |
| 109 | 8·7179629 | | 109 | 8·7063903 | | 109 | 8·6947178 | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| **Age** of **Female** ($y$) | 39 | | | 40 | | | 41 | |
|---|---|---|---|---|---|---|---|---|
| **Age** of **Male** ($x$) | λ $D_{x,\,39}$ | λ $N_{x,\,39}$ | **Age** of **Male** ($x$) | λ $D_{x,\,40}$ | λ $N_{x,\,40}$ | **Age** of **Male** ($x$) | λ $D_{x,\,41}$ | λ $N_{x,\,41}$ |
| 0 | 5·8899096 | 6·9985328 | 0 | 5·8780246 | 6·9815125 | 0 | 5·8660259 | 6·9641465 |
| 1 | 5·8059074 | 6·9804294 | 1 | 5·7940224 | 6·9633243 | 1 | 5·7820237 | 6·9458675 |
| 2 | 5·7706265 | 6·9674815 | 2 | 5·7587415 | 6·9503538 | 2 | 5·7467428 | 6·9328721 |
| 3 | 5·7485132 | 6·9560941 | 3 | 5·7366282 | 6·9389641 | 3 | 5·7246295 | 6·9214784 |
| 4 | 5·7316115 | 6·9454174 | 4 | 5·7197265 | 6·9282950 | 4 | 5·7077278 | 6·9108161 |
| 5 | 5·7173841 | 6·9351351 | 5 | 5·7054991 | 6·9180269 | 5 | 5·6935004 | 6·9005612 |
| 6 | 5·7050229 | 6·9250898 | 6 | 5·6931379 | 6·9080000 | 6 | 5·6811392 | 6·8905529 |
| 7 | 5·6938794 | 6·9151713 | 7 | 5·6819944 | 6·8981038 | 7 | 5·6699957 | 6·8806781 |
| 8 | 5·6834652 | 6·9053066 | 8 | 5·6715802 | 6·8882635 | 8 | 5·6595815 | 6·8708626 |
| 9 | 5·6737178 | 6·8954502 | 9 | 5·6618328 | 6·8784340 | 9 | 5·6498341 | 6·8610596 |
| 10 | 5·6644826 | 6·8855581 | 10 | 5·6525976 | 6·8685706 | 10 | 5·6405989 | 6 8512248 |
| 11 | 5·6556181 | 6·8755936 | 11 | 5·6437331 | 6·8586365 | 11 | 5·6317344 | 6 8413208 |
| 12 | 5·6469961 | 6·8655274 | 12 | 5·6351111 | 6·8486017 | 12 | 5·6231124 | 6·8313173 |
| 13 | 5·6385016 | 6·8553358 | 13 | 5·6266166 | 6·8384426 | 13 | 5·6146179 | 6·8211905 |
| 14 | 5·6300327 | 6·8450011 | 14 | 5·6181477 | 6·8281416 | 14 | 5·6061490 | 6·8109228 |
| 15 | 5·6215009 | 6·8345104 | 15 | 5·6096159 | 6·8176859 | 15 | 5·5976172 | 6·8005016 |
| 16 | 5·6128306 | 6·8238561 | 16 | 5·6009456 | 6·8070678 | 16 | 5·5889469 | 6·7899194 |
| 17 | 5·6039598 | 6·8130347 | 17 | 5·5920748 | 6·7962839 | 17 | 5·5800761 | 6·7791723 |
| 18 | 5·5948393 | 6·8020460 | 18 | 5·5829543 | 6·7853342 | 18 | 5·5709556 | 6·7682610 |
| 19 | 5·5854335 | 6·7908935 | 19 | 5·5735485 | 6·7742223 | 19 | 5·5615498 | 6·7571893 |
| 20 | 5·5757197 | 6·7795824 | 20 | 5·5638347 | 6·7629540 | 20 | 5·5518360 | 6·7459628 |
| 21 | 5·5656885 | 6·7681193 | 21 | 5·5538035 | 6·7515364 | 21 | 5·5418048 | 6·7345897 |
| 22 | 5·5555769 | 6·7565131 | 22 | 5·5436919 | 6·7399777 | 22 | 5·5316932 | 6·7230786 |
| 23 | 5·5453876 | 6·7447559 | 23 | 5·5335026 | 6·7282712 | 23 | 5·5215039 | 6·7114216 |
| 24 | 5·5351224 | 6·7328398 | 24 | 5·5232374 | 6·7164085 | 24 | 5·5112387 | 6·6996118 |
| 25 | 5·5247823 | 6·7207557 | 25 | 5·5128973 | 6·7043809 | 25 | 5·5008986 | 6·6876401 |
| 26 | 5·5143674 | 6·7084936 | 26 | 5·5024824 | 6·6921784 | 26 | 5·4904837 | 6·6754965 |
| 27 | 5·5038770 | 6·6960432 | 27 | 5·4919920 | 6·6797904 | 27 | 5·4799933 | 6·6631708 |
| 28 | 5·4933095 | 6·6833927 | 28 | 5·4814245 | 6·6672058 | 28 | 5·4694258 | 6·6506514 |
| 29 | 5·4826627 | 6·6705299 | 29 | 5·4707777 | 6·6544119 | 29 | 5·4587790 | 6·6379265 |
| 30 | 5·4719333 | 6·6574412 | 30 | 5·4600483 | 6·6413958 | 30 | 5·4480496 | 6·6249825 |
| 31 | 5·4611173 | 6·6441128 | 31 | 5·4492323 | 6·6281428 | 31 | 5·4372336 | 6·6118055 |
| 32 | 5·4502098 | 6·6305297 | 32 | 5·4383248 | 6·6146385 | 32 | 5·4263261 | 6·5983802 |
| 33 | 5·4392051 | 6·6166763 | 33 | 5·4273201 | 6·6008670 | 33 | 5·4153214 | 6·5846912 |
| 34 | 5·4280967 | 6·6025360 | 34 | 5·4162117 | 6·5868115 | 34 | 5·4042130 | 6·5707214 |
| 35 | 5·4168772 | 6·5880915 | 35 | 5·4049922 | 6·5724546 | 35 | 5·3929935 | 6·5564534 |
| 36 | 5·4055384 | 6·5733239 | 36 | 5·3936534 | 6·5577779 | 36 | 5·3816546 | 6·5418684 |
| 37 | 5·3940712 | 6·5582147 | 37 | 5·3821862 | 6·5427614 | 37 | 5·3701875 | 6·5269471 |
| 38 | 5·3824658 | 6·5427431 | 38 | 5·3705808 | 6·5273854 | 38 | 5·3585821 | 6·5116685 |
| 39 | 5·3707114 | 6·5268884 | 39 | 5·3588264 | 6·5116279 | 39 | 5·3468277 | 6·4960111 |
| 40 | 5·3587966 | 6·5106279 | 40 | 5·3469116 | 6·4954673 | 40 | 5·3349129 | 6·4799523 |
| 41 | 5·3467089 | 6·4939391 | 41 | 5·3348239 | 6·4788789 | 41 | 5·3228251 | 6·4634687 |
| 42 | 5·3344351 | 6·4767971 | 42 | 5·3225501 | 6·4618390 | 42 | 5·3105513 | 6·4465344 |
| 43 | 5·3219611 | 6·4591761 | 43 | 5·3100761 | 6·4443212 | 43 | 5·2980774 | 6·4291238 |
| 44 | 5·3092722 | 6·4410494 | 44 | 5·2973872 | 6·4262982 | 44 | 5·2853885 | 6·4112088 |
| 45 | 5·2963525 | 6·4223879 | 45 | 5·2844675 | 6·4077409 | 45 | 5·2724688 | 6·3927605 |
| 46 | 5·2831855 | 6·4031607 | 46 | 5·2713005 | 6·3886184 | 46 | 5·2593018 | 6·3737474 |
| 47 | 5·2697538 | 6·3833365 | 47 | 5·2578688 | 6·3688974 | 47 | 5·2458701 | 6·3541364 |
| 48 | 5·2560392 | 6·3628798 | 48 | 5·2441542 | 6·3485444 | 48 | 5·2321555 | 6·3338916 |
| 49 | 5·2420226 | 6·3417538 | 49 | 5·2301376 | 6·3275206 | 49 | 5·2181389 | 6·3129767 |
| 50 | 5·2276842 | 6·3199180 | 50 | 5·2157992 | 6·3057861 | 50 | 5·2038005 | 6·2913495 |
| 51 | 5·2130032 | 6·2973291 | 51 | 5·2011182 | 6·2832969 | 51 | 5·1891195 | 6·2689667 |
| 52 | 5·1977135 | 6·2739403 | 52 | 5·1858285 | 6·2600053 | 52 | 5·1738298 | 6·2457798 |
| 53 | 5·1819790 | 6·2497207 | 53 | 5·1700940 | 6·2358821 | 53 | 5·1580953 | 6·2217589 |
| 54 | 5·1657824 | 6·2246224 | 54 | 5·1538974 | 6·2108772 | 54 | 5·1418987 | 6·1968551 |

## JOINT LIVES :—Male and Female Life.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 39 | | | 40 | | | 41 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda\ D_{x,\,39}$ | $\lambda\ N_{x,\,39}$ | Age of Male ($x$) | $\lambda\ D_{x,\,40}$ | $\lambda\ N_{x,\,40}$ | Age of Male ($x$) | $\lambda\ D_{x,\,41}$ | $\lambda\ N_{x,\,41}$ |
| 55 | 5·1490965 | 6·1985903 | 55 | 5·1372115 | 6·1849366 | 55 | 5·1252128 | 6·1710129 |
| 56 | 5·1318836 | 6·1715641 | 56 | 5·1199986 | 6·1579995 | 56 | 5·1079999 | 6·1441721 |
| 57 | 5·1140956 | 6·1434789 | 57 | 5·1022106 | 6·1299997 | 57 | 5·0902119 | 6·1162663 |
| 58 | 5·0956741 | 6·1142626 | 58 | 5·0837891 | 6·1008666 | 58 | 5·0717904 | 6·0872229 |
| 59 | 5·0765505 | 6·0838369 | 59 | 5·0646655 | 6·0705222 | 59 | 5·0526668 | 6·0569658 |
| 60 | 5·0566457 | 6·0521201 | 60 | 5·0447607 | 6·0388816 | 60 | 5·0327620 | 6·0254109 |
| 61 | 5·0358704 | 6·0190208 | 61 | 5·0239854 | 6·0058568 | 61 | 5·0119867 | 5·9924660 |
| 62 | 5·0141249 | 5·9844436 | 62 | 5·0022399 | 5·9713501 | 62 | 4·9902412 | 5·9580374 |
| 63 | 4·9912992 | 5·9482850 | 63 | 4·9794142 | 5·9352593 | 63 | 4·9674155 | 5·9220210 |
| 64 | 4·9672730 | 5·9104355 | 64 | 4·9553880 | 5·8974742 | 64 | 4·9433893 | 5·8843067 |
| 65 | 4·9419156 | 5·8707779 | 65 | 4·9300306 | 5·8578778 | 65 | 4·9180319 | 5·8447779 |
| 66 | 4·9150860 | 5·8291879 | 66 | 4·9032010 | 5·8163461 | 66 | 4·8912023 | 5·8033101 |
| 67 | 4·8866329 | 5·7855334 | 67 | 4·8747479 | 5·7727466 | 67 | 4·8627492 | 5·7597717 |
| 68 | 4·8563948 | 5·7396746 | 68 | 4·8445098 | 5·7269397 | 68 | 4·8325111 | 5·7140223 |
| 69 | 4·8241995 | 5·6914637 | 69 | 4·8123145 | 5·6787774 | 69 | 4·8003158 | 5·6659145 |
| 70 | 4·7898649 | 5·6407432 | 70 | 4·7779799 | 5·6281036 | 70 | 4·7659812 | 5·6152915 |
| 71 | 4·7531983 | 5·5873482 | 71 | 4·7413133 | 5·5747523 | 71 | 4·7293146 | 5·5619889 |
| 72 | 4·7139967 | 5·5311049 | 72 | 4·7021117 | 5·5185496 | 72 | 4·6901130 | 5·5058315 |
| 73 | 4·6720470 | 5·4718293 | 73 | 4·6601620 | 5·4593126 | 73 | 4·6481633 | 5·4466368 |
| 74 | 4·6271254 | 5·4093282 | 74 | 4·6152404 | 5·3968479 | 74 | 4·6032417 | 5·3842120 |
| 75 | 4·5789981 | 5·3433990 | 75 | 4·5671131 | 5·3309529 | 75 | 4·5551144 | 5·3183546 |
| 76 | 4·5274207 | 5·2738290 | 76 | 4·5155357 | 5·2614146 | 76 | 4·5035370 | 5·2488518 |
| 77 | 4·4721388 | 5·2003946 | 77 | 4·4602538 | 5·1880108 | 77 | 4·4482551 | 5·1754808 |
| 78 | 4·4128874 | 5·1228637 | 78 | 4·4010024 | 5·1105076 | 78 | 4·3890037 | 5·0980089 |
| 79 | 4·3493913 | 5·0409918 | 79 | 4·3375063 | 5·0286623 | 79 | 4·3255076 | 5·0161919 |
| 80 | 4·2813649 | 4·9545233 | 80 | 4·2694799 | 4·9422194 | 80 | 4·2574812 | 4·9297764 |
| 81 | 4·2085123 | 4·8631938 | 81 | 4·1966273 | 4·8509132 | 81 | 4·1846286 | 4·8384965 |
| 82 | 4·1305272 | 4·7667266 | 82 | 4·1186422 | 4·7544684 | 82 | 4·1066435 | 4·7420752 |
| 83 | 4·0470933 | 4·6648318 | 83 | 4·0352083 | 4·6525963 | 83 | 4·0232096 | 4·6402260 |
| 84 | 3·9578835 | 4·5572142 | 84 | 3·9459985 | 4·5449970 | 84 | 3·9339998 | 4·5326480 |
| 85 | 3·8625607 | 4·4435602 | 85 | 3·8506757 | 4·4313619 | 85 | 3·8386770 | 4·4190329 |
| 86 | 3·7607773 | 4·3235487 | 86 | 3·7488923 | 4·3113682 | 86 | 3·7368936 | 4·2990582 |
| 87 | 3·6521755 | 4·1968460 | 87 | 3·6402905 | 4·1846820 | 87 | 3·6282918 | 4·1723901 |
| 88 | 3·5363871 | 4·0631063 | 88 | 3·5245021 | 4·0509587 | 88 | 3·5125034 | 4·0386834 |
| 89 | 3·4130337 | 3·9219729 | 89 | 3·4011487 | 3·9098399 | 89 | 3·3891500 | 3·8975809 |
| 90 | 3·2817262 | 3·7730752 | 90 | 3·2698412 | 3·7609575 | 90 | 3·2578425 | 3·7487128 |
| 91 | 3·1420657 | 3·6160321 | 91 | 3·1301807 | 3·6039267 | 91 | 3·1181820 | 3·5916978 |
| 92 | 2·9936426 | 3·4504461 | 92 | 2·9817576 | 3·4383543 | 92 | 2·9697589 | 3·4261380 |
| 93 | 2·8360371 | 3·2759077 | 93 | 2·8241521 | 3·2638280 | 93 | 2·8121534 | 3·2516251 |
| 94 | 2·6688190 | 3·0919875 | 94 | 2·6569340 | 3·0799200 | 94 | 2·6449353 | 3·0677295 |
| 95 | 2·4915479 | 2·8982358 | 95 | 2·4796629 | 2·8861787 | 95 | 2·4676642 | 2·8740003 |
| 96 | 2·3037730 | 2·6941681 | 96 | 2·2918880 | 2·6821225 | 96 | 2·2798893 | 2·6699544 |
| 97 | 2·1050331 | 2·4792513 | 97 | 2·0931481 | 2·4672158 | 97 | 2·0811494 | 2·4550596 |
| 98 | 1·8948568 | 2·2528610 | 98 | 1·8829718 | 2·2408367 | 98 | 1·8709731 | 2·2286913 |
| 99 | 1·6727624 | 2·0142037 | 99 | 1·6608774 | 2·0021904 | 99 | 1·6488787 | 1·9900572 |
| 100 | 1·4382576 | 1·7621435 | 100 | 1·4263726 | 1·7501426 | 100 | 1·4143739 | 1·7380215 |
| 101 | 1·1908401 | 1·4948153 | 101 | 1·1789551 | 1·4828264 | 101 | 1·1669564 | 1·4707206 |
| 102 | 0·9299971 | 1·2086805 | 102 | 0·9181121 | 1·1967094 | 102 | 0·9061134 | 1·1846205 |
| 103 | 0·6552055 | 0·8960409 | 103 | 0·6433205 | 0·8840927 | 103 | 0·6313218 | 0·8720222 |
| 104 | 0·3659319 | 0·5370379 | 104 | 0·3540469 | 0·5251096 | 104 | 0·3420482 | 0·5130710 |
| 105 | 0·0616325 | | 105 | 0·0497475 | | 105 | 0·0377488 | |
| 106 | 9·7417533 | | 106 | 9·7298683 | | 106 | 9·7178696 | |
| 107 | 9·4057299 | | 107 | 9·3938449 | | 107 | 9·3818462 | |
| 108 | 9·0529876 | | 108 | 9·0411026 | | 108 | 9·0291039 | |
| 109 | 8·6829413 | | 109 | 8·6710563 | | 109 | 8·6590576 | |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\ y}$ and $N_{x,\ y}$.

| **Age** of **Female** (*y*) | 42 | | 43 | | | 44 | | |
|---|---|---|---|---|---|---|---|---|
| **Age** of **Male** (*x*) | λ $D_{x,\ 42}$ | λ $N_{x,\ 42}$ | **Age** of **Male** (*x*) | λ $D_{x,\ 43}$ | λ $N_{x,\ 43}$ | **Age** of **Male** (*x*) | λ $D_{x,\ 44}$ | λ $N_{x,\ 44}$ |
| 0 | 5·8539080 | 6·9464160 | 0 | 5·8416649 | 6·9283003 | 0 | 5·8292902 | 6·9097766 |
| 1 | 5·7699058 | 6·9280395 | 1 | 5·7576627 | 6·9098188 | 1 | 5·7452880 | 6·8911830 |
| 2 | 5·7346249 | 6·9150161 | 2 | 5·7223818 | 6·8967647 | 2 | 5·7100071 | 6·8780945 |
| 3 | 5·7125116 | 6·9036170 | 3 | 5·7002685 | 6·8853585 | 3 | 5·6878938 | 6·8666793 |
| 4 | 5·6956099 | 6·8929605 | 4 | 5·6833668 | 6·8747067 | 4 | 5·6709921 | 6·8560309 |
| 5 | 5·6813825 | 6·8827185 | 5 | 5·6691394 | 6·8644768 | 5 | 5·6567647 | 6·8458123 |
| 6 | 5·6690213 | 6·8727279 | 6 | 5·6567782 | 6·8545036 | 6 | 5·6444035 | 6·8358561 |
| 7 | 5·6578778 | 6·8628747 | 7 | 5·6456347 | 6·8446716 | 7 | 5·6332600 | 6·8260452 |
| 8 | 5·6474636 | 6·8530834 | 8 | 5·6352205 | 6·8349044 | 8 | 5·6228458 | 6·8163020 |
| 9 | 5·6377162 | 6·8433072 | 9 | 5·6254731 | 6·8251546 | 9 | 5·6130984 | 6·8065785 |
| 10 | 5·6284810 | 6·8335005 | 10 | 5·6162379 | 6·8153763 | 10 | 5·6038632 | 6·7968282 |
| 11 | 5·6196165 | 6·8236264 | 11 | 5·6073734 | 6·8055316 | 11 | 5·5949987 | 6·7870135 |
| 12 | 5·6109945 | 6·8136540 | 12 | 5·5987514 | 6·7955903 | 12 | 5·5863767 | 6·7771026 |
| 13 | 5·6025000 | 6·8035594 | 13 | 5·5902569 | 6·7855278 | 13 | 5·5778822 | 6·7670718 |
| 14 | 5·5940311 | 6·7933248 | 14 | 5·5817880 | 6·7753260 | 14 | 5·5694133 | 6·7569027 |
| 15 | 5·5854993 | 6·7829376 | 15 | 5·5732562 | 6·7649724 | 15 | 5·5608815 | 6·7465825 |
| 16 | 5·5768290 | 6·7723904 | 16 | 5·5645859 | 6·7544598 | 16 | 5·5522112 | 6·7361041 |
| 17 | 5·5679582 | 6·7616800 | 17 | 5·5557151 | 6·7437851 | 17 | 5·5433404 | 6·7254645 |
| 18 | 5·5588377 | 6·7508065 | 18 | 5·5465946 | 6·7329490 | 18 | 5·5342199 | 6·7146650 |
| 19 | 5·5494319 | 6·7397743 | 19 | 5·5371888 | 6·7219555 | 19 | 5·5248141 | 6·7037098 |
| 20 | 5·5397181 | 6·7285893 | 20 | 5·5274750 | 6·7108112 | 20 | 5·5151003 | 6·6926054 |
| 21 | 5·5296869 | 6·7172596 | 21 | 5·5174438 | 6·6995246 | 21 | 5·5050691 | 6·6813608 |
| 22 | 5·5195753 | 6·7057948 | 22 | 5·5073322 | 6·6881050 | 22 | 5·4949575 | 6·6699861 |
| 23 | 5·5093860 | 6·6941875 | 23 | 5·4971429 | 6·6765461 | 23 | 5·4847682 | 6·6584743 |
| 24 | 5·4991208 | 6·6824293 | 24 | 5·4868777 | 6·6648397 | 24 | 5·4745030 | 6·6468184 |
| 25 | 5·4887807 | 6·6705128 | 25 | 5·4765376 | 6·6529771 | 25 | 5·4641629 | 6·6350098 |
| 26 | 5·4783658 | 6·6584276 | 26 | 5·4661227 | 6·6409497 | 26 | 5·4537480 | 6·6230387 |
| 27 | 5·4678754 | 6·6461636 | 27 | 5·4556323 | 6·6287465 | 27 | 5·4432576 | 6·6108960 |
| 28 | 5·4573079 | 6·6337094 | 28 | 5·4450648 | 6·6163569 | 28 | 5·4326901 | 6·5985699 |
| 29 | 5·4466611 | 6·6210526 | 29 | 5·4344180 | 6·6037683 | 29 | 5·4220433 | 6·5860487 |
| 30 | 5·4359317 | 6·6081808 | 30 | 5·4236886 | 6·5909677 | 30 | 5·4113139 | 6·5733194 |
| 31 | 5·4251157 | 6·5950794 | 31 | 5·4128726 | 6·5779418 | 31 | 5·4004979 | 6·5603682 |
| 32 | 5·4142082 | 6·5817336 | 32 | 5·4019651 | 6·5646752 | 32 | 5·3895904 | 6·5471806 |
| 33 | 5·4032035 | 6·5681272 | 33 | 5·3909604 | 6·5511521 | 33 | 5·3785857 | 6·5337401 |
| 34 | 5·3920951 | 6·5542439 | 34 | 5·3798520 | 6·5373553 | 34 | 5·3674773 | 6·5200307 |
| 35 | 5·3808756 | 6·5400656 | 35 | 5·3686325 | 6·5232674 | 35 | 5·3562578 | 6·5060333 |
| 36 | 5·3695368 | 6·5255737 | 36 | 5·3572937 | 6·5088697 | 36 | 5·3449190 | 6·4917303 |
| 37 | 5·3580696 | 6·5107484 | 37 | 5·3458265 | 6·4941420 | 37 | 5·3334518 | 6·4771012 |
| 38 | 5·3464642 | 6·4955696 | 38 | 5·3342211 | 6·4790636 | 38 | 5·3218464 | 6·4621251 |
| 39 | 5·3347098 | 6·4800144 | 39 | 5·3224667 | 6·4636131 | 39 | 5·3100920 | 6·4467799 |
| 40 | 5·3227950 | 6·4640606 | 40 | 5·3105519 | 6·4477664 | 40 | 5·2981772 | 6·4310427 |
| 41 | 5·3107073 | 6·4476838 | 41 | 5·2984642 | 6·4314994 | 41 | 5·2860895 | 6·4148884 |
| 42 | 5·2984335 | 6·4308592 | 42 | 5·2861904 | 6·4147870 | 42 | 5·2738157 | 6·3982912 |
| 43 | 5·2859595 | 6·4135594 | 43 | 5·2737164 | 6·3976023 | 43 | 5·2613417 | 6·3812238 |
| 44 | 5·2732706 | 6·3957570 | 44 | 5·2610275 | 6·3799162 | 44 | 5·2486528 | 6·3636586 |
| 45 | 5·2603509 | 6·3774219 | 45 | 5·2481078 | 6·3616994 | 45 | 5·2357331 | 6·3455638 |
| 46 | 5·2471839 | 6·3585232 | 46 | 5·2349408 | 6·3429195 | 46 | 5·2225661 | 6·3269079 |
| 47 | 5·2337522 | 6·3390270 | 47 | 5·2215091 | 6·3235433 | 47 | 5·2091344 | 6·3076567 |
| 48 | 5·2200376 | 6·3188977 | 48 | 5·2077945 | 6·3035347 | 48 | 5·1954198 | 6·2877739 |
| 49 | 5·2060210 | 6·2980966 | 49 | 5·1937779 | 6·2828547 | 49 | 5·1814032 | 6·2672208 |
| 50 | 5·1916826 | 6·2765838 | 50 | 5·1794395 | 6·2614615 | 50 | 5·1670648 | 6·2459546 |
| 51 | 5·1770016 | 6·2543138 | 51 | 5·1647585 | 6·2393115 | 51 | 5·1523838 | 6·2239302 |
| 52 | 5·1617119 | 6·2312386 | 52 | 5·1494688 | 6·2163549 | 52 | 5·1370941 | 6·2010999 |
| 53 | 5·1459774 | 6·2073278 | 53 | 5·1337343 | 6·1925616 | 53 | 5·1213596 | 6·1774311 |
| 54 | 5·1297808 | 6·1825320 | 54 | 5·1175377 | 6·1678816 | 54 | 5·1051630 | 6·1528746 |

## JOINT LIVES :—Male and Female Life.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female (y) | 42 | | 43 | | | 44 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (x) | $\lambda\ D_{x,\,42}$ | $\lambda\ N_{x,\,42}$ | Age of Male (x) | $\lambda\ D_{x,\,43}$ | $\lambda\ N_{x,\,43}$ | Age of Male (x) | $\lambda\ D_{x,\,44}$ | $\lambda\ N_{x,\,44}$ |
| 55 | 5·1130949 | 6·1567959 | 55 | 5·1008518 | 6·1422589 | 55 | 5·0884771 | 6·1273740 |
| 56 | 5·0958820 | 6·1300586 | 56 | 5·0836389 | 6·1156335 | 56 | 5·0712642 | 6·1008676 |
| 57 | 5·0780940 | 6·1022539 | 57 | 5·0658509 | 6·0879379 | 57 | 5·0534762 | 6·0732897 |
| 58 | 5·0596725 | 6·0733095 | 58 | 5·0474294 | 6·0590997 | 58 | 5·0350547 | 6·0445665 |
| 59 | 5·0405489 | 6·0431469 | 59 | 5·0283058 | 6·0290411 | 59 | 5·0159311 | 6·0146196 |
| 60 | 5·0206441 | 6·0116834 | 60 | 5·0084010 | 5·9976773 | 60 | 4·9960263 | 5·9833650 |
| 61 | 4·9998688 | 5·9788283 | 61 | 4·9876257 | 5·9649189 | 61 | 4·9752510 | 5·9507120 |
| 62 | 4·9781233 | 5·9444849 | 62 | 4·9658802 | 5·9306688 | 62 | 4·9535055 | 5·9165636 |
| 63 | 4·9552976 | 5·9085499 | 63 | 4·9430545 | 5·8948237 | 63 | 4·9306798 | 5·8808168 |
| 64 | 4·9312714 | 5·8709138 | 64 | 4·9190283 | 5·8572734 | 64 | 4·9066536 | 5·8433610 |
| 65 | 4·9059140 | 5·8314594 | 65 | 4·8936709 | 5·8179013 | 65 | 4·8812962 | 5·8040791 |
| 66 | 4·8790844 | 5·7900626 | 66 | 4·8668413 | 5·7765828 | 66 | 4·8544666 | 5·7628470 |
| 67 | 4·8506313 | 5·7465913 | 67 | 4·8383882 | 5·7331859 | 67 | 4·8260135 | 5·7195328 |
| 68 | 4·8203932 | 5·7009061 | 68 | 4·8081501 | 5·6875712 | 68 | 4·7957754 | 5·6739964 |
| 69 | 4·7881979 | 5·6528584 | 69 | 4·7759548 | 5·6395908 | 69 | 4·7635801 | 5·6260902 |
| 70 | 4·7538633 | 5·6022923 | 70 | 4·7416202 | 5·5890880 | 70 | 4·7292455 | 5·5756582 |
| 71 | 4·7171967 | 5·5490427 | 71 | 4·7049536 | 5·5358982 | 71 | 4·6925789 | 5·5225349 |
| 72 | 4·6779951 | 5·4929364 | 72 | 4·6657520 | 5·4798474 | 72 | 4·6533773 | 5·4665470 |
| 73 | 4·6360454 | 5·4337890 | 73 | 4·6238023 | 5·4207534 | 73 | 4·6114276 | 5·4075114 |
| 74 | 4·5911238 | 5·3714082 | 74 | 4·5788807 | 5·3584224 | 74 | 4·5665060 | 5·3452365 |
| 75 | 4·5429965 | 5·3055923 | 75 | 4·5307534 | 5·2926523 | 75 | 4·5183787 | 5·2795187 |
| 76 | 4·4914191 | 5·2361287 | 76 | 4·4791760 | 5·2232321 | 76 | 4·4668013 | 5·2101465 |
| 77 | 4·4361372 | 5·1627943 | 77 | 4·4238941 | 5·1499387 | 77 | 4·4115194 | 5·1368983 |
| 78 | 4·3768858 | 5·0853567 | 78 | 4·3646427 | 5·0725389 | 78 | 4·3522680 | 5·0595416 |
| 79 | 4·3133897 | 5·0035722 | 79 | 4·3011466 | 4·9907898 | 79 | 4·2887719 | 4·9778319 |
| 80 | 4·2453633 | 4·9171856 | 80 | 4·2331202 | 4·9044369 | 80 | 4·2207455 | 4·8915163 |
| 81 | 4·1725107 | 4·8259335 | 81 | 4·1602676 | 4·8132152 | 81 | 4·1478929 | 4·8003293 |
| 82 | 4·0945256 | 4·7295389 | 82 | 4·0822825 | 4·7168494 | 82 | 4·0699078 | 4·7039951 |
| 83 | 4·0110917 | 4·6277140 | 83 | 3·9988486 | 4·6150511 | 83 | 3·9864739 | 4·6022271 |
| 84 | 3·9218819 | 4·5201594 | 84 | 3·9096388 | 4·5075224 | 84 | 3·8972641 | 4·4947260 |
| 85 | 3·8265591 | 4·4065660 | 85 | 3·8143160 | 4·3939525 | 85 | 3·8019413 | 4·3811824 |
| 86 | 3·7247757 | 4·2866114 | 86 | 3·7125326 | 4·2740204 | 86 | 3·7001579 | 4·2612743 |
| 87 | 3·6161739 | 4·1599628 | 87 | 3·6039308 | 4·1473918 | 87 | 3·5915561 | 4·1346692 |
| 88 | 3·5003855 | 4·0262742 | 88 | 3·4881424 | 4·0137231 | 88 | 3·4757677 | 4·0010207 |
| 89 | 3·3770321 | 3·8851887 | 89 | 3·3647890 | 3·8726556 | 89 | 3·3524143 | 3·8599736 |
| 90 | 3·2457246 | 3·7363367 | 90 | 3·2334815 | 3·7238209 | 90 | 3·2211068 | 3·7111574 |
| 91 | 3·1060641 | 3·5793365 | 91 | 3·0938210 | 3·5668368 | 91 | 3·0814463 | 3·5541910 |
| 92 | 2·9576410 | 3·4137916 | 92 | 2·9453979 | 3·4013077 | 92 | 2·9330232 | 3·3886784 |
| 93 | 2·8000355 | 3·2392920 | 93 | 2·7877924 | 3·2268228 | 93 | 2·7754177 | 3·2142089 |
| 94 | 2·6328174 | 3·0554097 | 94 | 2·6205743 | 3·0429538 | 94 | 2·6081996 | 3·0303552 |
| 95 | 2·4555463 | 2·8616933 | 95 | 2·4433032 | 2·8492511 | 95 | 2·4309285 | 2·8366658 |
| 96 | 2·2677714 | 2·6576600 | 96 | 2·2555283 | 2·6452306 | 96 | 2·2431536 | 2·6326597 |
| 97 | 2·0690315 | 2·4427760 | 97 | 2·0567884 | 2·4303589 | 97 | 2·0444137 | 2·4178020 |
| 98 | 1·8588552 | 2·2164197 | 98 | 1·8466121 | 2·2040144 | 98 | 1·8342374 | 2·1914703 |
| 99 | 1·6367608 | 1·9777972 | 99 | 1·6245177 | 1·9654054 | 99 | 1·6121430 | 1·9528728 |
| 100 | 1·4022560 | 1·7257761 | 100 | 1·3900129 | 1·7133973 | 100 | 1·3776382 | 1·7008811 |
| 101 | 1·1548385 | 1·4584898 | 101 | 1·1425954 | 1·4461285 | 101 | 1·1302207 | 1·4336274 |
| 102 | 0·8939955 | 1·1724074 | 102 | 0·8817524 | 1·1600662 | 102 | 0·8693777 | 1·1475867 |
| 103 | 0·6192039 | 0·8598345 | 103 | 0·6069608 | 0·8475171 | 103 | 0·5945861 | 0·8350688 |
| 104 | 0·3299303 | 0·5009085 | 104 | 0·3176872 | 0·4886212 | 104 | 0·3053125 | 0·4762083 |
| 105 | 0·0256309 | | 105 | 0·0133878 | | 105 | 0·0010131 | |
| 106 | 9·7057517 | | 106 | 9·6935086 | | 106 | 9·6811339 | |
| 107 | 9·3697283 | | 107 | 9·3574852 | | 107 | 9·3451105 | |
| 108 | 9·0169860 | | 108 | 9·0047429 | | 108 | 8·9923682 | |
| 109 | 8·6469397 | | 109 | 8·6346966 | | 109 | 8·6223219 | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female (y) | 45 | | 46 | | | 47 | | |
|---|---|---|---|---|---|---|---|---|
| **Age of Male (x)** | λ $D_{x,\,45}$ | λ $N_{x,\,45}$ | **Age of Male (x)** | λ $D_{x,\,46}$ | λ $N_{x,\,46}$ | **Age of Male (x)** | λ $D_{x,\,47}$ | λ $N_{x,\,47}$ |
| 0 | 5·8167768 | 6·8908208 | 0 | 5·8041175 | 6·8714062 | 0 | 5·7913043 | 6·8515043 |
| 1 | 5·7327746 | 6·8721063 | 1 | 5·7201153 | 6·8525621 | 1 | 5·7073021 | 6·8325201 |
| 2 | 5·6974937 | 6·8589804 | 2 | 5·6848344 | 6·8393944 | 2 | 5·6720212 | 6·8193070 |
| 3 | 5·6753804 | 6·8475539 | 3 | 5·6627211 | 6·8279550 | 3 | 5·6499079 | 6·8078516 |
| 4 | 5·6584787 | 6·8369079 | 4 | 5·6458194 | 6·8173094 | 4 | 5·6330062 | 6·7972058 |
| 5 | 5·6442513 | 6·8266998 | 5 | 5·6315920 | 6·8071111 | 5 | 5·6187788 | 6·7870157 |
| 6 | 5·6318901 | 6·8167600 | 6 | 5·6192308 | 6·7971871 | 6 | 5·6064176 | 6·7771071 |
| 7 | 5·6207466 | 6·8069696 | 7 | 5·6080873 | 6·7874171 | 7 | 5·5952741 | 6·7673568 |
| 8 | 5·6103324 | 6·7972502 | 8 | 5·5976731 | 6·7777212 | 8 | 5·5848599 | 6·7576842 |
| 9 | 5·6005850 | 6·7875529 | 9 | 5·5879257 | 6·7680500 | 9 | 5·5751125 | 6·7480392 |
| 10 | 5·5913498 | 6·7778310 | 10 | 5·5786905 | 6·7583562 | 10 | 5·5658773 | 6·7383735 |
| 11 | 5·5824853 | 6·7680456 | 11 | 5·5698260 | 6·7486005 | 11 | 5·5570128 | 6·7286471 |
| 12 | 5·5738633 | 6·7581656 | 12 | 5·5612040 | 6·7387510 | 12 | 5·5483908 | 6·7188283 |
| 13 | 5·5653688 | 6·7481661 | 13 | 5·5527095 | 6·7287830 | 13 | 5·5398963 | 6·7088915 |
| 14 | 5·5568999 | 6·7380292 | 14 | 5·5442406 | 6·7186779 | 14 | 5·5314274 | 6·6988185 |
| 15 | 5·5483681 | 6·7277423 | 15 | 5·5357088 | 6·7084238 | 15 | 5·5228956 | 6·6885963 |
| 16 | 5·5396978 | 6·7172976 | 16 | 5·5270385 | 6·6980126 | 16 | 5·5142253 | 6·6782183 |
| 17 | 5·5308270 | 6·7066928 | 17 | 5·5181677 | 6·6874420 | 17 | 5·5053545 | 6·6676816 |
| 18 | 5·5217065 | 6·6959291 | 18 | 5·5090472 | 6·6767134 | 18 | 5·4962340 | 6·6569877 |
| 19 | 5·5123007 | 6·6850110 | 19 | 5·4996414 | 6·6658321 | 19 | 5·4868282 | 6·6461421 |
| 20 | 5·5025869 | 6·6739462 | 20 | 5·4899276 | 6·6548054 | 20 | 5·4771144 | 6·6351529 |
| 21 | 5·4925557 | 6·6627430 | 21 | 5·4798964 | 6·6436430 | 21 | 5·4670832 | 6·6240300 |
| 22 | 5·4824441 | 6·6514120 | 22 | 5·4697848 | 6·6323550 | 22 | 5·4569716 | 6·6127844 |
| 23 | 5·4722548 | 6·6399469 | 23 | 5·4595955 | 6·6209355 | 23 | 5·4467823 | 6·6014097 |
| 24 | 5·4619896 | 6·6283402 | 24 | 5·4493303 | 6·6093776 | 24 | 5·4365171 | 6·5898991 |
| 25 | 5·4516495 | 6·6165842 | 25 | 5·4389902 | 6·5976729 | 25 | 5·4261770 | 6·5782453 |
| 26 | 5·4412346 | 6·6046696 | 26 | 5·4285753 | 6·5858131 | 26 | 5·4157621 | 6·5664391 |
| 27 | 5·4307442 | 6·5925856 | 27 | 5·4180849 | 6·5737880 | 27 | 5·4052717 | 6·5544712 |
| 28 | 5·4201767 | 6·5803225 | 28 | 5·4075174 | 6·5615865 | 28 | 5·3947042 | 6·5423311 |
| 29 | 5·4095299 | 6·5678680 | 29 | 5·3968706 | 6·5491976 | 29 | 5·3840574 | 6·5300067 |
| 30 | 5·3988005 | 6·5552092 | 30 | 5·3861412 | 6·5366085 | 30 | 5·3733280 | 6·5174862 |
| 31 | 5·3879845 | 6·5423325 | 31 | 5·3753252 | 6·5238054 | 31 | 5·3625120 | 6·5047558 |
| 32 | 5·3770770 | 6·5292228 | 32 | 5·3644177 | 6·5107737 | 32 | 5·3516045 | 6·4918011 |
| 33 | 5·3660723 | 6·5158651 | 33 | 5·3534130 | 6·4974976 | 33 | 5·3405998 | 6·4786067 |
| 34 | 5·3549639 | 6·5022421 | 34 | 5·3423046 | 6·4839611 | 34 | 5·3294914 | 6·4651554 |
| 35 | 5·3437444 | 6·4883364 | 35 | 5·3310851 | 6·4701458 | 35 | 5·3182719 | 6·4514305 |
| 36 | 5·3324056 | 6·4741279 | 36 | 5·3197463 | 6·4560332 | 36 | 5·3069331 | 6·4374126 |
| 37 | 5·3209384 | 6·4595982 | 37 | 5·3082791 | 6·4416025 | 37 | 5·2954659 | 6·4230822 |
| 38 | 5·3093330 | 6·4447252 | 38 | 5·2966737 | 6·4268335 | 38 | 5·2838605 | 6·4084171 |
| 39 | 5·2975786 | 6·4294871 | 39 | 5·2849193 | 6·4117037 | 39 | 5·2721061 | 6·3933958 |
| 40 | 5·2856638 | 6·4138605 | 40 | 5·2730045 | 6·3961891 | 40 | 5·2601913 | 6·3779947 |
| 41 | 5·2735761 | 6·3978208 | 41 | 5·2609168 | 6·3802653 | 41 | 5·2481036 | 6·3621883 |
| 42 | 5·2613023 | 6·3813417 | 42 | 5·2486430 | 6·3639063 | 42 | 5·2358298 | 6·3459506 |
| 43 | 5·2488283 | 6·3643953 | 43 | 5·2361690 | 6·3470837 | 43 | 5·2233558 | 6·3292541 |
| 44 | 5·2361394 | 6·3469530 | 44 | 5·2234801 | 6·3297682 | 44 | 5·2106669 | 6·3120681 |
| 45 | 5·2232197 | 6·3289850 | 45 | 5·2105604 | 6·3119290 | 45 | 5·1977472 | 6·2943619 |
| 46 | 5·2100527 | 6·3104571 | 46 | 5·1973934 | 6·2935343 | 46 | 5·1845802 | 6·2761025 |
| 47 | 5·1966210 | 6·2913359 | 47 | 5·1839617 | 6·2745474 | 47 | 5·1711485 | 6·2572551 |
| 48 | 5·1829064 | 6·2715845 | 48 | 5·1702471 | 6·2549324 | 48 | 5·1574339 | 6·2377809 |
| 49 | 5·1688898 | 6·2511633 | 49 | 5·1562305 | 6·2346492 | 49 | 5·1434173 | 6·2176408 |
| 50 | 5·1545514 | 6·2300306 | 50 | 5·1418921 | 6·2136548 | 50 | 5·1290789 | 6·1967911 |
| 51 | 5·1398704 | 6·2081394 | 51 | 5·1272111 | 6·1919038 | 51 | 5·1143979 | 6·1751856 |
| 52 | 5·1245807 | 6·1854411 | 52 | 5·1119214 | 6·1693452 | 52 | 5·0991082 | 6·1527737 |
| 53 | 5·1088462 | 6·1619050 | 53 | 5·0961869 | 6·1459481 | 53 | 5·0833737 | 6·1295236 |
| 54 | 5·0926496 | 6·1374794 | 54 | 5·0799903 | 6·1216619 | 54 | 5·0671771 | 6·1053834 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female (y) | 45 | | 46 | | | 47 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (x) | $\lambda\ D_{x,\,45}$ | $\lambda\ N_{x,\,45}$ | Age of Male (x) | $\lambda\ D_{x,\,46}$ | $\lambda\ N_{x,\,46}$ | Age of Male (x) | $\lambda\ D_{x,\,47}$ | $N_{x,\,47}$ |
| 55 | 5·0759637 | 6·1121088 | 55 | 5·0633044 | 6·0964289 | 55 | 5·0504912 | 6·0802970 |
| 56 | 5·0587508 | 6·0857311 | 56 | 5·0460915 | 6·0701879 | 56 | 5·0332783 | 6·0542008 |
| 57 | 5·0409628 | 6·0582783 | 57 | 5·0283035 | 6·0428704 | 57 | 5·0154903 | 6·0270270 |
| 58 | 5·0225413 | 6·0296788 | 58 | 5·0098820 | 6·0144029 | 58 | 4·9970688 | 5·9987016 |
| 59 | 5·0034177 | 5·9998532 | 59 | 4·9907584 | 5·9847074 | 59 | 4·9779452 | 5·9691452 |
| 60 | 4·9835129 | 5·9687162 | 60 | 4·9708536 | 5·9536976 | 60 | 4·9580404 | 5·9382724 |
| 61 | 4·9627376 | 5·9361777 | 61 | 4·9500783 | 5·9212831 | 61 | 4·9372651 | 5·9059915 |
| 62 | 4·9409921 | 5·9021403 | 62 | 4·9283328 | 5·8873663 | 62 | 4·9155196 | 5·8722050 |
| 63 | 4·9181664 | 5·8665005 | 63 | 4·9055071 | 5·8518434 | 63 | 4·8926939 | 5·8368089 |
| 64 | 4·8941402 | 5·8291483 | 64 | 4·8814809 | 5·8146037 | 64 | 4·8686677 | 5·7996924 |
| 65 | 4·8687828 | 5·7899659 | 65 | 4·8561235 | 5·7755305 | 65 | 4·8433103 | 5·7607375 |
| 66 | 4·8419532 | 5·7488289 | 66 | 4·8292939 | 5·7344983 | 66 | 4·8164807 | 5·7198202 |
| 67 | 4·8135001 | 5·7056058 | 67 | 4·8008408 | 5·6913752 | 67 | 4·7880276 | 5·6768076 |
| 68 | 4·7832620 | 5·6601562 | 68 | 4·7706027 | 5·6460216 | 68 | 4·7577895 | 5·6315595 |
| 69 | 4·7510667 | 5·6123325 | 69 | 4·7384074 | 5·5982895 | 69 | 4·7255942 | 5·5839287 |
| 70 | 4·7167321 | 5·5619787 | 70 | 4·7040728 | 5·5480229 | 70 | 4·6912596 | 5·5337586 |
| 71 | 4·6800655 | 5·5089300 | 71 | 4·6674062 | 5·4950567 | 71 | 4·6545930 | 5·4808846 |
| 72 | 4·6408639 | 5·4530123 | 72 | 4·6282046 | 5·4392177 | 72 | 4·6153914 | 5·4251327 |
| 73 | 4·5989142 | 5·3940429 | 73 | 4·5862549 | 5·3803223 | 73 | 4·5734417 | 5·3663207 |
| 74 | 4·5539926 | 5·3318294 | 74 | 4·5413333 | 5·3181790 | 74 | 4·5285201 | 5·3042554 |
| 75 | 4·5058653 | 5·2661710 | 75 | 4·4932060 | 5·2525854 | 75 | 4·4803928 | 5·2387362 |
| 76 | 4·4542879 | 5·1968537 | 76 | 4·4416286 | 5·1833308 | 76 | 4·4288154 | 5·1695505 |
| 77 | 4·3990060 | 5·1236564 | 77 | 4·3863467 | 5·1091916 | 77 | 4·3735335 | 5·0964777 |
| 78 | 4·3397546 | 5·0463473 | 78 | 4·3270953 | 5·0329361 | 78 | 4·3142821 | 5·0192838 |
| 79 | 4·2762585 | 4·9646829 | 79 | 4·2635992 | 4·9513219 | 79 | 4·2507860 | 4·9377270 |
| 80 | 4·2082321 | 4·8784086 | 80 | 4·1955728 | 4·8650956 | 80 | 4·1827596 | 4·8515543 |
| 81 | 4·1353795 | 4·7872607 | 81 | 4·1227202 | 4·7739918 | 81 | 4·1099070 | 4·7605009 |
| 82 | 4·0572944 | 4·6909629 | 82 | 4·0447351 | 4·6777 47 | 82 | 4·0319219 | 4·6642912 |
| 83 | 3·9739605 | 4·5892280 | 83 | 3·9613012 | 4·5760383 | 83 | 3·9484880 | 4·5626380 |
| 84 | 3·8847507 | 4·4817584 | 84 | 3·8720914 | 4·4686040 | 84 | 3·8592782 | 4·4552444 |
| 85 | 3·7894279 | 4·3682438 | 85 | 3·7767686 | 4·3551225 | 85 | 3·7639554 | 4·3418002 |
| 86 | 3·6876445 | 4·2483630 | 86 | 3·6749852 | 4·2352721 | 86 | 3·6621720 | 4·2219851 |
| 87 | 3·5790427 | 4·1217824 | 87 | 3·5663834 | 4·1087202 | 87 | 3·5535702 | 4·0954658 |
| 88 | 3·4632543 | 3·9881584 | 88 | 3·4505950 | 3·9751220 | 88 | 3·4377818 | 3·9618979 |
| 89 | 3·3399009 | 3·8471326 | 89 | 3·3272416 | 3·8341217 | 89 | 3·3144284 | 3·8209243 |
| 90 | 3·2085934 | 3·6983372 | 90 | 3·1959341 | 3·6853485 | 90 | 3·1831209 | 3·6721782 |
| 91 | 3·0689329 | 3·5413895 | 91 | 3·0562736 | 3·5284218 | 91 | 3·0434604 | 3·5152763 |
| 92 | 2·9205098 | 3·3758953 | 92 | 2·9078505 | 3·3629476 | 92 | 2·8950373 | 3·3498232 |
| 93 | 2·7629043 | 3·2014424 | 93 | 2·7502450 | 3·1885139 | 93 | 2·7374318 | 3·1754109 |
| 94 | 2·5956862 | 3·0176047 | 94 | 2·5830269 | 3·0046933 | 94 | 2·5702137 | 2·9916102 |
| 95 | 2·4184151 | 2·8239312 | 95 | 2·4057558 | 2·8110365 | 95 | 2·3929426 | 2·7979714 |
| 96 | 2·2306402 | 2·6199391 | 96 | 2·2179809 | 2·6070602 | 96 | 2·2051677 | 2·5940134 |
| 97 | 2·0319003 | 2·4050952 | 97 | 2·0192410 | 2·3922326 | 97 | 2·0064278 | 2·3792021 |
| 98 | 1·8217240 | 2·1787776 | 98 | 1·8090647 | 2·1659292 | 98 | 1·7962515 | 2·1529167 |
| 99 | 1·5996296 | 1·9401961 | 99 | 1·5869703 | 1·9273632 | 99 | 1·5741571 | 1·9143664 |
| 100 | 1·3651248 | 1·6882160 | 100 | 1·3524655 | 1·6754016 | 100 | 1·3396523 | 1·6624226 |
| 101 | 1·1177073 | 1·4209833 | 101 | 1·1050480 | 1·4081806 | 101 | 1·0922348 | 1·3952250 |
| 102 | 0·8568643 | 1·1349608 | 102 | 0·8442050 | 1·1221864 | 102 | 0·8313918 | 1·1092444 |
| 103 | 0·5820727 | 0·8224688 | 103 | 0·5694134 | 0·8097213 | 103 | 0·5566002 | 0·7968171 |
| 104 | 0·2927991 | 0·4636541 | 104 | 0·2801398 | 0·4509416 | 104 | 0·2673266 | 0·4380833 |
| 105 | 9·9884997 | | 105 | 9·9758404 | | 105 | 9·9630272 | |
| 106 | 9·6686205 | | 106 | 9·6559612 | | 106 | 9·6431480 | |
| 107 | 9·3325971 | | 107 | 9·3199378 | | 107 | 9·3071246 | |
| 108 | 8·9798548 | | 108 | 8·9671955 | | 108 | 8·9543823 | |
| 109 | 8·6098085 | | 109 | 8·5971492 | | 109 | 8·5843360 | |

# ENGLISH LIFE TABLE, No. 3.

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| **Age** of **Female** (y) | 48 | | | 49 | | | 50 | |
|---|---|---|---|---|---|---|---|---|
| **Age** of **Male** (x) | λ $D_{x,\,48}$ | λ $N_{x,\,48}$ | **Age** of **Male** (x) | λ $D_{x,\,49}$ | λ $N_{x,\,49}$ | **Age** of **Male** (x) | λ $D_{x,\,50}$ | λ $N_{x,\,50}$ |
| 0 | 5·7783289 | 6·8310831 | 0 | 5·7651824 | 6·8101075 | 0 | 5·7518557 | 6·7885391 |
| 1 | 5·6943267 | 6·8119483 | 1 | 5·6811802 | 6·7908106 | 1 | 5·6678535 | 6·7690665 |
| 2 | 5·6590458 | 6·7986845 | 2 | 5·6458993 | 6·7774912 | 2 | 5·6325726 | 6·7556870 |
| 3 | 5·6369325 | 6·7872112 | 3 | 5·6237860 | 6·7659966 | 3 | 5·6104593 | 6·7441680 |
| 4 | 5·6200308 | 6·7765627 | 4 | 5·6068843 | 6·7553442 | 4 | 5·5935576 | 6·7335091 |
| 5 | 5·6058034 | 6·7663805 | 5 | 5·5926569 | 6·7451680 | 5 | 5·5793302 | 6·7233383 |
| 6 | 5·5934422 | 6·7564860 | 6 | 5·5802957 | 6·7352876 | 6 | 5·5669690 | 6·7134704 |
| 7 | 5·5822987 | 6·7467554 | 7 | 5·5691522 | 6·7255756 | 7 | 5·5558255 | 6·7037773 |
| 8 | 5·5718845 | 6·7371057 | 8 | 5·5587380 | 6·7159491 | 8 | 5·5454113 | 6·6941729 |
| 9 | 5·5621371 | 6·7274866 | 9 | 5·5489906 | 6·7063556 | 9 | 5·5356639 | 6·6846053 |
| 10 | 5·5529019 | 6·7178490 | 10 | 5·5397554 | 6·6967459 | 10 | 5·5264287 | 6·6750233 |
| 11 | 5·5440374 | 6·7081523 | 11 | 5·5308909 | 6·6870788 | 11 | 5·5175642 | 6·6653857 |
| 12 | 5·5354154 | 6·6983638 | 12 | 5·5222689 | 6·6773210 | 12 | 5·5089422 | 6·6556584 |
| 13 | 5·5269209 | 6·6884585 | 13 | 5·5137744 | 6·6674464 | 13 | 5·5004477 | 6·6458151 |
| 14 | 5·5184520 | 6·6784170 | 14 | 5·5053055 | 6·6574368 | 14 | 5·4919788 | 6·6358367 |
| 15 | 5·5099202 | 6·6682272 | 15 | 5·4967737 | 6·6472786 | 15 | 5·4834470 | 6·6257104 |
| 16 | 5·5012499 | 6·6578813 | 16 | 5·4881034 | 6·6369653 | 16 | 5·4747767 | 6·6154288 |
| 17 | 5·4923791 | 6·6473779 | 17 | 5·4792326 | 6·6264941 | 17 | 5·4659059 | 6·6049902 |
| 18 | 5·4832586 | 6·6367182 | 18 | 5·4701121 | 6·6158681 | 18 | 5·4567854 | 6·5943966 |
| 19 | 5·4738528 | 6·6259079 | 19 | 5·4607063 | 6·6050924 | 19 | 5·4473796 | 6·5836549 |
| 20 | 5·4641390 | 6·6149553 | 20 | 5·4509925 | 6·5941758 | 20 | 5·4376658 | 6·5727734 |
| 21 | 5·4541078 | 6·6038710 | 21 | 5·4409613 | 6·5831291 | 21 | 5·4276346 | 6·5617638 |
| 22 | 5·4439962 | 6·5926665 | 22 | 5·4308497 | 6·5719646 | 22 | 5·4175230 | 6·5506384 |
| 23 | 5·4338069 | 6·5813358 | 23 | 5·4206604 | 6·5606768 | 23 | 5·4073337 | 6·5393920 |
| 24 | 5·4235417 | 6·5698720 | 24 | 5·4103952 | 6·5492588 | 24 | 5·3970685 | 6·5280184 |
| 25 | 5·4132016 | 6·5582675 | 25 | 5·4000551 | 6·5377028 | 25 | 5·3867284 | 6·5165101 |
| 26 | 5·4027867 | 6·5465141 | 26 | 5·3896402 | 6·5260010 | 26 | 5·3763135 | 6·5048588 |
| 27 | 5·3922963 | 6·5346023 | 27 | 5·3791498 | 6·5141442 | 27 | 5·3658231 | 6·4930557 |
| 28 | 5·3817288 | 6·5225220 | 28 | 5·3685823 | 6·5021222 | 28 | 5·3552556 | 6·4810912 |
| 29 | 5·3710820 | 6·5102615 | 29 | 5·3579355 | 6·4899243 | 29 | 5·3446088 | 6·4689539 |
| 30 | 5·3603526 | 6·4978082 | 30 | 5·3472061 | 6·4775378 | 30 | 5·3338794 | 6·4566326 |
| 31 | 5·3495366 | 6·4851496 | 31 | 5·3363901 | 6·4649492 | 31 | 5·3230634 | 6·4441137 |
| 32 | 5·3386291 | 6·4722709 | 32 | 5·3254826 | 6·4521456 | 32 | 5·3121559 | 6·4313832 |
| 33 | 5·3276244 | 6·4591567 | 33 | 5·3144779 | 6·4391105 | 33 | 5·3011512 | 6·4184268 |
| 34 | 5·3165160 | 6·4457908 | 34 | 5·3033695 | 6·4258287 | 34 | 5·2900428 | 6·4052275 |
| 35 | 5·3052965 | 6·4321552 | 35 | 5·2921500 | 6·4122822 | 35 | 5·2788233 | 6·3917688 |
| 36 | 5·2939577 | 6·4182320 | 36 | 5·2808112 | 6·3984524 | 36 | 5·2674845 | 6·3780320 |
| 37 | 5·2824905 | 6·4040005 | 37 | 5·2693440 | 6·3843199 | 37 | 5·2560173 | 6·3639970 |
| 38 | 5·2708851 | 6·3894402 | 38 | 5·2577386 | 6·3698631 | 38 | 5·2444119 | 6·3496437 |
| 39 | 5·2591307 | 6·3745279 | 39 | 5·2459842 | 6·3550601 | 39 | 5·2326575 | 6·3349491 |
| 40 | 5·2472159 | 6·3592404 | 40 | 5·2340694 | 6·3398867 | 40 | 5·2207427 | 6·3198901 |
| 41 | 5·2351282 | 6·3435527 | 41 | 5·2219817 | 6·3243178 | 41 | 5·2086550 | 6·3044405 |
| 42 | 5·2228544 | 6·3274380 | 42 | 5·2097079 | 6·3083275 | 42 | 5·1963812 | 6·2885743 |
| 43 | 5·2103804 | 6·3108685 | 43 | 5·1972339 | 6·2918863 | 43 | 5·1839072 | 6·2722636 |
| 44 | 5·1976915 | 6·2938147 | 44 | 5·1845450 | 6·2749661 | 44 | 5·1712183 | 6·2554778 |
| 45 | 5·1847718 | 6·2762444 | 45 | 5·1716253 | 6·2575341 | 45 | 5·1582986 | 6·2381852 |
| 46 | 5·1716048 | 6·2581242 | 46 | 5·1584583 | 6·2395562 | 46 | 5·1451316 | 6·2203521 |
| 47 | 5·1581731 | 6·2394186 | 47 | 5·1450266 | 6·2209967 | 47 | 5·1316999 | 6·2019415 |
| 48 | 5·1444585 | 6·2200906 | 48 | 5·1313120 | 6·2018173 | 48 | 5·1179853 | 6·1829152 |
| 49 | 5·1304419 | 6·2000984 | 49 | 5·1172954 | 6·1819779 | 49 | 5·1039687 | 6·1632314 |
| 50 | 5·1161035 | 6·1793987 | 50 | 5·1029570 | 6·1614333 | 50 | 5·0896303 | 6·1428470 |
| 51 | 5·1014225 | 6·1579449 | 51 | 5·0882760 | 6·1401367 | 51 | 5·0749493 | 6·1217124 |
| 52 | 5·0861328 | 6·1356856 | 52 | 5·0729863 | 6·1180364 | 52 | 5·0596596 | 6·0997773 |
| 53 | 5·0703983 | 6·1125896 | 53 | 5·0572518 | 6·0951007 | 53 | 5·0439251 | 6·0770080 |
| 54 | 5·0542017 | 6·0886038 | 54 | 5·0410552 | 6·0712766 | 54 | 5·0277285 | 6·0533521 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| **Age** of **Female** ($y$) | 48 | | | 49 | | | 50 | |
|---|---|---|---|---|---|---|---|---|
| **Age** of **Male** ($x$) | $\lambda\ D_{x,\,48}$ | $\lambda\ N_{x,\,48}$ | **Age** of **Male** ($x$) | $\lambda\ D_{x,\,49}$ | $\lambda\ N_{x,\,49}$ | **Age** of **Male** ($x$) | $\lambda\ D_{x,\,50}$ | $\lambda\ N_{x,\,50}$ |
| 55 | 5·0375158 | 6·0636708 | 55 | 5·0243693 | 6·0465057 | 55 | 5·0110426 | 6·0287506 |
| 56 | 5·0203029 | 6·0377285 | 56 | 5·0071564 | 6·0207247 | 56 | 4·9938297 | 6·0031395 |
| 57 | 5·0025149 | 6·0107070 | 57 | 4·9893684 | 5·9938645 | 57 | 4·9760417 | 5·9764490 |
| 58 | 4·9840934 | 5·9825326 | 58 | 4·9709469 | 5·9658501 | 58 | 4·9576202 | 5·9486038 |
| 59 | 4·9649698 | 5·9531251 | 59 | 4·9518233 | 5·9366014 | 59 | 4·9384966 | 5·9195227 |
| 60 | 4·9450650 | 5·9223988 | 60 | 4·9319185 | 5·9060314 | 60 | 4·9185918 | 5·8891190 |
| 61 | 4·9242897 | 5·8902619 | 61 | 4·9111432 | 5·8740483 | 61 | 4·8978165 | 5·8573000 |
| 62 | 4·9025442 | 5·8566159 | 62 | 4·8893977 | 5·8405536 | 62 | 4·8760710 | 5·8239666 |
| 63 | 4·8797185 | 5·8213569 | 63 | 4·8665720 | 5·8054420 | 63 | 4·8532453 | 5·7890136 |
| 64 | 4·8556923 | 5·7843738 | 64 | 4·8425458 | 5·7686028 | 64 | 4·8292191 | 5·7523292 |
| 65 | 4·8303349 | 5·7455483 | 65 | 4·8171884 | 5·7299176 | 65 | 4·8038617 | 5·7137949 |
| 66 | 4·8035053 | 5·7047557 | 66 | 4·7903588 | 5·6892610 | 66 | 4·7770321 | 5·6732853 |
| 67 | 4·7750522 | 5·6618639 | 67 | 4·7619057 | 5·6465003 | 67 | 4·7485790 | 5·6306674 |
| 68 | 4·7448141 | 5·6167322 | 68 | 4·7316676 | 5·6014958 | 68 | 4·7183409 | 5·5858006 |
| 69 | 4·7126188 | 5·5692127 | 69 | 4·6994723 | 5·5540988 | 69 | 4·6861456 | 5·5385371 |
| 70 | 4·6782842 | 5·5191494 | 70 | 4·6651377 | 5·5041527 | 70 | 4·6518110 | 5·4887199 |
| 71 | 4·6416176 | 5·4663771 | 71 | 4·6284711 | 5·4514931 | 71 | 4·6151444 | 5·4361837 |
| 72 | 4·6024160 | 5·4107226 | 72 | 4·5892695 | 5·3959460 | 72 | 4·5759428 | 5·3807554 |
| 73 | 4·5604663 | 5·3520028 | 73 | 4·5473198 | 5·3373291 | 73 | 4·5339931 | 5·3222519 |
| 74 | 4·5155447 | 5·2900259 | 74 | 4·5023982 | 5·2754498 | 74 | 4·4890715 | 5·2604812 |
| 75 | 4·4674174 | 5·2245896 | 75 | 4·4542709 | 5·2101068 | 75 | 4·4409442 | 5·1952414 |
| 76 | 4·4158400 | 5·1554827 | 76 | 4·4026935 | 5·1410881 | 76 | 4·3893668 | 5·1263214 |
| 77 | 4·3605581 | 5·0824831 | 77 | 4·3474116 | 5·0681726 | 77 | 4·3340849 | 5·0534996 |
| 78 | 4·3013067 | 5·0053598 | 78 | 4·2881602 | 4·9911273 | 78 | 4·2748335 | 4·9765434 |
| 79 | 4·2378106 | 4·9238686 | 79 | 4·2246641 | 4·9097116 | 79 | 4·2113374 | 4·8952109 |
| 80 | 4·1697842 | 4·8377569 | 80 | 4·1566377 | 4·8236698 | 80 | 4·1433110 | 4·8092499 |
| 81 | 4·0969316 | 4·7467610 | 81 | 4·0837851 | 4·7327394 | 81 | 4·0704584 | 4·7183945 |
| 82 | 4·0189465 | 4·6506057 | 82 | 4·0058000 | 4·6366453 | 82 | 3·9924733 | 4·6223709 |
| 83 | 3·9355126 | 4·5490027 | 83 | 3·9223661 | 4·5351010 | 83 | 3·9090394 | 4·5208933 |
| 84 | 3·8463028 | 4·4416557 | 84 | 3·8331563 | 4·4278081 | 84 | 3·8198296 | 4·4136630 |
| 85 | 3·7509800 | 4·3282552 | 85 | 3·7378335 | 4·3144582 | 85 | 3·7245068 | 4·3003716 |
| 86 | 3·6491966 | 4·2084801 | 86 | 3·6360501 | 4·1947302 | 86 | 3·6227234 | 4·1806989 |
| 87 | 3·5405948 | 4·0819986 | 87 | 3·5274483 | 4·0682920 | 87 | 3·5141216 | 4·0543119 |
| 88 | 3·4248064 | 3·9484658 | 88 | 3·4116599 | 3·9348003 | 88 | 3·3983332 | 3·9208675 |
| 89 | 3·3014530 | 3·8075249 | 89 | 3·2883065 | 3·7938979 | 89 | 3·2749798 | 3·7800104 |
| 90 | 3·1701455 | 3·6588077 | 90 | 3·1569990 | 3·6452159 | 90 | 3·1436723 | 3·6313707 |
| 91 | 3·0304850 | 3·5019338 | 91 | 3·0173385 | 3·4883745 | 91 | 3·0040118 | 3·4745674 |
| 92 | 2·8820619 | 3·3365076 | 92 | 2·8689154 | 3·3229780 | 92 | 2·8555887 | 3·3092082 |
| 93 | 2·7244564 | 3·1621182 | 93 | 2·7113099 | 3·1486184 | 93 | 2·6979832 | 3·1348815 |
| 94 | 2·5572383 | 2·9783408 | 94 | 2·5440918 | 2·9648661 | 94 | 2·5307651 | 2·9511626 |
| 95 | 2·3799672 | 2·7847235 | 95 | 2·3668207 | 2·7712743 | 95 | 2·3534940 | 2·7575995 |
| 96 | 2·1921923 | 2·5807848 | 96 | 2·1790458 | 2·5673605 | 96 | 2·1657191 | 2·5537144 |
| 97 | 1·9934524 | 2·3659944 | 97 | 1·9803059 | 2·3525918 | 97 | 1·9669792 | 2·3389736 |
| 98 | 1·7832761 | 2·1397286 | 98 | 1·7701296 | 2·1263490 | 98 | 1·7568029 | 2·1127578 |
| 99 | 1·5611817 | 1·9011972 | 99 | 1·5480352 | 1·8878423 | 99 | 1·5347085 | 1·8742794 |
| 100 | 1·3266769 | 1·6492716 | 100 | 1·3135304 | 1·6359399 | 100 | 1·3002037 | 1·6224088 |
| 101 | 1·0792594 | 1·3820963 | 101 | 1·0661129 | 1·3687851 | 101 | 1·0527862 | 1·3552867 |
| 102 | 0·8184164 | 1·0961450 | 102 | 0·8052699 | 1·0828643 | 102 | 0·7919432 | 1·0693907 |
| 103 | 0·5436248 | 0·7837321 | 103 | 0·5304783 | 0·7704912 | 103 | 0·5171516 | 0·7570618 |
| 104 | 0·2543512 | 0·4250449 | 104 | 0·2412047 | 0·4118217 | 104 | 0·2278780 | 0·3984435 |
| 105 | 9·9500518 | | 105 | 9·9369053 | | 105 | 9·9235786 | |
| 106 | 9·6301726 | | 106 | 9·6170261 | | 106 | 9·6036994 | |
| 107 | 9·2941492 | | 107 | 9·2810027 | | 107 | 9·2676760 | |
| 108 | 8·9414069 | | 108 | 8·9282604 | | 108 | 8·9149337 | |
| 109 | 8·5713606 | | 109 | 8·5582141 | | 109 | 8·5448874 | |

## JOINT LIVES :—Male and Female Life.

## Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female (y) | 51 | | 52 | | | 53 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (x) | λ $D_{x,51}$ | λ $N_{x,51}$ | Age of Male (x) | λ $D_{x,52}$ | λ $N_{x,52}$ | Age of Male (x) | λ $D_{x,53}$ | λ $N_{x,53}$ |
| 0 | 5·7383389 | 6·7663347 | 0 | 5·7246218 | 6·7434458 | 0 | 5·7106937 | 6·7198174 |
| 1 | 5·6543367 | 6·7466727 | 1 | 5·6406196 | 6·7235793 | 1 | 5·6266915 | 6·6997305 |
| 2 | 5·6190558 | 6·7332264 | 2 | 5·6053387 | 6·7100606 | 2 | 5·5914106 | 6·6861326 |
| 3 | 5·5969425 | 6·7216805 | 3 | 5·5832254 | 6·6984832 | 3 | 5·5692973 | 6·6745211 |
| 4 | 5·5800408 | 6·7110131 | 4 | 5·5663237 | 6·6878059 | 4 | 5·5523956 | 6·6638306 |
| 5 | 5·5658134 | 6·7008457 | 5 | 5·5520963 | 6·6776404 | 5 | 5·5381682 | 6·6536662 |
| 6 | 5·5534522 | 6·6909901 | 6 | 5·5397351 | 6·6677956 | 6 | 5·5258070 | 6·6438311 |
| 7 | 5·5423087 | 6·6813145 | 7 | 5·5285916 | 6·6581376 | 7 | 5·5146635 | 6·6341895 |
| 8 | 5·5318945 | 6·6717326 | 8 | 5·5181774 | 6·6485771 | 8 | 5·5042493 | 6·6246507 |
| 9 | 5·5221471 | 6·6621901 | 9 | 5·5084300 | 6·6390604 | 9 | 5·4945019 | 6·6151587 |
| 10 | 5·5129119 | 6·6526363 | 10 | 5·4991948 | 6·6295337 | 10 | 5·4852667 | 6·6056603 |
| 11 | 5·5040474 | 6·6430278 | 11 | 5·4903303 | 6·6199550 | 11 | 5·4764022 | 6·5961105 |
| 12 | 5·4954254 | 6·6333309 | 12 | 5·4817083 | 6·6102884 | 12 | 5·4677802 | 6·5864745 |
| 13 | 5·4869309 | 6·6235189 | 13 | 5·4732138 | 6·6005074 | 13 | 5·4592857 | 6·5767241 |
| 14 | 5·4784620 | 6·6135718 | 14 | 5·4647449 | 6·5905917 | 14 | 5·4508168 | 6·5668394 |
| 15 | 5·4699302 | 6·6034769 | 15 | 5·4562131 | 6·5805278 | 15 | 5·4422850 | 6·5568070 |
| 16 | 5·4612599 | 6·5932271 | 16 | 5·4475428 | 6·5703091 | 16 | 5·4336147 | 6·5466190 |
| 17 | 5·4523891 | 6·5828200 | 17 | 5·4386720 | 6·5599337 | 17 | 5·4247439 | 6·5362743 |
| 18 | 5·4432686 | 6·5722588 | 18 | 5·4295515 | 6·5494040 | 18 | 5·4156234 | 6·5257759 |
| 19 | 5·4338628 | 6·5615497 | 19 | 5·4201457 | 6·5387274 | 19 | 5·4062176 | 6·5151307 |
| 20 | 5·4241490 | 6·5507029 | 20 | 5·4104319 | 6·5279136 | 20 | 5·3965038 | 6·5043496 |
| 21 | 5·4141178 | 6·5397292 | 21 | 5·4004007 | 6·5169752 | 21 | 5·3864726 | 6·4934451 |
| 22 | 5·4040062 | 6·5286421 | 22 | 5·3902891 | 6·5059255 | 22 | 5·3763610 | 6·4824316 |
| 23 | 5·3938169 | 6·5174363 | 23 | 5·3800998 | 6·4947594 | 23 | 5·3661717 | 6·4713042 |
| 24 | 5·3835517 | 6·5061059 | 24 | 5·3698346 | 6·4834709 | 24 | 5·3559065 | 6·4600570 |
| 25 | 5·3732116 | 6·4946439 | 25 | 5·3594945 | 6·4720537 | 25 | 5·3455664 | 6·4486832 |
| 26 | 5·3627967 | 6·4830421 | 26 | 5·3490796 | 6·4605001 | 26 | 5·3351515 | 6·4371761 |
| 27 | 5·3523063 | 6·4712915 | 27 | 5·3385892 | 6·4488011 | 27 | 5·3246611 | 6·4255271 |
| 28 | 5·3417388 | 6·4593830 | 28 | 5·3280217 | 6·4369470 | 28 | 5·3140936 | 6·4137265 |
| 29 | 5·3310920 | 6·4473056 | 29 | 5·3173749 | 6·4249278 | 29 | 5·3034468 | 6·4017640 |
| 30 | 5·3203626 | 6·4350474 | 30 | 5·3066455 | 6·4127322 | 30 | 5·2927174 | 6·3896289 |
| 31 | 5·3095466 | 6·4225966 | 31 | 5·2958295 | 6·4003472 | 31 | 5·2819014 | 6·3773088 |
| 32 | 5·2986391 | 6·4099385 | 32 | 5·2849220 | 6·3877599 | 32 | 5·2709939 | 6·3647903 |
| 33 | 5·2876344 | 6·3970585 | 33 | 5·2739173 | 6·3749554 | 33 | 5·2599892 | 6·3520594 |
| 34 | 5·2765260 | 6·3839412 | 34 | 5·2628089 | 6·3619177 | 34 | 5·2488808 | 6·3391003 |
| 35 | 5·2653065 | 6·3705686 | 35 | 5·2515894 | 6·3486306 | 35 | 5·2376613 | 6·3258962 |
| 36 | 5·2539677 | 6·3569235 | 36 | 5·2402506 | 6·3350752 | 36 | 5·2263225 | 6·3124298 |
| 37 | 5·2425005 | 6·3429858 | 37 | 5·2287834 | 6·3212332 | 37 | 5·2148553 | 6·2986814 |
| 38 | 5·2308951 | 6·3287343 | 38 | 5·2171780 | 6·3070830 | 38 | 5·2032499 | 6·2846310 |
| 39 | 5·2191407 | 6·3141477 | 39 | 5·2054236 | 6·2926027 | 39 | 5·1914955 | 6·2702562 |
| 40 | 5·2072259 | 6·2992016 | 40 | 5·1935088 | 6·2777696 | 40 | 5·1795807 | 6·2555340 |
| 41 | 5·1951382 | 6·2838717 | 41 | 5·1814211 | 6·2625579 | 41 | 5·1674930 | 6·2404399 |
| 42 | 5·1828644 | 6·2681304 | 42 | 5·1691473 | 6·2469412 | 42 | 5·1552192 | 6·2249467 |
| 43 | 5·1703904 | 6·2519495 | 43 | 5·1566733 | 6·2308907 | 43 | 5·1427452 | 6·2090263 |
| 44 | 5·1577015 | 6·2352996 | 44 | 5·1439844 | 6·2143765 | 44 | 5·1300563 | 6·1926480 |
| 45 | 5·1447818 | 6·2181480 | 45 | 5·1310647 | 6·1973669 | 45 | 5·1171366 | 6·1757800 |
| 46 | 5·1316148 | 6·2004606 | 46 | 5·1178977 | 6·1798269 | 46 | 5·1039696 | 6·1583885 |
| 47 | 5·1181831 | 6·1822017 | 47 | 5·1044660 | 6·1617201 | 47 | 5·0905379 | 6·1404354 |
| 48 | 5·1044685 | 6·1633311 | 48 | 5·0907514 | 6·1430082 | 48 | 5·0768233 | 6·1218821 |
| 49 | 5·0904519 | 6·1438074 | 49 | 5·0767348 | 6·1236472 | 49 | 5·0628067 | 6·1026872 |
| 50 | 5·0761135 | 6·1235861 | 50 | 5·0623964 | 6·1035931 | 50 | 5·0484683 | 6·0828027 |
| 51 | 5·0614325 | 6·1026192 | 51 | 5·0477154 | 6·0827969 | 51 | 5·0337873 | 6·0621806 |
| 52 | 5·0461428 | 6·0808534 | 52 | 5·0324257 | 6·0612059 | 52 | 5·0184976 | 6·0407681 |
| 53 | 5·0304083 | 6·0582571 | 53 | 5·0166912 | 6·0387870 | 53 | 5·0027631 | 6·0185317 |
| 54 | 5·0142117 | 6·0347756 | 54 | 5·0004946 | 6·0154863 | 54 | 4·9865665 | 5·9954169 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

## Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female $(y)$ | 51 | | | 52 | | | 53 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male $(x)$ | $\lambda\ D_{x,51}$ | $\lambda\ N_{x,51}$ | Age of Male $(x)$ | $\lambda\ D_{x,52}$ | $\lambda\ N_{x,52}$ | Age of Male $(x)$ | $\lambda\ D_{x,53}$ | $\lambda\ N_{x,53}$ |
| 55 | 4·9975258 | 6·0103505 | 55 | 4·9838087 | 5·9912441 | 55 | 4·9698806 | 5·9713632 |
| 56 | 4·9803129 | 5·9849169 | 56 | 4·9665958 | 5·9659950 | 56 | 4·9526677 | 5·9463050 |
| 57 | 4·9625249 | 5·9584042 | 57 | 4·9488078 | 5·9396679 | 57 | 4·9348797 | 5·9201706 |
| 58 | 4·9441034 | 5·9307367 | 58 | 4·9303863 | 5·9121864 | 58 | 4·9164582 | 5·8928828 |
| 59 | 4·9249798 | 5·9018328 | 59 | 4·9112627 | 5·8834683 | 59 | 4·8973346 | 5·8643589 |
| 60 | 4·9050750 | 5·8716050 | 60 | 4·8913579 | 5·8534256 | 60 | 4·8774298 | 5·8345098 |
| 61 | 4·8842997 | 5·8399599 | 61 | 4·8705826 | 5·8219642 | 61 | 4·8566545 | 5·8032414 |
| 62 | 4·8625542 | 5·8067981 | 62 | 4·8488371 | 5·7889842 | 62 | 4·8349090 | 5·7704527 |
| 63 | 4·8397285 | 5·7720141 | 63 | 4·8260114 | 5·7543794 | 63 | 4·8120833 | 5·7360372 |
| 64 | 4·8157023 | 5·7354956 | 64 | 4·8019852 | 5·7180372 | 64 | 4·7880571 | 5·6998815 |
| 65 | 4·7903449 | 5·6971234 | 65 | 4·7766278 | 5·6798382 | 65 | 4·7626997 | 5·6618658 |
| 66 | 4·7635153 | 5·6567719 | 66 | 4·7497982 | 5·6396557 | 66 | 4·7358701 | 5·6218634 |
| 67 | 4·7350622 | 5·6143079 | 67 | 4·7213451 | 5·5973568 | 67 | 4·7074170 | 5·5797400 |
| 68 | 4·7048241 | 5·5695907 | 68 | 4·6911070 | 5·5528002 | 68 | 4·6771789 | 5·5353549 |
| 69 | 4·6726288 | 5·5224714 | 69 | 4·6589117 | 5·5058372 | 69 | 4·6449836 | 5·4885587 |
| 70 | 4·6382942 | 5·4727942 | 70 | 4·6245771 | 5·4563104 | 70 | 4·6106490 | 5·4391942 |
| 71 | 4·6016276 | 5·4203932 | 71 | 4·5879105 | 5·4040556 | 71 | 4·5739824 | 5·3870955 |
| 72 | 4·5624260 | 5·3650941 | 72 | 4·5487089 | 5·3488981 | 72 | 4·5347808 | 5·3320898 |
| 73 | 4·5204763 | 5·3067156 | 73 | 4·5067592 | 5·2906544 | 73 | 4·4928311 | 5·2739934 |
| 74 | 4·4755547 | 5·2450641 | 74 | 4·4618376 | 5·2291339 | 74 | 4·4479095 | 5·2126129 |
| 75 | 4·4274274 | 5·1799388 | 75 | 4·4137103 | 5·1641336 | 75 | 4·3997822 | 5·1477486 |
| 76 | 4·3758500 | 5·1111280 | 76 | 4·3621329 | 5·0954428 | 76 | 4·3482048 | 5·0791877 |
| 77 | 4·3205681 | 5·0384103 | 77 | 4·3068510 | 5·0228399 | 77 | 4·2929229 | 5·0067095 |
| 78 | 4·2613167 | 4·9615535 | 78 | 4·2475996 | 4·9460930 | 78 | 4·2336715 | 4 9300821 |
| 79 | 4·1978206 | 4·8803156 | 79 | 4·1841035 | 4·8649594 | 79 | 4·1701754 | 4·8490636 |
| 80 | 4·1297942 | 4·7944434 | 80 | 4·1160771 | 4·7791873 | 80 | 4·1021490 | 4·7634003 |
| 81 | 4·0569416 | 4·7036739 | 81 | 4·0432245 | 4·6885124 | 81 | 4·0292964 | 4·6728300 |
| 82 | 3·9789565 | 4·6077308 | 82 | 3·9652394 | 4·5926598 | 82 | 3·9513113 | 4·5770771 |
| 83 | 3·8955226 | 4·5063286 | 83 | 3·8818055 | 4·4913438 | 83 | 3·8678774 | 4·4758559 |
| 84 | 3·8063128 | 4·3991707 | 84 | 3·7925957 | 4·3842665 | 84 | 3·7786676 | 4·3688694 |
| 85 | 3·7109900 | 4·2859472 | 85 | 3·6972729 | 4·2711207 | 85 | 3·6833448 | 4·2558088 |
| 86 | 3·6092066 | 4·1663378 | 86 | 3·5954895 | 4·1515846 | 86 | 3·5815614 | 4·1363552 |
| 87 | 3·5006048 | 4·0400114 | 87 | 3·4868877 | 4·0253268 | 87 | 3·4729596 | 4·0101757 |
| 88 | 3·3848164 | 3·9066232 | 88 | 3·3710993 | 3·8920049 | 88 | 3·3571712 | 3·8769264 |
| 89 | 3·2614630 | 3·7658183 | 89 | 3·2477459 | 3·7512614 | 89 | 3·2338178 | 3·7362546 |
| 90 | 3·1301555 | 3·6172290 | 90 | 3·1164384 | 3·6027294 | 90 | 3·1025103 | 3·5877895 |
| 91 | 2·9904950 | 3·4604727 | 91 | 2·9767779 | 3·4460288 | 91 | 2·9628498 | 3·4311520 |
| 92 | 2·8420719 | 3·2951564 | 92 | 2·8283548 | 3·2807650 | 92 | 2·8144267 | 3·2659483 |
| 93 | 2·6844664 | 3·1208712 | 93 | 2·6707493 | 3·1065289 | 93 | 2·6568212 | 3·0917700 |
| 94 | 2·5172483 | 2·9371898 | 94 | 2·5035312 | 2·9228946 | 94 | 2·4896031 | 2·9081905 |
| 95 | 2·3399772 | 2·7436649 | 95 | 2·3262601 | 2·7294127 | 95 | 2·3123320 | 2·7147621 |
| 96 | 2·1522023 | 2·5398135 | 96 | 2·1384852 | 2·5256058 | 96 | 2·1245571 | 2·5110045 |
| 97 | 1·9534624 | 2·3251064 | 97 | 1·9397453 | 2·3109396 | 97 | 1·9258172 | 2·2963901 |
| 98 | 1·7432861 | 2·0989247 | 98 | 1·7295690 | 2·0847985 | 98 | 1·7156409 | 2·0702991 |
| 99 | 1·5211917 | 1·8604799 | 99 | 1·5074746 | 1·8463971 | 99 | 1·4935465 | 1·8319484 |
| 100 | 1·2866869 | 1·6086469 | 100 | 1·2729698 | 1·5946091 | 100 | 1·2590417 | 1·5802177 |
| 101 | 1·0392694 | 1·3415690 | 101 | 1·0255523 | 1·3275837 | 101 | 1·0116242 | 1·3132554 |
| 102 | 0·7784264 | 1·0557223 | 102 | 0·7647093 | 1·0418031 | 102 | 0·7507812 | 1·0275535 |
| 103 | 0·5036348 | 0·7434235 | 103 | 0·4899177 | 0·7295859 | 103 | 0·4759896 | 0·7154434 |
| 104 | 0·2143612 | 0·3848729 | 104 | 0·2006441 | 0·3710679 | 104 | 0·1867160 | 0·3570768 |
| 105 | 9·9100618 | | 105 | 9·8963447 | | 105 | 9·8824166 | |
| 106 | 9·5901826 | | 106 | 9·5764655 | | 106 | 9·5625374 | |
| 107 | 9·2541592 | | 107 | 9·2404421 | | 107 | 9·2265140 | |
| 108 | 8·9014169 | | 108 | 8·8876998 | | 108 | 8·8737717 | |
| 109 | 8·5313706 | | 109 | 8·5176535 | | 109 | 8·5037254 | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female (*y*) | 54 | | 55 | | | 56 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (*x*) | λ $D_{x,\,54}$ | λ $N_{x,\,54}$ | Age of Male (*x*) | λ $D_{x,\,55}$ | λ $N_{x,\,55}$ | Age of Male (*x*) | λ $D_{x,\,56}$ | λ $N_{x,\,56}$ |
| 0 | 5·6965436 | 6·6953855 | 0 | 5·6814965 | 6·6700675 | 0 | 5·6658698 | 6·6438497 |
| 1 | 5·6125414 | 6·6750619 | 1 | 5·5974943 | 6·6494991 | 1 | 5·5818676 | 6·6230214 |
| 2 | 5·5772605 | 6·6613792 | 2 | 5·5622134 | 6·6357266 | 2 | 5·5465867 | 6·6091535 |
| 3 | 5·5551472 | 6·6497297 | 3 | 5·5401001 | 6·6240367 | 3 | 5·5244734 | 6·5974190 |
| 4 | 5·5382455 | 6·6390243 | 4 | 5·5231984 | 6·6133145 | 4 | 5·5075717 | 6·5866779 |
| 5 | 5·5240181 | 6·6288587 | 5 | 5·5089710 | 6·6031470 | 5 | 5·4933443 | 6·5765065 |
| 6 | 5·5116569 | 6·6190334 | 6 | 5·4966098 | 6·5933294 | 6 | 5·4809831 | 6·5666962 |
| 7 | 5·5005134 | 6·6094075 | 7 | 5·4854663 | 6·5837196 | 7 | 5·4698396 | 6·5571006 |
| 8 | 5·4900992 | 6·5998895 | 8 | 5·4750521 | 6·5742218 | 8 | 5·4594254 | 6·5476239 |
| 9 | 5·4803518 | 6·5904225 | 9 | 5·4653047 | 6·5647794 | 9 | 5·4496780 | 6·5382057 |
| 10 | 5·4711166 | 6·5809513 | 10 | 5·4560695 | 6·5553361 | 10 | 5·4404428 | 6·5287896 |
| 11 | 5·4622521 | 6·5714314 | 11 | 5·4472050 | 6·5458450 | 11 | 5·4315783 | 6·5193282 |
| 12 | 5·4536301 | 6·5618252 | 12 | 5·4385830 | 6·5362699 | 12 | 5·4229563 | 6·5097830 |
| 13 | 5·4451356 | 6·5521060 | 13 | 5·4300885 | 6·5265806 | 13 | 5·4144618 | 6·5001251 |
| 14 | 5·4366667 | 6·5422520 | 14 | 5·4216196 | 6·5167578 | 14 | 5·4059929 | 6·4903322 |
| 15 | 5·4281349 | 6·5322501 | 15 | 5·4130878 | 6·5067861 | 15 | 5·3974611 | 6·4803910 |
| 16 | 5·4194646 | 6·5220930 | 16 | 5·4044175 | 6·4966589 | 16 | 5·3887908 | 6·4702935 |
| 17 | 5·4105938 | 6·5117785 | 17 | 5·3955467 | 6·4863745 | 17 | 5·3799200 | 6·4600383 |
| 18 | 5·4014733 | 6·5013105 | 18 | 5·3864262 | 6·4759362 | 18 | 5·3707995 | 6·4496295 |
| 19 | 5·3920675 | 6·4906963 | 19 | 5·3770204 | 6·4653519 | 19 | 5·3613937 | 6·4390746 |
| 20 | 5·3823537 | 6·4799466 | 20 | 5·3673066 | 6·4546333 | 20 | 5·3516799 | 6·4283858 |
| 21 | 5·3723225 | 6·4690754 | 21 | 5·3572754 | 6·4437938 | 21 | 5·3416487 | 6·4175776 |
| 22 | 5·3622109 | 6·4580970 | 22 | 5·3471638 | 6·4328496 | 22 | 5·3315371 | 6·4066662 |
| 23 | 5·3520216 | 6·4470069 | 23 | 5·3369745 | 6·4217957 | 23 | 5·3213478 | 6·3956475 |
| 24 | 5·3417564 | 6·4357998 | 24 | 5·3267093 | 6·4106269 | 24 | 5·3110826 | 6·3845163 |
| 25 | 5·3314163 | 6·4244687 | 25 | 5·3163692 | 6·3993374 | 25 | 5·3007425 | 6·3732665 |
| 26 | 5·3210014 | 6·4130065 | 26 | 5·3059543 | 6·3879195 | 26 | 5·2903276 | 6·3618915 |
| 27 | 5·3105110 | 6·4014059 | 27 | 5·2954639 | 6·3763652 | 27 | 5·2798372 | 6·3503830 |
| 28 | 5·2999435 | 6·3896572 | 28 | 5·2848964 | 6·3646667 | 28 | 5·2692697 | 6·3387327 |
| 29 | 5·2892967 | 6·3777503 | 29 | 5·2742496 | 6·3528136 | 29 | 5·2586229 | 6·3269318 |
| 30 | 5·2785673 | 6·3656740 | 30 | 5·2635202 | 6·3407950 | 30 | 5·2478935 | 6·3149688 |
| 31 | 5·2677513 | 6·3534169 | 31 | 5·2527042 | 6·3285987 | 31 | 5·2370775 | 6·3028327 |
| 32 | 5·2568438 | 6·3409657 | 32 | 5·2417967 | 6·3162131 | 32 | 5·2261700 | 6·2905101 |
| 33 | 5·2458391 | 6·3283064 | 33 | 5·2307920 | 6·3036237 | 33 | 5·2151653 | 6·2779886 |
| 34 | 5·2347307 | 6·3154237 | 34 | 5·2196836 | 6·2908154 | 34 | 5·2040569 | 6·2652533 |
| 35 | 5·2235112 | 6·3023015 | 35 | 5·2084641 | 6·2777724 | 35 | 5·1928374 | 6·2522875 |
| 36 | 5·2121724 | 6·2889214 | 36 | 5·1971253 | 6·2644774 | 36 | 5·1814986 | 6·2390751 |
| 37 | 5·2007052 | 6·2752655 | 37 | 5·1856581 | 6·2509111 | 37 | 5·1700314 | 6·2255971 |
| 38 | 5·1890998 | 6·2613126 | 38 | 5·1740527 | 6·2370544 | 38 | 5·1584260 | 6·2118339 |
| 39 | 5·1773454 | 6·2470419 | 39 | 5·1622983 | 6·2228850 | 39 | 5·1466716 | 6·1977646 |
| 40 | 5·1654306 | 6·2324294 | 40 | 5·1503835 | 6·2083806 | 40 | 5·1347568 | 6·1833658 |
| 41 | 5·1533429 | 6·2174508 | 41 | 5·1382958 | 6·1935162 | 41 | 5·1226691 | 6·1686139 |
| 42 | 5·1410691 | 6·2020802 | 42 | 5·1260220 | 6·1782657 | 42 | 5·1103953 | 6·1534823 |
| 43 | 5·1285951 | 6·1862883 | 43 | 5·1135480 | 6·1626015 | 43 | 5·0979213 | 6·1379435 |
| 44 | 5·1159062 | 6·1700457 | 44 | 5·1008591 | 6·1464924 | 44 | 5·0852324 | 6·1219674 |
| 45 | 5·1029865 | 6·1533193 | 45 | 5·0879394 | 6·1299074 | 45 | 5·0723127 | 6·1055214 |
| 46 | 5·0898195 | 6·1360753 | 46 | 5·0747724 | 6·1128107 | 46 | 5·0591457 | 6·0885720 |
| 47 | 5·0763878 | 6·1182773 | 47 | 5·0613407 | 6·0951659 | 47 | 5·0457140 | 6·0710811 |
| 48 | 5·0626732 | 6·0998843 | 48 | 5·0476261 | 6·0769342 | 48 | 5·0319994 | 6·0530093 |
| 49 | 5·0486566 | 6·0808544 | 49 | 5·0336095 | 6·0580714 | 49 | 5·0179828 | 6·0343143 |
| 50 | 5·0343182 | 6·0611429 | 50 | 5·0192711 | 6·0385316 | 50 | 5·0036444 | 6·0149487 |
| 51 | 5·0196372 | 6·0406977 | 51 | 5·0045901 | 6·0182661 | 51 | 4·9889634 | 5·9948626 |
| 52 | 5·0043475 | 6·0194666 | 52 | 4·9893004 | 5·9972184 | 52 | 4·9736737 | 5·9740014 |
| 53 | 4·9886130 | 5·9974161 | 53 | 4·9735659 | 5·9753569 | 53 | 4·9579392 | 5·9523318 |
| 54 | 4·9724164 | 5·9744916 | 54 | 4·9573693 | 5·9526258 | 54 | 4·9417426 | 5·9297979 |

## JOINT LIVES :—Male and Female Life.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 54 | | | 55 | | | 56 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | λ $D_{x,\,54}$ | λ $N_{x,\,54}$ | Age of Male ($x$) | λ $D_{x,\,55}$ | λ $N_{x,\,55}$ | Age of Male ($x$) | λ $D_{x,\,56}$ | λ $N_{x,\,56}$ |
| 55 | 4·9557305 | 5·9506317 | 55 | 4·9406834 | 5·9289640 | 55 | 4·9250567 | 5·9063380 |
| 56 | 4·9385176 | 5·9257702 | 56 | 4·9234705 | 5·9043040 | 56 | 4·9078438 | 5·8818846 |
| 57 | 4·9207296 | 5·8998347 | 57 | 4·9056825 | 5·8785729 | 57 | 4·8900558 | 5·8563637 |
| 58 | 4·9023081 | 5·8727477 | 58 | 4·8872610 | 5·8516922 | 58 | 4·8716343 | 5·8296961 |
| 59 | 4·8831845 | 5·8444251 | 59 | 4·8681374 | 5·8235779 | 59 | 4·8525107 | 5·8017967 |
| 60 | 4·8632797 | 5·8147780 | 60 | 4·8482326 | 5·7941395 | 60 | 4·8326059 | 5·7725750 |
| 61 | 4·8425044 | 5·7837107 | 61 | 4·8274573 | 5·7632812 | 61 | 4·8118306 | 5·7419336 |
| 62 | 4·8207589 | 5·7511223 | 62 | 4·8057118 | 5·7309007 | 62 | 4·7900851 | 5·7097704 |
| 63 | 4·7979332 | 5·7169052 | 63 | 4·7828861 | 5·6968904 | 63 | 4·7672594 | 5·6759760 |
| 64 | 4·7739070 | 5·6809457 | 64 | 4·7588599 | 5·6611355 | 64 | 4·7432332 | 5·6404355 |
| 65 | 4·7485496 | 5·6431231 | 65 | 4·7335025 | 5·6235148 | 65 | 4·7178758 | 5·6030271 |
| 66 | 4·7217200 | 5·6033103 | 66 | 4·7066729 | 5·5839008 | 66 | 4·6910462 | 5·5636222 |
| 67 | 4·6932669 | 5·5613732 | 67 | 4·6782198 | 5·5421583 | 67 | 4·6625931 | 5·5220853 |
| 68 | 4·6630288 | 5·5171694 | 68 | 4·6479817 | 5·4981454 | 68 | 4·6323550 | 5·4782736 |
| 69 | 4·6308335 | 5·4705500 | 69 | 4·6157864 | 5·4517115 | 69 | 4·6001597 | 5·4320371 |
| 70 | 4·5964989 | 5·4213574 | 70 | 4·5814518 | 5·4026998 | 70 | 4·5658251 | 5·3832169 |
| 71 | 4·5598323 | 5·3694262 | 71 | 4·5447852 | 5·3509437 | 71 | 4·5291585 | 5·3316475 |
| 72 | 4·5206307 | 5·3145811 | 72 | 4·5055836 | 5·2962691 | 72 | 4·4899569 | 5·2771536 |
| 73 | 4·4786810 | 5·2566408 | 73 | 4·4636339 | 5·2384920 | 73 | 4·4480072 | 5·2195517 |
| 74 | 4·4337594 | 5·1954116 | 74 | 4·4187123 | 5·1774214 | 74 | 4·4030856 | 5·1586492 |
| 75 | 4·3856321 | 5·1306913 | 75 | 4·3705850 | 5·1128539 | 75 | 4·3549583 | 5·0942451 |
| 76 | 4·3340547 | 5·0622702 | 76 | 4·3190076 | 5·0445783 | 76 | 4·3033809 | 5·0261261 |
| 77 | 4·2787728 | 4·9899253 | 77 | 4·2637257 | 4·9723736 | 77 | 4·2480990 | 4·9540712 |
| 78 | 4·2195214 | 4·9134260 | 78 | 4·2044743 | 4·8960084 | 78 | 4·1888476 | 4·8778498 |
| 79 | 4·1560253 | 4·8325300 | 79 | 4·1409782 | 4·8152402 | 79 | 4·1253515 | 4·7972191 |
| 80 | 4·0879989 | 4·7469843 | 80 | 4·0729518 | 4·7298174 | 80 | 4·0573251 | 4·7119270 |
| 81 | 4·0151463 | 4·6565256 | 81 | 4·0000992 | 4·6394755 | 81 | 3·9844725 | 4·6217110 |
| 82 | 3·9371612 | 4·5608800 | 82 | 3·9221141 | 4·5439407 | 82 | 3·9064874 | 4·5262954 |
| 83 | 3·8537273 | 4·4597611 | 83 | 3·8386802 | 4·4429273 | 83 | 3·8230535 | 4·4253959 |
| 84 | 3·7645175 | 4·3528720 | 84 | 3·7494704 | 4·3361390 | 84 | 3·7338437 | 4·3187151 |
| 85 | 3·6691947 | 4·2399048 | 85 | 3·6541476 | 4·2232669 | 85 | 3·6385209 | 4·2059461 |
| 86 | 3·5674113 | 4·1205387 | 86 | 3·5523642 | 4·1039921 | 86 | 3·5367375 | 4·0867684 |
| 87 | 3·4588095 | 3·9944443 | 87 | 3·4437624 | 3·9779823 | 87 | 3·4281357 | 3·9608517 |
| 88 | 3·3430211 | 3·8612763 | 88 | 3·3279740 | 3·8448964 | 88 | 3·3123473 | 3·8278518 |
| 89 | 3·2196677 | 3·7206793 | 89 | 3·2046206 | 3·7043779 | 89 | 3·1889939 | 3·6874166 |
| 90 | 3·0883602 | 3·5722883 | 90 | 3·0733131 | 3·5560576 | 90 | 3·0576864 | 3·5391765 |
| 91 | 2·9486997 | 3·4157204 | 91 | 2·9336526 | 3·3995604 | 91 | 2·9180259 | 3·3827524 |
| 92 | 2·8002766 | 3·2505832 | 92 | 2·7852295 | 3·2344892 | 92 | 2·7696028 | 3·2177518 |
| 93 | 2·6426711 | 3·0764683 | 93 | 2·6276240 | 3·0604372 | 93 | 2·6119973 | 3·0437669 |
| 94 | 2·4754530 | 2·8929501 | 94 | 2·4604059 | 2·8769783 | 94 | 2·4447792 | 2·8603727 |
| 95 | 2·2981819 | 2·6995811 | 95 | 2·2831348 | 2·6836665 | 95 | 2·2675081 | 2·6671213 |
| 96 | 2·1104070 | 2·4958814 | 96 | 2·0953599 | 2·4800227 | 96 | 2·0797332 | 2·4635377 |
| 97 | 1·9116671 | 2·2813221 | 97 | 1·8966200 | 2·2655176 | 97 | 1·8809933 | 2·2490905 |
| 98 | 1·7014908 | 2·0552889 | 98 | 1·6864437 | 2·0395383 | 98 | 1·6708170 | 2·0231690 |
| 99 | 1·4793964 | 1·8169972 | 99 | 1·4643493 | 1·8013042 | 99 | 1·4487226 | 1·7849937 |
| 100 | 1·2448916 | 1·5653282 | 100 | 1·2298445 | 1·5496959 | 100 | 1·2142178 | 1·5334530 |
| 101 | 0·9974741 | 1·2984404 | 101 | 0·9824270 | 1·2828757 | 101 | 0·9668003 | 1·2667044 |
| 102 | 0·7366311 | 1·0128246 | 102 | 0·7215840 | 0·9973471 | 102 | 0·7059573 | 0·9812658 |
| 103 | 0·4618395 | 0·7008335 | 103 | 0·4467924 | 0·6854551 | 103 | 0·4311657 | 0·6694842 |
| 104 | 0·1725659 | 0·3426398 | 104 | 0·1575188 | 0·3273998 | 104 | 0·1418921 | 0·3115843 |
| 105 | 9·8682665 | | 105 | 9·8532194 | | 105 | 9·8375927 | |
| 106 | 9·5483873 | | 106 | 9·5333402 | | 106 | 9·5177135 | |
| 107 | 9·2123639 | | 107 | 9·1973168 | | 107 | 9·1816901 | |
| 108 | 8·8596216 | | 108 | 8·8445745 | | 108 | 8·8289478 | |
| 109 | 8·4895753 | | 109 | 8·4745282 | | 109 | 8·4589015 | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\ y}$ and $N_{x,\ y}$.

| Age of Female ($y$) | 57 | | | 58 | | | 59 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda\ D_{x,\ 57}$ | $\lambda\ N_{x,\ 57}$ | Age of Male ($x$) | $\lambda\ D_{x,\ 58}$ | $\lambda\ N_{x,\ 58}$ | Age of Male ($x$) | $\lambda\ D_{x,\ 59}$ | $\lambda\ N_{x,\ 59}$ |
| 0 | 5·6496376 | 6·6166794 | 0 | 5·6327629 | 6·5884978 | 0 | 5·6151980 | 6·5592397 |
| 1 | 5·5656354 | 6·5955752 | 1 | 5·5487607 | 6·5671006 | 1 | 5·5311958 | 6·5375316 |
| 2 | 5·5303545 | 6·5816048 | 2 | 5·5134798 | 6·5530204 | 2 | 5·4959149 | 6·5233340 |
| 3 | 5·5082412 | 6·5698225 | 3 | 5·4913665 | 6·5411857 | 3 | 5·4738016 | 6·5114421 |
| 4 | 5·4913395 | 6·5590591 | 4 | 5·4744648 | 6·5303979 | 4 | 5·4568999 | 6·5006268 |
| 5 | 5·4771121 | 6·5488825 | 5 | 5·4602374 | 6·5202134 | 5 | 5·4426725 | 6·4904329 |
| 6 | 5·4647509 | 6·5390780 | 6 | 5·4478762 | 6·5104139 | 6 | 5·4303113 | 6·4806360 |
| 7 | 5·4536074 | 6·5294966 | 7 | 5·4367327 | 6·5008455 | 7 | 5·4191678 | 6·4710803 |
| 8 | 5·4431932 | 6·5200392 | 8 | 5·4263185 | 6·4914075 | 8 | 5·4087536 | 6·4616608 |
| 9 | 5·4334458 | 6·5106459 | 9 | 5·4165711 | 6·4820378 | 9 | 5·3990062 | 6·4523148 |
| 10 | 5·4242106 | 6·5012569 | 10 | 5·4073359 | 6·4726767 | 10 | 5·3897710 | 6·4429807 |
| 11 | 5·4153461 | 6·4918248 | 11 | 5·3984714 | 6·4632737 | 11 | 5·3809065 | 6·4336077 |
| 12 | 5·4067241 | 6·4823104 | 12 | 5·3898494 | 6·4537897 | 12 | 5·3722845 | 6·4241541 |
| 13 | 5·3982296 | 6·4726828 | 13 | 5·3813549 | 6·4441935 | 13 | 5·3637900 | 6·4145886 |
| 14 | 5·3897607 | 6·4629211 | 14 | 5·3728860 | 6·4344619 | 14 | 5·3553211 | 6·4048882 |
| 15 | 5·3812289 | 6·4530095 | 15 | 5·3643542 | 6·4245810 | 15 | 5·3467893 | 6·3950369 |
| 16 | 5·3725586 | 6·4429418 | 16 | 5·3556839 | 6·4145418 | 16 | 5·3381190 | 6·3850275 |
| 17 | 5·3636878 | 6·4327154 | 17 | 5·3468131 | 6·4043444 | 17 | 5·3292482 | 6·3748578 |
| 18 | 5·3545673 | 6·4223349 | 18 | 5·3376926 | 6·3939920 | 18 | 5·3201277 | 6·3645331 |
| 19 | 5·3451615 | 6·4118089 | 19 | 5·3282868 | 6·3834936 | 19 | 5·3107219 | 6·3540621 |
| 20 | 5·3354477 | 6·4011494 | 20 | 5·3185730 | 6·3728627 | 20 | 5·3010081 | 6·3434587 |
| 21 | 5·3254165 | 6·3903714 | 21 | 5·3085418 | 6·3621144 | 21 | 5·2909769 | 6·3327390 |
| 22 | 5·3153049 | 6·3794922 | 22 | 5·2984302 | 6·3512661 | 22 | 5·2808653 | 6·3219213 |
| 23 | 5·3051156 | 6·3685074 | 23 | 5·2882409 | 6·3403146 | 23 | 5·2706760 | 6·3110013 |
| 24 | 5·2948504 | 6·3574124 | 24 | 5·2779757 | 6·3292547 | 24 | 5·2604108 | 6·2999758 |
| 25 | 5·2845103 | 6·3462015 | 25 | 5·2676356 | 6·3180811 | 25 | 5·2500707 | 6·2888383 |
| 26 | 5·2740954 | 6·3348676 | 26 | 5·2572207 | 6·3067876 | 26 | 5·2396558 | 6·2775833 |
| 27 | 5·2636050 | 6·3234037 | 27 | 5·2467303 | 6·2953660 | 27 | 5·2291654 | 6·2662040 |
| 28 | 5·2530375 | 6·3118006 | 28 | 5·2361628 | 6·2838094 | 28 | 5·2185979 | 6·2546912 |
| 29 | 5·2423907 | 6·3000497 | 29 | 5·2255160 | 6·2721075 | 29 | 5·2079511 | 6·2430372 |
| 30 | 5·2316613 | 6·2881412 | 30 | 5·2147866 | 6·2602508 | 30 | 5·1972217 | 6·2312312 |
| 31 | 5·2208453 | 6·2760630 | 31 | 5·2039706 | 6·2482289 | 31 | 5·1864057 | 6·2192633 |
| 32 | 5·2099378 | 6·2638027 | 32 | 5·1930631 | 6·2360289 | 32 | 5·1754982 | 6·2071217 |
| 33 | 5·1989331 | 6·2513469 | 33 | 5·1820584 | 6·2236377 | 33 | 5·1644935 | 6·1947932 |
| 34 | 5·1878247 | 6·2386820 | 34 | 5·1709500 | 6·2110412 | 34 | 5·1533851 | 6·1822637 |
| 35 | 5·1766052 | 6·2257921 | 35 | 5·1597305 | 6·1982245 | 35 | 5·1421656 | 6·1695181 |
| 36 | 5·1652664 | 6·2126600 | 36 | 5·1483917 | 6·1851712 | 36 | 5·1308268 | 6·1565410 |
| 37 | 5·1537992 | 6·1992683 | 37 | 5·1369245 | 6·1718631 | 37 | 5·1193596 | 6·1433143 |
| 38 | 5·1421938 | 6·1855966 | 38 | 5·1253191 | 6·1582811 | 38 | 5·1077542 | 6·1298197 |
| 39 | 5·1304394 | 6·1716247 | 39 | 5·1135647 | 6·1444046 | 39 | 5·0959998 | 6·1160363 |
| 40 | 5·1185246 | 6·1573301 | 40 | 5·1016499 | 6·1302112 | 40 | 5·0840850 | 6·1019422 |
| 41 | 5·1064369 | 6·1426882 | 41 | 5·0895622 | 6·1156778 | 41 | 5·0719973 | 6·0875142 |
| 42 | 5·0941631 | 6·1276739 | 42 | 5·0772884 | 6·1007781 | 42 | 5·0597235 | 6·0727273 |
| 43 | 5·0816891 | 6·1122588 | 43 | 5·0648144 | 6·0854851 | 43 | 5·0472495 | 6·0575539 |
| 44 | 5·0690002 | 6·0964136 | 44 | 5·0521255 | 6·0697688 | 44 | 5·0345606 | 6·0419649 |
| 45 | 5·0560805 | 6·0801061 | 45 | 5·0392058 | 6·0535979 | 45 | 5·0216409 | 6·0259282 |
| 46 | 5·0429135 | 6·0633019 | 46 | 5·0260388 | 6·0369377 | 46 | 5·0084739 | 6·0094105 |
| 47 | 5·0294818 | 6·0459641 | 47 | 5·0126071 | 6·0197517 | 47 | 4·9950422 | 5·9923747 |
| 48 | 5·0157672 | 6·0280528 | 48 | 4·9988925 | 6·0020001 | 48 | 4·9813276 | 5·9747811 |
| 49 | 5·0017506 | 6·0095249 | 49 | 4·9848759 | 5·9836392 | 49 | 4·9673110 | 5·9565864 |
| 50 | 4·9874122 | 5·9903339 | 50 | 4·9705375 | 5·9646227 | 50 | 4·9529726 | 5·9377441 |
| 51 | 4·9727312 | 5·9704293 | 51 | 4·9558565 | 5·9448999 | 51 | 4·9382916 | 5·9182030 |
| 52 | 4·9574415 | 5·9497556 | 52 | 4·9405668 | 5·9244154 | 52 | 4·9230019 | 5·8979077 |
| 53 | 4·9417070 | 5·9282804 | 53 | 4·9248323 | 5·9031358 | 53 | 4·9072674 | 5·8768255 |
| 54 | 4·9255104 | 5·9059468 | 54 | 4·9086357 | 5·8810051 | 54 | 4·8910708 | 5·8548993 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female ($y$) | 57 | | | 58 | | | 59 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | λ $D_{x,57}$ | λ $N_{x,57}$ | Age of Male ($x$) | λ $D_{x,58}$ | λ $N_{x,58}$ | Age of Male ($x$) | λ $D_{x,59}$ | λ $N_{x,59}$ |
| 55 | 4·9088245 | 5·8826928 | 55 | 4·8919498 | 5·8579602 | 55 | 4·8743849 | 5·8320661 |
| 56 | 4·8916116 | 5·8584501 | 56 | 4·8747369 | 5·8339322 | 56 | 4·8571720 | 5·8082564 |
| 57 | 4·8738236 | 5·8331445 | 57 | 4·8569489 | 5·8088466 | 57 | 4·8393840 | 5·7833948 |
| 58 | 4·8554021 | 5·8066960 | 58 | 4·8385274 | 5·7826227 | 58 | 4·8209625 | 5·7574001 |
| 59 | 4·8362785 | 5·7790186 | 59 | 4·8194038 | 5·7551735 | 59 | 4·8018389 | 5·7301849 |
| 60 | 4·8163737 | 5·7500206 | 60 | 4·7994990 | 5·7264066 | 60 | 4·7819341 | 5·7016556 |
| 61 | 4·7955984 | 5·7196047 | 61 | 4·7787237 | 5·6962236 | 61 | 4·7611588 | 5·6717130 |
| 62 | 4·7738529 | 5·6876671 | 62 | 4·7569782 | 5·6645203 | 62 | 4·7394133 | 5·6402517 |
| 63 | 4·7510272 | 5·6540984 | 63 | 4·7341525 | 5·6311858 | 63 | 4·7165876 | 5·6071606 |
| 64 | 4·7270010 | 5·6187821 | 64 | 4·7101263 | 5·5961037 | 64 | 4·6925614 | 5·5723217 |
| 65 | 4·7016436 | 5·5815960 | 65 | 4·6847689 | 5·5591502 | 65 | 4·6672040 | 5·5356110 |
| 66 | 4·6748140 | 5·5424109 | 66 | 4·6579393 | 5·5201956 | 66 | 4·6403744 | 5·4968976 |
| 67 | 4·6463609 | 5·5010906 | 67 | 4·6294862 | 5·4791030 | 67 | 4·6119213 | 5·4560436 |
| 68 | 4·6161228 | 5·4574918 | 68 | 4·5992481 | 5·4357286 | 68 | 4·5816832 | 5·4129048 |
| 69 | 4·5839275 | 5·4114634 | 69 | 4·5670528 | 5·3899204 | 69 | 4·5494879 | 5·3673288 |
| 70 | 4·5495929 | 5·3628470 | 70 | 4·5327182 | 5·3415194 | 70 | 4·5151533 | 5·3191554 |
| 71 | 4·5129263 | 5·3114757 | 71 | 4·4960516 | 5·2903584 | 71 | 4·4784867 | 5·2682167 |
| 72 | 4·4737247 | 5·2571744 | 72 | 4·4568500 | 5·2362616 | 72 | 4·4392851 | 5·2143372 |
| 73 | 4·4317750 | 5·1997590 | 73 | 4·4149003 | 5·1790451 | 73 | 4·3973354 | 5·1573319 |
| 74 | 4·3868534 | 5·1390370 | 74 | 4·3699787 | 5·1185155 | 74 | 4·3524138 | 5·0970077 |
| 75 | 4·3387261 | 5·0748059 | 75 | 4·3218514 | 5·0544706 | 75 | 4·3042865 | 5·0331611 |
| 76 | 4·2871487 | 5·0068553 | 76 | 4·2702740 | 4·9866983 | 76 | 4·2527091 | 4·9655808 |
| 77 | 4·2318668 | 4·9349618 | 77 | 4·2149921 | 4·9149780 | 77 | 4·1974272 | 4·8940445 |
| 78 | 4·1726154 | 4·8588943 | 78 | 4·1557407 | 4·8390769 | 78 | 4·1381758 | 4·8183216 |
| 79 | 4·1091193 | 4·7784117 | 79 | 4·0922446 | 4·7587530 | 79 | 4·0746797 | 4·7381691 |
| 80 | 4·0410929 | 4·6932608 | 80 | 4·0242182 | 4·6737542 | 80 | 4·0066533 | 4·6533341 |
| 81 | 3·9682403 | 4·6031795 | 81 | 3·9513656 | 4·5838178 | 81 | 3·9338007 | 4·5635536 |
| 82 | 3·8902552 | 4·5078926 | 82 | 3·8733805 | 4·4886695 | 82 | 3·8558156 | 4·4685548 |
| 83 | 3·8068213 | 4·4071152 | 83 | 3·7899466 | 4·3880246 | 83 | 3·7723817 | 4·3680524 |
| 84 | 3·7176115 | 4·3005511 | 84 | 3·7007368 | 4·2815860 | 84 | 3·6831719 | 4·2617504 |
| 85 | 3·6222887 | 4·1878923 | 85 | 3·6054140 | 4·1690472 | 85 | 3·5878491 | 4·1493404 |
| 86 | 3·5205053 | 4·0688201 | 86 | 3·5036306 | 4·0500881 | 86 | 3·4860657 | 4·0305050 |
| 87 | 3·4119035 | 3·9430025 | 87 | 3·3950288 | 3·9243791 | 87 | 3·3774639 | 3·9049124 |
| 88 | 3·2961151 | 3·8100980 | 88 | 3·2792404 | 3·7915763 | 88 | 3·2616755 | 3·7722212 |
| 89 | 3·1727617 | 3·6697509 | 89 | 3·1558870 | 3·6513275 | 89 | 3·1383221 | 3·6320765 |
| 90 | 3·0414542 | 3·5215970 | 90 | 3·0245795 | 3·5032635 | 90 | 3·0070146 | 3·4841133 |
| 91 | 2·9017937 | 3·3652530 | 91 | 2·8849190 | 3·3470073 | 91 | 2·8673541 | 3·3279516 |
| 92 | 2·7533706 | 3·2003285 | 92 | 2·7364959 | 3·1821661 | 92 | 2·7189310 | 3·1631999 |
| 93 | 2·5957651 | 3·0264160 | 93 | 2·5788904 | 3·0083314 | 93 | 2·5613255 | 2·9894516 |
| 94 | 2·4285470 | 2·8430907 | 94 | 2·4116723 | 2·8250813 | 94 | 2·3941074 | 2·8062817 |
| 95 | 2·2512759 | 2·6499061 | 95 | 2·2344012 | 2·6319691 | 95 | 2·2168363 | 2·6132476 |
| 96 | 2·0635010 | 2·4463849 | 96 | 2·0466263 | 2·4285170 | 96 | 2·0290614 | 2·4098723 |
| 97 | 1·8647611 | 2·2320012 | 97 | 1·8478864 | 2·2142010 | 97 | 1·8303215 | 2·1956295 |
| 98 | 1·6545848 | 2·0061425 | 98 | 1·6377101 | 1·9884096 | 98 | 1·6201452 | 1·9699119 |
| 99 | 1·4324904 | 1·7680317 | 99 | 1·4156157 | 1·7503695 | 99 | 1·3980508 | 1·7319472 |
| 100 | 1·1979856 | 1·5165578 | 100 | 1·1811109 | 1·4989718 | 100 | 1·1635460 | 1·4806321 |
| 101 | 0·9505681 | 1·2498951 | 101 | 0·9336934 | 1·2323887 | 101 | 0·9161285 | 1·2141442 |
| 102 | 0·6897251 | 0·9645472 | 102 | 0·6728504 | 0·9471542 | 102 | 0·6552855 | 0·9290100 |
| 103 | 0·4149335 | 0·6528939 | 103 | 0·3980588 | 0·6356245 | 103 | 0·3804939 | 0·6176398 |
| 104 | 0·1256599 | 0·2951271 | 104 | 0·1087852 | 0·2780444 | 104 | 0·0912203 | 0·2602384 |
| 105 | 9·8213605 | | 105 | 9·8044858 | | 105 | 9·7869209 | |
| 106 | 9·5014813 | | 106 | 9·4846066 | | 106 | 9·4670417 | |
| 107 | 9·1654579 | | 107 | 9·1485832 | | 107 | 9·1310183 | |
| 108 | 8·8127156 | | 108 | 8·7958409 | | 108 | 8·7782760 | |
| 109 | 8·4426693 | | 109 | 8·4257946 | | 109 | 8·4082297 | |

## JOINT LIVES :—Male and Female Life.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 60 | | 61 | | | 62 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | λ $D_{x,\,60}$ | λ $N_{x,\,60}$ | Age of Male ($x$) | λ $D_{x,\,61}$ | λ $N_{x,\,61}$ | Age of Male ($x$) | λ $D_{x,\,62}$ | λ $N_{x,\,62}$ |
| 0 | 5·5968841 | 6·5288352 | 0 | 5·5777513 | 6·4972058 | 0 | 5·5577192 | 6·4642672 |
| 1 | 5·5128819 | 6·5067952 | 1 | 5·4937491 | 6·4748141 | 1 | 5·4737170 | 6·4415021 |
| 2 | 5·4776010 | 6·4924723 | 2 | 5·4584682 | 6·4603561 | 2 | 5·4384361 | 6·4269009 |
| 3 | 5·4554877 | 6·4805189 | 3 | 5·4363549 | 6·4483361 | 3 | 5·4163228 | 6·4148078 |
| 4 | 5·4385860 | 6·4696722 | 4 | 5·4194532 | 6·4374557 | 4 | 5·3994211 | 6·4038898 |
| 5 | 5·4243586 | 6·4594669 | 5 | 5·4052258 | 6·4272353 | 5 | 5·3851937 | 6·3936531 |
| 6 | 5·4119974 | 6·4496718 | 6 | 5·3928646 | 6·4174407 | 6 | 5·3728325 | 6·3838560 |
| 7 | 5·4008539 | 6·4401266 | 7 | 5·3817211 | 6·4079056 | 7 | 5·3616890 | 6·3743300 |
| 8 | 5·3904397 | 6·4307257 | 8 | 5·3713069 | 6·3985214 | 8 | 5·3512748 | 6·3649624 |
| 9 | 5·3806923 | 6·4214029 | 9 | 5·3615595 | 6·3892222 | 9 | 5·3415274 | 6·3556851 |
| 10 | 5·3714571 | 6·4120958 | 10 | 5·3523243 | 6·3799419 | 10 | 5·3322922 | 6·3464322 |
| 11 | 5·3625926 | 6·4027523 | 11 | 5·3434598 | 6·3706277 | 11 | 5·3234277 | 6·3371475 |
| 12 | 5·3539706 | 6·3933299 | 12 | 5·3348378 | 6·3612362 | 12 | 5·3148057 | 6·3277865 |
| 13 | 5·3454761 | 6·3837952 | 13 | 5·3263433 | 6·3517333 | 13 | 5·3063112 | 6·3183153 |
| 14 | 5·3370072 | 6·3741255 | 14 | 5·3178744 | 6·3420941 | 14 | 5·2978423 | 6·3087074 |
| 15 | 5·3284754 | 6·3643046 | 15 | 5·3093426 | 6·3323028 | 15 | 5·2893105 | 6·2989461 |
| 16 | 5·3198051 | 6·3543238 | 16 | 5·3006723 | 6·3223516 | 16 | 5·2806402 | 6·2890232 |
| 17 | 5·3109343 | 6·3441826 | 17 | 5·2918015 | 6·3122377 | 17 | 5·2717694 | 6·2789376 |
| 18 | 5·3018138 | 6·3338846 | 18 | 5·2826810 | 6·3019670 | 18 | 5·2626489 | 6·2686927 |
| 19 | 5·2924080 | 6·3234406 | 19 | 5·2732752 | 6·2915486 | 19 | 5·2532431 | 6·2583006 |
| 20 | 5·2826942 | 6·3128638 | 20 | 5·2635614 | 6·2809981 | 20 | 5·2435293 | 6·2477750 |
| 21 | 5·2726630 | 6·3021716 | 21 | 5·2535302 | 6·2703326 | 21 | 5·2334981 | 6·2371357 |
| 22 | 5·2625514 | 6·2913831 | 22 | 5·2434186 | 6·2595724 | 22 | 5·2233865 | 6·2264027 |
| 23 | 5·2523621 | 6·2804948 | 23 | 5·2332293 | 6·2487141 | 23 | 5·2131972 | 6·2155734 |
| 24 | 5·2420969 | 6·2695018 | 24 | 5·2229641 | 6·2377536 | 24 | 5·2029320 | 6·2046435 |
| 25 | 5·2317568 | 6·2584000 | 25 | 5·2126240 | 6·2266852 | 25 | 5·1925919 | 6·1936087 |
| 26 | 5·2213419 | 6·2471822 | 26 | 5·2022091 | 6·2155044 | 26 | 5·1821770 | 6·1824623 |
| 27 | 5·2108515 | 6·2358427 | 27 | 5·1917187 | 6·2042033 | 27 | 5·1716866 | 6·1711991 |
| 28 | 5·2002840 | 6·2243735 | 28 | 5·1811512 | 6·1927754 | 28 | 5·1611191 | 6·1598110 |
| 29 | 5·1896372 | 6·2127649 | 29 | 5·1705044 | 6·1812119 | 29 | 5·1504723 | 6·1482904 |
| 30 | 5·1789078 | 6·2010089 | 30 | 5·1597750 | 6·1695028 | 30 | 5·1397429 | 6·1366280 |
| 31 | 5·1680918 | 6·1890932 | 31 | 5·1489590 | 6·1576390 | 31 | 5·1289269 | 6·1248129 |
| 32 | 5·1571843 | 6·1770078 | 32 | 5·1380515 | 6·1456078 | 32 | 5·1180194 | 6·1128352 |
| 33 | 5·1461796 | 6·1647400 | 33 | 5·1270468 | 6·1333981 | 33 | 5·1070147 | 6·1006816 |
| 34 | 5·1350712 | 6·1522755 | 34 | 5·1159384 | 6·1209964 | 34 | 5·0959063 | 6·0883407 |
| 35 | 5·1238517 | 6·1395995 | 35 | 5·1047189 | 6·1083881 | 35 | 5·0846868 | 6·0757973 |
| 36 | 5·1125129 | 6·1266963 | 36 | 5·0933801 | 6·0955571 | 36 | 5·0733480 | 6·0630364 |
| 37 | 5·1010457 | 6·1135490 | 37 | 5·0819129 | 6·0824862 | 37 | 5·0618808 | 6·0500409 |
| 38 | 5·0894403 | 6·1001389 | 38 | 5·0703075 | 6·0691588 | 38 | 5·0502754 | 6·0367925 |
| 39 | 5·0776859 | 6·0864460 | 39 | 5·0585531 | 6·0555542 | 39 | 5·0385210 | 6·0232735 |
| 40 | 5·0657711 | 6·0724492 | 40 | 5·0466383 | 6·0416513 | 40 | 5·0266062 | 6·0094624 |
| 41 | 5·0536834 | 6·0581241 | 41 | 5·0345506 | 6·0274276 | 41 | 5·0145185 | 5·9953359 |
| 42 | 5·0414096 | 6·0434472 | 42 | 5·0222768 | 6·0128575 | 42 | 5·0022447 | 5·9808711 |
| 43 | 5·0289356 | 6·0283912 | 43 | 5·0098028 | 5·9979156 | 43 | 4·9897707 | 5·9660406 |
| 44 | 5·0162467 | 6·0129266 | 44 | 4·9971139 | 5·9825728 | 44 | 4·9770818 | 5·9508170 |
| 45 | 5·0033270 | 5·9970223 | 45 | 4·9841942 | 5·9667983 | 45 | 4·9641621 | 5·9351692 |
| 46 | 4·9901600 | 5·9806445 | 46 | 4·9710272 | 5·9505584 | 46 | 4·9509951 | 5·9190643 |
| 47 | 4·9767283 | 5·9637571 | 47 | 4·9575955 | 5·9338168 | 47 | 4·9375634 | 5·9024660 |
| 48 | 4·9630137 | 5·9463198 | 48 | 4·9438809 | 5·9165342 | 48 | 4·9238488 | 5·8853350 |
| 49 | 4·9489971 | 5·9282901 | 49 | 4·9298643 | 5·8986673 | 49 | 4·9098322 | 5·8676291 |
| 50 | 4·9346587 | 5·9096207 | 50 | 4·9155259 | 5·8801697 | 50 | 4·8954938 | 5·8493009 |
| 51 | 4·9199777 | 5·8902611 | 51 | 4·9008449 | 5·8609901 | 51 | 4·8808128 | 5·8303000 |
| 52 | 4·9046880 | 5·8701550 | 52 | 4·8855552 | 5·8410727 | 52 | 4·8655231 | 5·8105697 |
| 53 | 4·8889535 | 5·8492703 | 53 | 4·8698207 | 5·8203853 | 53 | 4·8497886 | 5·7900793 |
| 54 | 4·8727569 | 5·8275501 | 54 | 4·8536241 | 5·7988711 | 54 | 4·8335920 | 5·7687710 |

## JOINT LIVES:—Male and Female Life.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 60 | | | 61 | | | 62 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | λ $D_{x,\,60}$ | λ $N_{x,\,60}$ | Age of Male ($x$) | λ $D_{x,\,61}$ | λ $N_{x,\,61}$ | Age of Male ($x$) | λ $D_{x,\,62}$ | λ $N_{x,\,62}$ |
| 55 | 4·8560710 | 5·8049303 | 55 | 4·8369382 | 5·7764663 | 55 | 4·8169061 | 5·7465810 |
| 56 | 4·8388581 | 5·7813415 | 56 | 4·8197253 | 5·7531000 | 56 | 4·7996932 | 5·7234390 |
| 57 | 4·8210701 | 5·7567076 | 57 | 4·8019373 | 5·7286964 | 57 | 4·7819052 | 5·6992671 |
| 58 | 4·8026486 | 5·7309463 | 58 | 4·7835158 | 5·7031724 | 58 | 4·7634837 | 5·6739830 |
| 59 | 4·7835250 | 5·7039698 | 59 | 4·7643922 | 5·6764389 | 59 | 4·7443601 | 5·6474964 |
| 60 | 4·7636202 | 5·6756839 | 60 | 4·7444874 | 5·6484015 | 60 | 4·7244553 | 5·6197115 |
| 61 | 4·7428449 | 5·6459885 | 61 | 4·7237121 | 5·6189589 | 61 | 4·7036800 | 5·5905271 |
| 62 | 4·7210994 | 5·6147770 | 62 | 4·7019666 | 5·5880040 | 62 | 4·6819345 | 5·5598349 |
| 63 | 4·6982737 | 5·5819372 | 63 | 4·6791409 | 5·5554235 | 63 | 4·6591088 | 5·5275205 |
| 64 | 4·6742475 | 5·5473507 | 64 | 4·6551147 | 5·5210976 | 64 | 4·6350826 | 5·4934633 |
| 65 | 4·6488901 | 5·5108922 | 65 | 4·6297573 | 5·4849007 | 65 | 4·6097252 | 5·4575361 |
| 66 | 4·6220605 | 5·4724302 | 66 | 4·6029277 | 5·4466998 | 66 | 4·5828956 | 5·4196058 |
| 67 | 4·5936074 | 5·4318262 | 67 | 4·5744746 | 5·4063559 | 67 | 4·5544425 | 5·3795316 |
| 68 | 4·5633693 | 5·3889342 | 68 | 4·5442365 | 5·3637221 | 68 | 4·5242044 | 5·3371666 |
| 69 | 4·5311740 | 5·3436016 | 69 | 4·5120412 | 5·3186447 | 69 | 4·4920091 | 5·2923558 |
| 70 | 4·4968394 | 5·2956680 | 70 | 4·4777066 | 5·2709626 | 70 | 4·4576745 | 5·2449369 |
| 71 | 4·4601728 | 5·2449649 | 71 | 4·4410400 | 5·2205066 | 71 | 4·4210079 | 5·1947402 |
| 72 | 4·4209712 | 5·1913147 | 72 | 4·4018384 | 5·1670996 | 72 | 4·3818063 | 5·1415880 |
| 73 | 4·3790215 | 5·1345335 | 73 | 4·3598887 | 5·1105546 | 73 | 4·3398566 | 5·0852938 |
| 74 | 4·3340999 | 5·0744269 | 74 | 4·3149671 | 5·0506794 | 74 | 4·2949350 | 5·0256613 |
| 75 | 4·2859726 | 5·0107921 | 75 | 4·2668398 | 4·9872689 | 75 | 4·2468077 | 4·9624891 |
| 76 | 4·2343952 | 4·9434164 | 76 | 4·2152624 | 4·9201108 | 76 | 4·1952303 | 4·8955618 |
| 77 | 4·1791133 | 4·8720776 | 77 | 4·1599805 | 4·8489831 | 77 | 4·1399484 | 4·8246581 |
| 78 | 4·1198619 | 4·7965445 | 78 | 4·1007291 | 4·7736533 | 78 | 4·0806970 | 4·7495454 |
| 79 | 4·0563658 | 4·7165751 | 79 | 4·0372330 | 4·6938790 | 79 | 4·0172009 | 4·6699804 |
| 80 | 3·9883394 | 4·6319160 | 80 | 3·9692066 | 4·6094090 | 80 | 3·9491745 | 4·5857112 |
| 81 | 3·9154868 | 4·5423046 | 81 | 3·8963540 | 4·5199786 | 81 | 3·8763219 | 4·4964747 |
| 82 | 3·8375017 | 4·4474669 | 82 | 3·8183689 | 4·4253144 | 82 | 3·7983368 | 4·4019964 |
| 83 | 3·7540678 | 4·3471185 | 83 | 3·7349350 | 4·3251317 | 83 | 3·7149029 | 4·3019920 |
| 84 | 3·6648580 | 4·2409629 | 84 | 3·6457252 | 4·2191346 | 84 | 3·6256931 | 4·1961654 |
| 85 | 3·5695352 | 4·1286935 | 85 | 3·5504024 | 4·1060158 | 85 | 3·5303703 | 4·0842098 |
| 86 | 3·4677518 | 4·0099907 | 86 | 3·4486190 | 3·9884578 | 86 | 3·4285869 | 3·9658064 |
| 87 | 3·3591500 | 3·8845252 | 87 | 3·3400172 | 3·8631289 | 87 | 3·3199851 | 3·8406261 |
| 88 | 3·2433616 | 3·7519539 | 88 | 3·2242288 | 3·7306886 | 88 | 3·2041967 | 3·7083266 |
| 89 | 3·1200082 | 3·6119239 | 89 | 3·1008754 | 3·5907828 | 89 | 3·0808433 | 3·5685549 |
| 90 | 2·9887007 | 3·4640685 | 90 | 2·9695679 | 3·4430447 | 90 | 2·9495358 | 3·4209451 |
| 91 | 2·8490402 | 3·3080103 | 91 | 2·8299074 | 3·2870980 | 91 | 2·8098753 | 3·2651199 |
| 92 | 2·7006171 | 3·1433566 | 92 | 2·6814843 | 3·1225508 | 92 | 2·6614522 | 3·1006875 |
| 93 | 2·5430116 | 2·9697010 | 93 | 2·5238788 | 2·9489966 | 93 | 2·5038467 | 2·9272435 |
| 94 | 2·3757935 | 2·7866209 | 94 | 2·3566607 | 2·7660126 | 94 | 2·3366286 | 2·7443650 |
| 95 | 2·1985224 | 2·5936704 | 95 | 2·1793896 | 2·5731560 | 95 | 2·1593575 | 2·5516086 |
| 96 | 2·0107475 | 2·3903769 | 96 | 1·9916147 | 2·3699509 | 96 | 1·9715826 | 2·3485015 |
| 97 | 1·8120076 | 2·1762155 | 97 | 1·7928748 | 2·1558775 | 97 | 1·7728427 | 2·1345235 |
| 98 | 1·6018313 | 1·9505790 | 98 | 1·5826985 | 1·9303289 | 98 | 1·5626664 | 1·9090712 |
| 99 | 1·3797369 | 1·7126968 | 99 | 1·3606041 | 1·6925394 | 99 | 1·3405720 | 1·6713802 |
| 100 | 1·1452321 | 1·4614700 | 100 | 1·1260993 | 1·4414092 | 100 | 1·1060672 | 1·4203602 |
| 101 | 0·8978146 | 1·1950856 | 101 | 0·8786818 | 1·1751348 | 101 | 0·8586497 | 1·1542048 |
| 102 | 0·6369716 | 0·9100799 | 102 | 0·6178388 | 0·8902645 | 102 | 0·5978067 | 0·8694781 |
| 103 | 0·3621800 | 0·5988452 | 103 | 0·3430472 | 0·5792118 | 103 | 0·3230151 | 0·5586126 |
| 104 | 0·0729064 | 0·2416710 | 104 | 0·0537736 | 0·2222221 | 104 | 0·0337415 | 0·2018885 |
| 105 | 9·7686070 | | 105 | 9·7494742 | | 105 | 9·7294421 | |
| 106 | 9·4487278 | | 106 | 9·4295950 | | 106 | 9·4095629 | |
| 107 | 9·1127044 | | 107 | 9·0935716 | | 107 | 9·0735395 | |
| 108 | 8·7599621 | | 108 | 8·7408293 | | 108 | 8·7207972 | |
| 109 | 8·3899158 | | 109 | 8·3707830 | | 109 | 8·3507509 | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x, y}$ and $N_{x, y}$.

| Age of Female ($y$) | 63 | | | 64 | | | 65 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | λ $D_{x, 63}$ | λ $N_{x, 63}$ | Age of Male ($x$) | λ $D_{x, 64}$ | λ $N_{x, 64}$ | Age of Male ($x$) | λ $D_{x, 65}$ | λ $N_{x, 65}$ |
| 0 | 5·5366961 | 6·4299282 | 0 | 5·5145794 | 6·3940919 | 0 | 5·4912558 | 6·3566510 |
| 1 | 5·4526939 | 6·4067671 | 1 | 5·4305772 | 6·3705096 | 1 | 5·4072536 | 6·3326246 |
| 2 | 5·4174130 | 6·3920130 | 2 | 5·3952963 | 6·3555935 | 2 | 5·3719727 | 6·3175347 |
| 3 | 5·3952997 | 6·3798425 | 3 | 5·3731830 | 6·3433393 | 3 | 5·3498594 | 6·3051918 |
| 4 | 5·3783980 | 6·3688817 | 4 | 5·3562813 | 6·3323329 | 4 | 5·3329577 | 6·2941356 |
| 5 | 5·3641706 | 6·3586259 | 5 | 5·3420539 | 6·3220538 | 5 | 5·3187303 | 6·2838311 |
| 6 | 5·3518094 | 6·3488256 | 6 | 5·3296927 | 6·3122481 | 6 | 5·3063691 | 6·2740162 |
| 7 | 5·3406659 | 6·3393061 | 7 | 5·3185492 | 6·3027351 | 7 | 5·2952256 | 6·2645083 |
| 8 | 5·3302517 | 6·3299547 | 8 | 5·3081350 | 6·2933974 | 8 | 5·2848114 | 6·2551844 |
| 9 | 5·3205043 | 6·3206995 | 9 | 5·2983876 | 6·2841642 | 9 | 5·2750640 | 6·2459710 |
| 10 | 5·3112691 | 6·3114726 | 10 | 5·2891524 | 6·2749638 | 10 | 5·2658288 | 6·2367972 |
| 11 | 5·3024046 | 6·3022177 | 11 | 5·2802879 | 6·2657379 | 11 | 5·2569643 | 6·2276009 |
| 12 | 5·2937826 | 6·2928880 | 12 | 5·2716659 | 6·2564394 | 12 | 5·2483423 | 6·2183333 |
| 13 | 5·2852881 | 6·2834475 | 13 | 5·2631714 | 6·2470311 | 13 | 5·2398478 | 6·2089568 |
| 14 | 5·2768192 | 6·2738713 | 14 | 5·2547025 | 6·2374852 | 14 | 5·2313789 | 6·1994425 |
| 15 | 5·2682874 | 6·2641406 | 15 | 5·2461707 | 6·2277849 | 15 | 5·2228471 | 6·1897718 |
| 16 | 5·2596171 | 6·2542461 | 16 | 5·2375004 | 6·2179199 | 16 | 5·2141768 | 6·1799356 |
| 17 | 5·2507463 | 6·2441872 | 17 | 5·2286296 | 6·2078877 | 17 | 5·2053060 | 6·1699312 |
| 18 | 5·2416258 | 6·2339692 | 18 | 5·2195091 | 6·1976948 | 18 | 5·1961855 | 6·1597633 |
| 19 | 5·2322200 | 6·2236016 | 19 | 5·2101033 | 6·1873526 | 19 | 5·1867797 | 6·1494445 |
| 20 | 5·2225062 | 6·2131014 | 20 | 5·2003895 | 6·1768758 | 20 | 5·1770659 | 6·1389920 |
| 21 | 5·2124750 | 6·2024867 | 21 | 5·1903583 | 6·1662863 | 21 | 5·1670347 | 6·1284251 |
| 22 | 5·2023034 | 6·1917803 | 22 | 5·1802467 | 6·1556050 | 22 | 5·1569231 | 6·1177696 |
| 23 | 5·1921741 | 6·1809790 | 23 | 5·1700574 | 6·1448310 | 23 | 5·1467338 | 6·1070213 |
| 24 | 5·1819039 | 6·1700791 | 24 | 5·1597922 | 6·1339596 | 24 | 5·1364686 | 6·0961782 |
| 25 | 5·1715658 | 6·1590758 | 25 | 5·1494521 | 6·1229871 | 25 | 5·1261285 | 6·0852346 |
| 26 | 5·1611539 | 6·1479640 | 26 | 5·1390372 | 6·1119077 | 26 | 5·1157136 | 6·0741869 |
| 27 | 5·1506635 | 6·1367365 | 27 | 5·1285468 | 6·1007158 | 27 | 5·1052232 | 6·0630286 |
| 28 | 5·1400960 | 6·1253877 | 28 | 5·1179793 | 6·0894034 | 28 | 5·0946557 | 6·0517528 |
| 29 | 5·1294492 | 6·1139079 | 29 | 5·1073325 | 6·0779646 | 29 | 5·0840089 | 6·0403516 |
| 30 | 5·1187198 | 6·1022899 | 30 | 5·0966031 | 6·0663890 | 30 | 5·0732795 | 6·0288181 |
| 31 | 5·1079058 | 6·0905230 | 31 | 5·0857871 | 6·0546679 | 31 | 5·0624635 | 6·0171407 |
| 32 | 5·0969963 | 6·0785961 | 32 | 5·0748796 | 6·0427905 | 32 | 5·0515560 | 6·0053109 |
| 33 | 5·0859916 | 6·0664978 | 33 | 5·0638749 | 6·0307451 | 33 | 5·0405513 | 5·9933168 |
| 34 | 5·0748832 | 6·0542150 | 34 | 5·0527665 | 6·0185192 | 34 | 5·0294429 | 5·9811456 |
| 35 | 5·0636637 | 6·0417345 | 35 | 5·0415470 | 6·0060993 | 35 | 5·0182234 | 5·9687841 |
| 36 | 5·0523249 | 6·0290407 | 36 | 5·0302082 | 5·9934706 | 36 | 5·0068846 | 5·9562184 |
| 37 | 5·0408577 | 6·0161179 | 37 | 5·0187410 | 5·9806174 | 37 | 4·9954174 | 5·9434326 |
| 38 | 5·0292523 | 6·0029475 | 38 | 5·0071356 | 5·9675223 | 38 | 4·9838120 | 5·9304096 |
| 39 | 5·0174979 | 5·9895108 | 39 | 4·9953812 | 5·9541661 | 39 | 4·9720576 | 5·9171312 |
| 40 | 5·0055831 | 5·9757883 | 40 | 4·9834664 | 5·9405296 | 40 | 4·9601428 | 5·9035781 |
| 41 | 4·9934954 | 5·9617572 | 41 | 4·9713787 | 5·9265906 | 41 | 4·9480551 | 5·8897285 |
| 42 | 4·9812216 | 5·9473939 | 42 | 4·9591049 | 5·9123258 | 42 | 4·9357813 | 5·8755591 |
| 43 | 4·9687476 | 5·9326724 | 43 | 4·9466309 | 5·8977098 | 43 | 4·9233073 | 5·8610454 |
| 44 | 4·9560587 | 5·9175646 | 44 | 4·9339420 | 5·8827151 | 44 | 4·9106184 | 5·8461603 |
| 45 | 4·9431390 | 5·9020408 | 45 | 4·9210223 | 5·8673115 | 45 | 4·8976987 | 5·8308740 |
| 46 | 4·9299720 | 5·8860674 | 46 | 4·9078553 | 5·8514671 | 46 | 4·8845317 | 5·8151545 |
| 47 | 4·9165403 | 5·8696096 | 47 | 4·8944236 | 5·8351460 | 47 | 4·8711000 | 5·7989673 |
| 48 | 4·9028257 | 5·8526277 | 48 | 4·8807090 | 5·8183102 | 48 | 4·8573854 | 5·7822734 |
| 49 | 4·8888091 | 5·8350795 | 49 | 4·8666924 | 5·8009169 | 49 | 4·8433688 | 5·7650319 |
| 50 | 4·8744707 | 5·8169187 | 50 | 4·8523540 | 5·7829202 | 50 | 4·8290304 | 5·7471960 |
| 51 | 4·8597897 | 5·7980939 | 51 | 4·8376730 | 5·7642691 | 51 | 4·8143494 | 5·7287153 |
| 52 | 4·8445000 | 5·7785493 | 52 | 4·8223833 | 5·7449074 | 52 | 4·7990597 | 5·7095337 |
| 53 | 4·8287655 | 5·7582539 | 53 | 4·8066488 | 5·7248053 | 53 | 4·7833252 | 5·6896221 |
| 54 | 4·8125689 | 5·7371509 | 54 | 4·7904522 | 5·7039054 | 54 | 4·7671286 | 5·6689237 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female (y) | 63 | | | 64 | | | 65 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (x) | λ $D_{x,\,63}$ | λ $N_{x,\,63}$ | Age of Male (x) | λ $D_{x,\,64}$ | λ $N_{x,\,64}$ | Age of Male (x) | λ $D_{x,\,65}$ | λ $N_{x,\,65}$ |
| 55 | 4·7958830 | 5·7151755 | 55 | 4·7737663 | 5·6821442 | 55 | 4·7504427 | 5·6473741 |
| 56 | 4·7786701 | 5·6922575 | 56 | 4·7565534 | 5·6594497 | 56 | 4·7332298 | 5·6249024 |
| 57 | 4·7608821 | 5·6683192 | 57 | 4·7387654 | 5·6357446 | 57 | 4·7154418 | 5·6014300 |
| 58 | 4·7424606 | 5·6432763 | 58 | 4·7203439 | 5·6109447 | 58 | 4·6970203 | 5·5768727 |
| 59 | 4·7233370 | 5·6170393 | 59 | 4·7012203 | 5·5849585 | 59 | 4·6778967 | 5·5511389 |
| 60 | 4·7034322 | 5·5895109 | 60 | 4·6813155 | 5·5576895 | 60 | 4·6579919 | 5·5241303 |
| 61 | 4·6826569 | 5·5605888 | 61 | 4·6605402 | 5·5290335 | 61 | 4·6372166 | 5·4957433 |
| 62 | 4·6609114 | 5·5301644 | 62 | 4·6387947 | 5·4988810 | 62 | 4·6154711 | 5·4658663 |
| 63 | 4·6380857 | 5·4981222 | 63 | 4·6159690 | 5·4671160 | 63 | 4·5926454 | 5·4343827 |
| 64 | 4·6140595 | 5·4643405 | 64 | 4·5919428 | 5·4336159 | 64 | 4·5686192 | 5·4011692 |
| 65 | 4·5887021 | 5·4286913 | 65 | 4·5665854 | 5·3982516 | 65 | 4·5432618 | 5·3660958 |
| 66 | 4·5618725 | 5·3900397 | 66 | 4·5397558 | 5·3608872 | 66 | 4·5164322 | 5·3290250 |
| 67 | 4·5334194 | 5·3512451 | 67 | 4·5113027 | 5·3213801 | 67 | 4·4879791 | 5·2898140 |
| 68 | 4·5031813 | 5·3091586 | 68 | 4·4810646 | 5·2795817 | 68 | 4·4577410 | 5·2483117 |
| 69 | 4·4709860 | 5·2646250 | 69 | 4·4488693 | 5·2353348 | 69 | 4·4255457 | 5·2043615 |
| 70 | 4·4366514 | 5·2174807 | 70 | 4·4145347 | 5·1884760 | 70 | 4·3912111 | 5·1577975 |
| 71 | 4·3999848 | 5·1675551 | 71 | 4·3778681 | 5·1388333 | 71 | 4·3545445 | 5·1084476 |
| 72 | 4·3607832 | 5·1146697 | 72 | 4·3386665 | 5·0862263 | 72 | 4·3153429 | 5·0561317 |
| 73 | 4·3188335 | 5·0586378 | 73 | 4·2967168 | 5·0304686 | 73 | 4·2733932 | 5·0006597 |
| 74 | 4·2739119 | 4·9992633 | 74 | 4·2517952 | 4·9713635 | 74 | 4·2284716 | 4·9418353 |
| 75 | 4·2257846 | 4·9363403 | 75 | 4·2036679 | 4·9087053 | 75 | 4·1803443 | 4·8794537 |
| 76 | 4·1742072 | 4·8696582 | 76 | 4·1520905 | 4·8422790 | 76 | 4·1287669 | 4·8132987 |
| 77 | 4·1189253 | 4·7989916 | 77 | 4·0968086 | 4·7718637 | 77 | 4·0734850 | 4·7431459 |
| 78 | 4·0596739 | 4·7241087 | 78 | 4·0375572 | 4·6972241 | 78 | 4·0142336 | 4·6687632 |
| 79 | 3·9961778 | 4·6447665 | 79 | 3·9740611 | 4·6181176 | 79 | 3·9507375 | 4·5899062 |
| 80 | 3·9281514 | 4·5607121 | 80 | 3·9060347 | 4·5342918 | 80 | 3·8827111 | 4·5063214 |
| 81 | 3·8552988 | 4·4716821 | 81 | 3·8331821 | 4·4454821 | 81 | 3·8098585 | 4·4177456 |
| 82 | 3·7773137 | 4·3774032 | 82 | 3·7551970 | 4·3514149 | 82 | 3·7318734 | 4·3239036 |
| 83 | 3·6938798 | 4·2775895 | 83 | 3·6717631 | 4·2518056 | 83 | 3·6484395 | 4·2245111 |
| 84 | 3·6046700 | 4·1719461 | 84 | 3·5825533 | 4·1463575 | 84 | 3·5592297 | 4·1192724 |
| 85 | 3·5093472 | 4·0601655 | 85 | 3·4872305 | 4·0347647 | 85 | 3·4639069 | 4·0078795 |
| 86 | 3·4075638 | 3·9419296 | 86 | 3·3854471 | 3·9167082 | 86 | 3·3621235 | 3·8900156 |
| 87 | 3·2989620 | 3·8169085 | 87 | 3·2768453 | 3·7918590 | 87 | 3·2535217 | 3·7653496 |
| 88 | 3·1831736 | 3·6847619 | 88 | 3·1610569 | 3·6598754 | 88 | 3·1377333 | 3·6335421 |
| 89 | 3·0598202 | 3·5451351 | 89 | 3·0377035 | 3·5204062 | 89 | 3·0143799 | 3·4942395 |
| 90 | 2·9285127 | 3·3976630 | 90 | 2·9063960 | 3·3730826 | 90 | 2·8830724 | 3·3470774 |
| 91 | 2·7888522 | 3·2419693 | 91 | 2·7667355 | 3·2175308 | 91 | 2·7434119 | 3·1916784 |
| 92 | 2·6404291 | 3·0776626 | 92 | 2·6183124 | 3·0533598 | 92 | 2·5949888 | 3·0276529 |
| 93 | 2·4828236 | 2·9043373 | 93 | 2·4607069 | 2·8801640 | 93 | 2·4373833 | 2·8545969 |
| 94 | 2·3156055 | 2·7215732 | 94 | 2·2934888 | 2·6975222 | 94 | 2·2701652 | 2·6720895 |
| 95 | 2·1383344 | 2·5289269 | 95 | 2·1162177 | 2·5049953 | 95 | 2·0928941 | 2·4796891 |
| 96 | 1·9505595 | 2·3259256 | 96 | 1·9284428 | 2·3021090 | 96 | 1·9051192 | 2·2769280 |
| 97 | 1·7518196 | 2·1120514 | 97 | 1·7297029 | 2·0883481 | 97 | 1·7063793 | 2·0632894 |
| 98 | 1·5416433 | 1·8867028 | 98 | 1·5195266 | 1·8631128 | 98 | 1·4962030 | 1·8381770 |
| 99 | 1·3195489 | 1·6491206 | 99 | 1·2974322 | 1·6256468 | 99 | 1·2741086 | 1·6008390 |
| 100 | 1·0850441 | 1·3982162 | 100 | 1·0629274 | 1·3748711 | 100 | 1·0396038 | 1·3501995 |
| 101 | 0·8376266 | 1·1321988 | 101 | 0·8155099 | 1·1089977 | 101 | 0·7921863 | 1·0844870 |
| 102 | 0·5767836 | 0·8476282 | 102 | 0·5546669 | 0·8246139 | 102 | 0·5313433 | 0·8002908 |
| 103 | 0·3019920 | 0·5369622 | 103 | 0·2798753 | 0·5141624 | 103 | 0·2565517 | 0·4900990 |
| 104 | 0·0127184 | 0·1804986 | 104 | 9·9906017 | 0·1580004 | 104 | 9·9672781 | 0·1342409 |
| 105 | 9·7084190 | | 105 | 9·6863023 | | 105 | 9·6629787 | |
| 106 | 9·3885398 | | 106 | 9·3664231 | | 106 | 9·3430995 | |
| 107 | 9·0525164 | | 107 | 9·0303997 | | 107 | 9·0070761 | |
| 108 | 8·6997741 | | 108 | 8·6776574 | | 108 | 8·6543338 | |
| 109 | 8·3297278 | | 109 | 8·3076111 | | 109 | 8·2842875 | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| **Age** of **Female** (*y*) | 66 | | 67 | | | 68 | | |
|---|---|---|---|---|---|---|---|---|
| **Age** of **Male** (*x*) | $\lambda\ D_{x,\,66}$ | $\lambda\ N_{x,\,66}$ | **Age** of **Male** (*x*) | $\lambda\ D_{x,\,67}$ | $\lambda\ N_{x,\,67}$ | **Age** of **Male** (*x*) | $\lambda\ D_{x,\,68}$ | $\lambda\ N_{x,\,68}$ |
| 0 | 5·4666007 | 6·3174940 | 0 | 5·4404788 | 6·2764991 | 0 | 5·4127439 | 6·2335367 |
| 1 | 5·3825985 | 6·2929968 | 1 | 5·3564766 | 6·2515056 | 1 | 5·3287417 | 6·2080206 |
| 2 | 5·3473176 | 6·2777245 | 2 | 5·3211957 | 6·2360390 | 2 | 5·2934608 | 6·1923497 |
| 3 | 5·3252043 | 6·2652849 | 3 | 5·2990824 | 6·2234982 | 3 | 5·2713475 | 6·1797003 |
| 4 | 5·3083026 | 6·2541752 | 4 | 5·2821807 | 6·2123293 | 4 | 5·2544458 | 6·1684692 |
| 5 | 5·2940752 | 6·2438424 | 5 | 5·2679533 | 6·2019652 | 5 | 5·2402184 | 6·1580689 |
| 6 | 5·2817140 | 6·2340169 | 6 | 5·2555921 | 6·1921271 | 6 | 5·2278572 | 6·1482164 |
| 7 | 5·2705705 | 6·2245106 | 7 | 5·2444486 | 6·1826211 | 7 | 5·2167137 | 6·1387093 |
| 8 | 5·2601563 | 6·2151997 | 8 | 5·2340344 | 6·1733203 | 8 | 5·2062995 | 6·1294176 |
| 9 | 5·2504089 | 6·2060067 | 9 | 5·2242870 | 6·1641470 | 9 | 5·1965521 | 6·1202616 |
| 10 | 5·2411737 | 6·1968571 | 10 | 5·2150518 | 6·1550234 | 10 | 5·1873169 | 6·1111627 |
| 11 | 5·2323092 | 6·1876908 | 11 | 5·2061873 | 6·1458845 | 11 | 5·1784524 | 6·1020535 |
| 12 | 5·2236872 | 6·1784545 | 12 | 5·1975653 | 6·1366804 | 12 | 5·1698304 | 6·0928792 |
| 13 | 5·2151927 | 6·1691099 | 13 | 5·1890708 | 6·1273675 | 13 | 5·1613359 | 6·0835994 |
| 14 | 5·2067238 | 6·1596273 | 14 | 5·1806019 | 6·1179166 | 14 | 5·1528670 | 6·0741799 |
| 15 | 5·1981920 | 6·1499873 | 15 | 5·1720701 | 6·1083072 | 15 | 5·1443352 | 6·0646011 |
| 16 | 5·1895217 | 6·1401790 | 16 | 5·1633998 | 6·0985278 | 16 | 5·1356649 | 6·0548505 |
| 17 | 5·1806509 | 6·1302016 | 17 | 5·1545290 | 6·0885762 | 17 | 5·1267941 | 6·0449257 |
| 18 | 5·1715304 | 6·1200591 | 18 | 5·1454085 | 6·0784590 | 18 | 5·1176736 | 6·0348321 |
| 19 | 5·1621246 | 6·1097637 | 19 | 5·1360027 | 6·0681870 | 19 | 5·1082678 | 6·0245834 |
| 20 | 5·1524108 | 6·0993336 | 20 | 5·1262889 | 6·0577788 | 20 | 5·0985540 | 6·0141966 |
| 21 | 5·1423796 | 6·0887905 | 21 | 5·1162577 | 6·0472575 | 21 | 5·0885228 | 6·0036966 |
| 22 | 5·1322680 | 6·0781580 | 22 | 5·1061461 | 6·0366489 | 22 | 5·0784112 | 5·9931098 |
| 23 | 5·1220787 | 6·0674354 | 23 | 5·0959568 | 6·0259498 | 23 | 5·0682219 | 5·9824355 |
| 24 | 5·1118135 | 6·0566186 | 24 | 5·0856916 | 6·0151593 | 24 | 5·0579567 | 5·9716687 |
| 25 | 5·1014734 | 6·0457040 | 25 | 5·0753515 | 6·0042721 | 25 | 5·0476166 | 5·9608084 |
| 26 | 5·0910585 | 6·0346862 | 26 | 5·0649366 | 5·9932837 | 26 | 5·0372017 | 5·9498480 |
| 27 | 5·0805681 | 6·0235603 | 27 | 5·0544462 | 5·9821885 | 27 | 5·0267113 | 5·9387828 |
| 28 | 5·0700006 | 6·0123192 | 28 | 5·0438787 | 5·9709806 | 28 | 5·0161438 | 5·9276069 |
| 29 | 5·0593538 | 6·0009557 | 29 | 5·0332319 | 5·9596528 | 29 | 5·0054970 | 5·9163134 |
| 30 | 5·0486244 | 5·9894610 | 30 | 5·0225025 | 5·9481967 | 30 | 4·9947676 | 5·9048939 |
| 31 | 5·0378084 | 5·9778274 | 31 | 5·0116865 | 5·9366032 | 31 | 4·9839516 | 5·8933401 |
| 32 | 5·0269009 | 5·9660426 | 32 | 5·0007790 | 5·9248636 | 32 | 4·9730441 | 5·8816421 |
| 33 | 5·0158962 | 5·9540972 | 33 | 4·9897743 | 5·9129651 | 33 | 4·9620394 | 5·8697894 |
| 34 | 5·0047878 | 5·9419793 | 34 | 4·9786659 | 5·9008974 | 34 | 4·9509310 | 5·8577703 |
| 35 | 4·9935683 | 5·9296742 | 35 | 4·9674464 | 5·8886471 | 35 | 4·9397115 | 5·8455723 |
| 36 | 4·9822295 | 5·9171693 | 36 | 4·9561076 | 5·8762004 | 36 | 4·9283727 | 5·8331819 |
| 37 | 4·9707623 | 5·9044484 | 37 | 4·9446404 | 5·8635424 | 37 | 4·9169055 | 5·8205840 |
| 38 | 4·9591569 | 5·8914953 | 38 | 4·9330350 | 5·8506566 | 38 | 4·9053001 | 5·8077631 |
| 39 | 4·9474025 | 5·8782919 | 39 | 4·9212806 | 5·8375254 | 39 | 4·8935457 | 5·7947014 |
| 40 | 4·9354877 | 5·8648189 | 40 | 4·9093658 | 5·8241300 | 40 | 4·8816309 | 5·7813806 |
| 41 | 4·9234000 | 5·8510555 | 41 | 4·8972781 | 5·8104495 | 41 | 4·8695432 | 5·7677805 |
| 42 | 4·9111262 | 5·8369788 | 42 | 4·8850043 | 5·7964622 | 42 | 4·8572694 | 5·7538789 |
| 43 | 4·8986522 | 5·8225641 | 43 | 4·8725303 | 5·7821434 | 43 | 4·8447954 | 5·7396526 |
| 44 | 4·8859633 | 5·8077850 | 44 | 4·8598414 | 5·7674670 | 44 | 4·8321065 | 5·7250754 |
| 45 | 4·8730436 | 5·7926124 | 45 | 4·8469217 | 5·7524043 | 45 | 4·8191868 | 5·7101190 |
| 46 | 4·8598766 | 5·7770148 | 46 | 4·8337547 | 5·7369243 | 46 | 4·8060198 | 5·6947531 |
| 47 | 4·8464449 | 5·7609573 | 47 | 4·8203230 | 5·7209931 | 47 | 4·7925881 | 5·6789439 |
| 48 | 4·8327303 | 5·7444023 | 48 | 4·8066084 | 5·7045728 | 48 | 4·7788735 | 5·6626544 |
| 49 | 4·8187137 | 5·7273081 | 49 | 4·7925918 | 5·6876227 | 49 | 4·7648569 | 5·6458436 |
| 50 | 4·8043753 | 5·7096297 | 50 | 4·7782534 | 5·6700969 | 50 | 4·7505185 | 5·6284671 |
| 51 | 4·7896943 | 5·6913156 | 51 | 4·7635724 | 5·6519460 | 51 | 4·7358375 | 5·6104742 |
| 52 | 4·7744046 | 5·6723105 | 52 | 4·7482827 | 5·6331135 | 52 | 4·7205478 | 5·5918104 |
| 53 | 4·7586701 | 5·6525864 | 53 | 4·7325482 | 5·6135729 | 53 | 4·7048133 | 5·5724493 |
| 54 | 4·7424735 | 5·6320863 | 54 | 4·7163516 | 5·5932679 | 54 | 4·6886167 | 5·5523353 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female (y) | 66 | | | 67 | | | 68 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (x) | $\lambda\ D_{x,\,66}$ | $\lambda\ N_{x,\,66}$ | Age of Male (x) | $\lambda\ D_{x,\,67}$ | $\lambda\ N_{x,\,67}$ | Age of Male (x) | $\lambda\ D_{x,\,68}$ | $\lambda\ N_{x,\,63}$ |
| 55 | 4·7257876 | 5·6107465 | 55 | 4·6996657 | 5·5721344 | 55 | 4·6719308 | 5·5314047 |
| 56 | 4·7085747 | 5·5884952 | 56 | 4·6824528 | 5·5501015 | 56 | 4·6547179 | 5·5095863 |
| 57 | 4·6907867 | 5·5652546 | 57 | 4·6646648 | 5·5270900 | 57 | 4·6369299 | 5·4868018 |
| 58 | 4·6723652 | 5·5409391 | 58 | 4·6462433 | 5·5030154 | 58 | 4·6185084 | 5·4629651 |
| 59 | 4·6532416 | 5·5154573 | 59 | 4·6271197 | 5·4777845 | 59 | 4·5993848 | 5·4379841 |
| 60 | 4·6333368 | 5·4887104 | 60 | 4·6072149 | 5·4512990 | 60 | 4·5794800 | 5·4117586 |
| 61 | 4·6125615 | 5·4605932 | 61 | 4·5864396 | 5·4234528 | 61 | 4·5587047 | 5·3841829 |
| 62 | 4·5908160 | 5·4309948 | 62 | 4·5646941 | 5·3941334 | 62 | 4·5369592 | 5·3551438 |
| 63 | 4·5679903 | 5·3997960 | 63 | 4·5418684 | 5·3632226 | 63 | 4·5141335 | 5·3245210 |
| 64 | 4·5439641 | 5·3668733 | 64 | 4·5178422 | 5·3305937 | 64 | 4·4901073 | 5·2921892 |
| 65 | 4·5186067 | 5·3320953 | 65 | 4·4924848 | 5·2961156 | 65 | 4·4647499 | 5·2580137 |
| 66 | 4·4917771 | 5·2953247 | 66 | 4·4656552 | 5·2596493 | 66 | 4·4379203 | 5·2218556 |
| 67 | 4·4633240 | 5·2564161 | 67 | 4·4372021 | 5·2210492 | 67 | 4·4094672 | 5·1835685 |
| 68 | 4·4330859 | 5·2152184 | 68 | 4·4069640 | 5·1801623 | 68 | 4·3792291 | 5·1429983 |
| 69 | 4·4008906 | 5·1715723 | 69 | 4·3747687 | 5·1368289 | 69 | 4·3470338 | 5·0999837 |
| 70 | 4·3665560 | 5·1253131 | 70 | 4·3404341 | 5·0908818 | 70 | 4·3126992 | 5·0543568 |
| 71 | 4·3298894 | 5·0762661 | 71 | 4·3037675 | 5·0421470 | 71 | 4·2760326 | 5·0059411 |
| 72 | 4·2906878 | 5·0242500 | 72 | 4·2645659 | 4·9904410 | 72 | 4·2368310 | 4·9545546 |
| 73 | 4·2487381 | 4·9690761 | 73 | 4·2226162 | 4·9355743 | 73 | 4·1948813 | 4·9000048 |
| 74 | 4·2038165 | 4·9105449 | 74 | 4·1776946 | 4·8773477 | 74 | 4·1499597 | 4·8420923 |
| 75 | 4·1556892 | 4·8484502 | 75 | 4·1295673 | 4·8155532 | 75 | 4·1018324 | 4·7806082 |
| 76 | 4·1041118 | 4·7825787 | 76 | 4·0779899 | 4·7499743 | 76 | 4·0502550 | 4·7153355 |
| 77 | 4·0488299 | 4·7127027 | 77 | 4·0227080 | 4·6803881 | 77 | 3·9949731 | 4·6460480 |
| 78 | 3·9895785 | 4·6385891 | 78 | 3·9634566 | 4·6065564 | 78 | 3·9357217 | 4·5725110 |
| 79 | 3·9260824 | 4·5599945 | 79 | 3·8999605 | 4·5282366 | 79 | 3·8722256 | 4·4944787 |
| 80 | 3·8580560 | 4·4766645 | 80 | 3·8319341 | 4·4451742 | 80 | 3·8041992 | 4·4116964 |
| 81 | 3·7852034 | 4·3883348 | 81 | 3·7590815 | 4·3571045 | 81 | 3·7313466 | 4·3238991 |
| 82 | 3·7072183 | 4·2947320 | 82 | 3·6810964 | 4·2637527 | 82 | 3·6533615 | 4·2308118 |
| 83 | 3·6237844 | 4·1955695 | 83 | 3·5976625 | 4·1648342 | 83 | 3·5699276 | 4·1321486 |
| 84 | 3·5345746 | 4·0905522 | 84 | 3·5084527 | 4·0600512 | 84 | 3·4807178 | 4·0276143 |
| 85 | 3·4392518 | 3·9793731 | 85 | 3·4131299 | 3·9490981 | 85 | 3·3853950 | 3·9168991 |
| 86 | 3·3374684 | 3·8617136 | 86 | 3·3113465 | 3·8316561 | 86 | 3·2836116 | 3·7996872 |
| 87 | 3·2288666 | 3·7372444 | 87 | 3·2027447 | 3·7073956 | 87 | 3·1750098 | 3·6756483 |
| 88 | 3·1130782 | 3·6056239 | 88 | 3·0869563 | 3·5759761 | 88 | 3·0592214 | 3·5444413 |
| 89 | 2·9897248 | 3·4665016 | 89 | 2·9636029 | 3·4370452 | 89 | 2·9358680 | 3·4057141 |
| 90 | 2·8584173 | 3·3195109 | 90 | 2·8322954 | 3·2902381 | 90 | 2·8045605 | 3·2591027 |
| 91 | 2·7187568 | 3·1642764 | 91 | 2·6926349 | 3·1351785 | 91 | 2·6649000 | 3·1042302 |
| 92 | 2·5703337 | 3·0004076 | 92 | 2·5442118 | 2·9714781 | 92 | 2·5164769 | 2·9407082 |
| 93 | 2·4127282 | 2·8275011 | 93 | 2·3866063 | 2·7987321 | 93 | 2·3588714 | 2·7681347 |
| 94 | 2·2455101 | 2·6451382 | 94 | 2·2193882 | 2·6165228 | 94 | 2·1916533 | 2·5860897 |
| 95 | 2·0682390 | 2·4528761 | 95 | 2·0421171 | 2·4244112 | 95 | 2·0143822 | 2·3941364 |
| 96 | 1·8804641 | 2·2502488 | 96 | 1·8543422 | 2·2219265 | 96 | 1·8266073 | 2·1918072 |
| 97 | 1·6817242 | 2·0367418 | 97 | 1·6556023 | 2·0085614 | 97 | 1·6278674 | 1·9785941 |
| 98 | 1·4715479 | 1·8117626 | 98 | 1·4454260 | 1·7837243 | 98 | 1·4176911 | 1·7539092 |
| 99 | 1·2494535 | 1·5745614 | 99 | 1·2233316 | 1·5466722 | 99 | 1·1955967 | 1·5170151 |
| 100 | 1·0149487 | 1·3240725 | 100 | 0·9888268 | 1·2963449 | 100 | 0·9610919 | 1·2668617 |
| 101 | 0·7675312 | 1·0585286 | 101 | 0·7414093 | 1·0309881 | 101 | 0·7136744 | 1·0017078 |
| 102 | 0·5066882 | 0·7745462 | 102 | 0·4805663 | 0·7472253 | 102 | 0·4528314 | 0·7181943 |
| 103 | 0·2318966 | 0·4646237 | 103 | 0·2057747 | 0·4375920 | 103 | 0·1780398 | 0·4088672 |
| 104 | 9·9426230 | 0·1091396 | 104 | 9·9165011 | 0·0824981 | 104 | 9·8887662 | 0·0541916 |
| 105 | 9·6383236 | | 105 | 9·6122017 | | 105 | 9·5844668 | |
| 106 | 9·3184444 | | 106 | 9·2923225 | | 106 | 9·2645876 | |
| 107 | 8·9824210 | | 107 | 8·9562991 | | 107 | 8·9285642 | |
| 108 | 8·6296787 | | 108 | 8·6035568 | | 108 | 8·5758219 | |
| 109 | 8·2596324 | | 109 | 8·2335105 | | 109 | 8·2057756 | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x, y}$ and $N_{x, y}$.

| Age of Female ($y$) | 69 | | 70 | | | 71 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | λ $D_{x, 69}$ | λ $N_{x, 69}$ | Age of Male ($x$) | λ $D_{x, 70}$ | λ $N_{x, 70}$ | Age of Male ($x$) | λ $D_{x, 71}$ | λ $N_{x, 71}$ |
| 0 | 5·3832386 | 6·1884709 | 0 | 5·3517949 | 6·1411531 | 0 | 5·3182336 | 6·0914306 |
| 1 | 5·2992364 | 6·1624034 | 1 | 5·2677927 | 6·1145089 | 1 | 5·2342314 | 6·0641791 |
| 2 | 5·2639555 | 6·1465178 | 2 | 5·2325118 | 6·0983963 | 2 | 5·1989505 | 6·0478311 |
| 3 | 5·2418422 | 6·1337544 | 3 | 5·2103985 | 6·0855124 | 3 | 5·1768372 | 6·0348193 |
| 4 | 5·2249405 | 6·1224551 | 4 | 5·1934968 | 6·0741419 | 4 | 5·1599355 | 6·0233726 |
| 5 | 5·2107131 | 6·1120168 | 5 | 5·1792694 | 6·0636610 | 5 | 5·1457081 | 6·0128466 |
| 6 | 5·1983519 | 6·1021455 | 6 | 5·1669082 | 6·0537691 | 6 | 5·1333469 | 6·0029307 |
| 7 | 5·1872084 | 6·0926362 | 7 | 5·1557647 | 6·0442540 | 7 | 5·1222034 | 5·9934080 |
| 8 | 5·1767942 | 6·0833521 | 8 | 5·1453505 | 6·0349772 | 8 | 5·1117892 | 5·9841356 |
| 9 | 5·1670468 | 6·0742129 | 9 | 5·1356031 | 6·0258534 | 9 | 5·1020418 | 5·9750272 |
| 10 | 5·1578116 | 6·0651371 | 10 | 5·1263679 | 6·0168003 | 10 | 5·0928066 | 5·9659957 |
| 11 | 5·1489471 | 6·0560564 | 11 | 5·1175034 | 6·0077469 | 11 | 5·0839421 | 5·9569695 |
| 12 | 5·1403251 | 6·0469142 | 12 | 5·1088814 | 5·9986355 | 12 | 5·0753201 | 5·9478883 |
| 13 | 5·1318306 | 6·0376652 | 13 | 5·1003869 | 5·9894196 | 13 | 5·0668256 | 5·9387043 |
| 14 | 5·1233617 | 6·0282788 | 14 | 5 0919180 | 5·9800639 | 14 | 5·0583567 | 5·9293816 |
| 15 | 5·1148299 | 6·0187301 | 15 | 5·0833862 | 5·9705473 | 15 | 5·0498249 | 5·9198946 |
| 16 | 5·1061596 | 6·0090083 | 16 | 5·0747159 | 5·9608536 | 16 | 5·0411546 | 5·9102310 |
| 17 | 5·0972888 | 5·9991101 | 17 | 5·0658451 | 5·9509817 | 17 | 5·0322838 | 5·9003852 |
| 18 | 5·0881683 | 5·9890407 | 18 | 5·0567246 | 5·9409366 | 18 | 5·0231633 | 5·8903634 |
| 19 | 5·0787625 | 5·9788135 | 19 | 5·0473188 | 5·9307310 | 19 | 5·0137575 | 5·8801794 |
| 20 | 5·0690487 | 5·9684484 | 20 | 5·0376050 | 5·9203858 | 20 | 5·0040437 | 5·8698540 |
| 21 | 5·0590175 | 5·9579687 | 21 | 5·0275738 | 5·9099265 | 21 | 4·9940125 | 5·8594134 |
| 22 | 5·0489059 | 5·9474038 | 22 | 5·0174622 | 5·8993822 | 22 | 4·9839009 | 5·8488893 |
| 23 | 5·0387166 | 5·9367514 | 23 | 5·0072729 | 5·8887516 | 23 | 4·9737116 | 5·8382797 |
| 24 | 5·0284514 | 5·9260094 | 24 | 4·9970077 | 5·8780324 | 24 | 4·9634464 | 5·8275825 |
| 25 | 5·0181113 | 5·9151734 | 25 | 4·9866676 | 5·8672212 | 25 | 4·9531063 | 5·8167947 |
| 26 | 5·0076964 | 5·9042404 | 26 | 4·9762527 | 5·8563137 | 26 | 4·9426914 | 5·8059122 |
| 27 | 4·9972060 | 5·8932041 | 27 | 4·9657623 | 5·8453050 | 27 | 4·9322010 | 5·7949299 |
| 28 | 4·9866385 | 5·8820588 | 28 | 4·9551948 | 5·8341895 | 28 | 4·9216335 | 5·7838424 |
| 29 | 4·9759917 | 5·8707982 | 29 | 4·9445480 | 5·8229602 | 29 | 4·9109867 | 5·7726435 |
| 30 | 4·9652623 | 5·8594140 | 30 | 4·9338186 | 5·8116099 | 30 | 4·9002573 | 5·7613256 |
| 31 | 4·9544463 | 5·8478978 | 31 | 4·9230026 | 5·8001299 | 31 | 4·8894413 | 5·7498805 |
| 32 | 4·9435388 | 5·8362406 | 32 | 4·9120951 | 5·7885114 | 32 | 4·8785338 | 5·7382991 |
| 33 | 4·9325341 | 5·8244313 | 33 | 4·9010904 | 5·7767442 | 33 | 4·8675291 | 5·7265716 |
| 34 | 4·9214257 | 5·8124591 | 34 | 4·8899820 | 5·7648166 | 34 | 4·8564207 | 5·7146872 |
| 35 | 4·9102062 | 5·8003114 | 35 | 4·8787625 | 5·7527172 | 35 | 4·8452012 | 5·7026338 |
| 36 | 4·8988674 | 5·7879748 | 36 | 4·8674237 | 5·7404323 | 36 | 4·8338624 | 5·6903987 |
| 37 | 4·8874002 | 5·7754349 | 37 | 4·8559565 | 5·7279480 | 37 | 4·8223952 | 5·6779677 |
| 38 | 4·8757948 | 5·7626761 | 38 | 4·8443511 | 5·7152489 | 38 | 4·8107898 | 5·6653260 |
| 39 | 4·8640404 | 5·7496814 | 39 | 4·8325967 | 5·7023184 | 39 | 4·7990354 | 5·6524570 |
| 40 | 4·8521256 | 5·7364324 | 40 | 4·8206819 | 5·6891385 | 40 | 4·7871206 | 5·6393432 |
| 41 | 4·8400379 | 5·7229094 | 41 | 4·8085942 | 5·6756896 | 41 | 4·7750329 | 5·6259655 |
| 42 | 4·8277641 | 5·7090909 | 42 | 4·7963204 | 5·6619508 | 42 | 4·7627591 | 5·6123030 |
| 43 | 4·8152901 | 5·6949533 | 43 | 4·7838464 | 5·6478990 | 43 | 4·7502851 | 5·5983336 |
| 44 | 4·8026012 | 5·6804718 | 44 | 4·7711575 | 5·6335091 | 44 | 4·7375962 | 5·5840324 |
| 45 | 4·7896815 | 5·6656182 | 45 | 4·7582378 | 5·6187544 | 45 | 4·7246765 | 5·5693724 |
| 46 | 4·7765145 | 5·6503621 | 46 | 4·7450708 | 5·6036047 | 46 | 4·7115095 | 5·5543249 |
| 47 | 4·7630828 | 5·6346709 | 47 | 4·7316391 | 5·5880272 | 47 | 4·6980778 | 5·5388574 |
| 48 | 4·7493682 | 5·6185078 | 48 | 4·7179245 | 5·5719863 | 48 | 4·6843632 | 5·5229339 |
| 49 | 4·7353516 | 5·6018325 | 49 | 4·7039079 | 5·5554416 | 49 | 4·6703466 | 5·5065156 |
| 50 | 4·7210132 | 5·5846002 | 50 | 4·6895695 | 5·5383494 | 50 | 4·6560082 | 5·4895584 |
| 51 | 4·7063322 | 5·5667617 | 51 | 4·6748885 | 5·5206598 | 51 | 4·6413272 | 5·4720132 |
| 52 | 4·6910425 | 5·5482609 | 52 | 4·6595988 | 5·5023184 | 52 | 4·6260375 | 5·4538251 |
| 53 | 4·6753080 | 5·5290751 | 53 | 4·6438643 | 5·4833017 | 53 | 4·6103030 | 5·4349740 |
| 54 | 4·6591114 | 5·5091477 | 54 | 4·6276677 | 5·4635565 | 54 | 4·5941064 | 5·4154043 |

## JOINT LIVES :—Male and Female Life.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female (y) | 69 | | | 70 | | | 71 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (x) | λ $D_{x,\,69}$ | λ $N_{x,\,69}$ | Age of Male (x) | λ $D_{x,\,70}$ | λ $N_{x,\,70}$ | Age of Male (x) | λ $D_{x,\,71}$ | λ $N_{x,\,71}$ |
| 55 | 4·6424255 | 5·4884157 | 55 | 4·6109818 | 5·4430185 | 55 | 4·5774205 | 5·3950557 |
| 56 | 4·6252126 | 5·4668083 | 56 | 4·5937689 | 5·4216174 | 56 | 4·5602076 | 5·3738561 |
| 57 | 4·6074246 | 5·4442465 | 57 | 4·5759809 | 5·3992751 | 57 | 4·5424196 | 5·3517279 |
| 58 | 4·5890031 | 5·4206456 | 58 | 4·5575594 | 5·3759049 | 58 | 4·5239981 | 5·3285854 |
| 59 | 4·5698795 | 5·3959113 | 59 | 4·5384358 | 5·3514152 | 59 | 4·5048745 | 5·3043348 |
| 60 | 4·5499747 | 5·3699447 | 60 | 4·5185310 | 5·3257038 | 60 | 4·4849697 | 5·2788765 |
| 61 | 4·5291994 | 5·3426380 | 61 | 4·4977557 | 5·2986647 | 61 | 4·4641944 | 5·2521012 |
| 62 | 4·5074539 | 5·3138782 | 62 | 4·4760102 | 5·2701827 | 62 | 4·4424489 | 5·2238953 |
| 63 | 4·4846282 | 5·2835446 | 63 | 4·4531845 | 5·2401372 | 63 | 4·4196232 | 5·1941362 |
| 64 | 4·4606020 | 5·2515095 | 64 | 4·4291583 | 5·2083998 | 64 | 4·3955970 | 5·1626952 |
| 65 | 4·4352446 | 5·2176397 | 65 | 4·4038009 | 5·1748352 | 65 | 4·3702396 | 5·1294363 |
| 66 | 4·4084150 | 5·1817927 | 66 | 4·3769713 | 5·1393021 | 66 | 4·3434100 | 5·0942165 |
| 67 | 4·3799619 | 5·1438221 | 67 | 4·3485182 | 5·1016505 | 67 | 4·3149569 | 5·0568867 |
| 68 | 4·3497238 | 5·1035728 | 68 | 4·3182801 | 5·0617253 | 68 | 4·2847188 | 5·0172876 |
| 69 | 4·3175285 | 5·0608825 | 69 | 4·2860848 | 5·0193636 | 69 | 4·2525235 | 4·9752571 |
| 70 | 4·2831939 | 5·0155819 | 70 | 4·2517502 | 4·9743942 | 70 | 4·2181889 | 4·9306231 |
| 71 | 4·2465273 | 4·9674937 | 71 | 4·2150836 | 4·9266393 | 71 | 4·1815223 | 4·8832064 |
| 72 | 4·2073257 | 4·9164334 | 72 | 4·1758820 | 4·8759128 | 72 | 4·1423207 | 4·8328192 |
| 73 | 4·1653760 | 4·8622089 | 73 | 4·1339323 | 4·8220216 | 73 | 4·1003710 | 4·7792674 |
| 74 | 4·1204544 | 4·8046198 | 74 | 4·0890107 | 4·7647633 | 74 | 4·0554494 | 4·7223484 |
| 75 | 4·0723271 | 4·7434557 | 75 | 4·0408834 | 4·7039282 | 75 | 4·0073221 | 4·6618496 |
| 76 | 4·0207497 | 4·6784993 | 76 | 3·9893060 | 4·6392970 | 76 | 3·9557447 | 4·5975527 |
| 77 | 3·9654678 | 4·6095228 | 77 | 3·9340241 | 4·5706418 | 77 | 3·9004628 | 4·5292277 |
| 78 | 3·9062164 | 4·5362908 | 78 | 3·8747727 | 4·4977260 | 78 | 3·8412114 | 4·4566372 |
| 79 | 3·8427203 | 4·4585578 | 79 | 3·8112766 | 4·4203026 | 79 | 3·7777153 | 4·3795342 |
| 80 | 3·7746939 | 4·3760675 | 80 | 3·7432502 | 4·3381161 | 80 | 3·7096889 | 4·2976612 |
| 81 | 3·7018413 | 4·2885549 | 81 | 3·6703976 | 4·2508999 | 81 | 3·6368363 | 4·2107526 |
| 82 | 3·6238562 | 4·1957444 | 82 | 3·5924125 | 4·1583776 | 82 | 3·5588512 | 4·1185306 |
| 83 | 3·5404223 | 4·0973499 | 83 | 3·5089786 | 4·0602642 | 83 | 3·4754173 | 4·0207085 |
| 84 | 3·4512125 | 3·9930745 | 84 | 3·4197688 | 3·9562611 | 84 | 3·3862075 | 3·9169895 |
| 85 | 3·3558897 | 3·8826122 | 85 | 3·3244460 | 3·8460611 | 85 | 3·2908847 | 3·8070653 |
| 86 | 3·2541063 | 3·7656418 | 86 | 3·2226626 | 3·7293471 | 86 | 3·1891013 | 3·6906169 |
| 87 | 3·1455045 | 3·6418368 | 87 | 3·1140608 | 3·6057865 | 87 | 3·0804995 | 3·5673158 |
| 88 | 3·0297161 | 3·5108545 | 88 | 2·9982724 | 3·4750417 | 88 | 2·9647111 | 3·4368181 |
| 89 | 2·9063627 | 3·3723434 | 89 | 2·8749190 | 3·3367582 | 89 | 2·8413577 | 3·2987743 |
| 90 | 2·7750552 | 3·2259391 | 90 | 2·7436115 | 3·1905729 | 90 | 2·7100502 | 3·1528196 |
| 91 | 2·6353947 | 3·0712659 | 91 | 2·6039510 | 3·0361097 | 91 | 2·5703897 | 2·9985779 |
| 92 | 2·4869716 | 2·9079340 | 92 | 2·4555279 | 2·8729809 | 92 | 2·4219666 | 2·8356621 |
| 93 | 2·3293661 | 2·7355422 | 93 | 2·2979224 | 2·7007825 | 93 | 2·2643611 | 2·6636699 |
| 94 | 2·1621480 | 2·5536743 | 94 | 2·1307043 | 2·5190992 | 94 | 2·0971430 | 2·4821830 |
| 95 | 1·9848769 | 2·3618894 | 95 | 1·9534332 | 2·3274952 | 95 | 1·9198719 | 2·2907697 |
| 96 | 1·7971020 | 2·1597250 | 96 | 1·7656583 | 2·1255070 | 96 | 1·7320970 | 2·0889660 |
| 97 | 1·5983621 | 1·9466748 | 97 | 1·5669184 | 1·9126280 | 97 | 1·5333571 | 1·8762715 |
| 98 | 1·3881858 | 1·7221533 | 98 | 1·3567421 | 1·6882810 | 98 | 1·3231808 | 1·6521070 |
| 99 | 1·1660914 | 1·4854290 | 99 | 1·1346477 | 1·4517373 | 99 | 1·1010864 | 1·4157560 |
| 100 | 0·9315866 | 1·2354577 | 100 | 0·9001429 | 1·2019649 | 100 | 0·8665816 | 1·1661932 |
| 101 | 0·6841691 | 0·9705189 | 101 | 0·6527254 | 0·9372520 | 101 | 0·6191641 | 0·9017252 |
| 102 | 0·4233261 | 0·6872792 | 102 | 0·3918824 | 0·6542921 | 102 | 0·3583211 | 0·6190620 |
| 103 | 0·1485345 | 0·3783070 | 103 | 0·1170908 | 0·3457069 | 103 | 0·0835295 | 0·3108632 |
| 104 | 9·8592609 | 0·0240750 | 104 | 9·8278172 | $\bar{1}$·9919788 | 104 | 9·7942559 | $\bar{1}$·9577030 |
| 105 | 9·5549615 | | 105 | 9·5235178 | | 105 | 9·4899565 | |
| 106 | 9·2350823 | | 106 | 9·2036386 | | 106 | 9·1700773 | |
| 107 | 8·8990589 | | 107 | 8·8676152 | | 107 | 8·8340539 | |
| 108 | 8·5463166 | | 108 | 8·5148729 | | 108 | 8·4813116 | |
| 109 | 8·1762703 | | 109 | 8·1448266 | | 109 | 8·1112653 | |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 72 | | 73 | | | 74 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | λ $D_{x,\,72}$ | λ $N_{x,\,72}$ | Age of Male ($x$) | λ $D_{x,\,73}$ | λ $N_{x,\,73}$ | Age of Male ($x$) | λ $D_{x,\,74}$ | λ $N_{x,\,74}$ |
| 0 | 5·2823646 | 6·0391364 | 0 | 5·2439870 | 5·9840978 | 0 | 5·2028889 | 5·9261304 |
| 1 | 5·1983624 | 6·0112514 | 1 | 5·1599848 | 5·9555502 | 1 | 5·1188867 | 5·8968915 |
| 2 | 5·1630815 | 5·9946549 | 2 | 5·1247039 | 5·9386963 | 2 | 5·0836058 | 5·8797695 |
| 3 | 5·1409682 | 5·9815115 | 3 | 5·1025906 | 5·9254127 | 3 | 5·0614925 | 5·8663417 |
| 4 | 5·1240665 | 5·9699831 | 4 | 5·0856889 | 5·9138007 | 4 | 5·0445908 | 5·8546394 |
| 5 | 5·1098391 | 5·9594082 | 5 | 5·0714615 | 5·9031725 | 5 | 5·0303634 | 5·8439569 |
| 6 | 5·0974779 | 5·9494666 | 6 | 5·0591003 | 5·8932023 | 6 | 5·0180022 | 5·8339537 |
| 7 | 5·0863344 | 5·9399339 | 7 | 5·0479568 | 5·8836575 | 7 | 5·0068587 | 5·8243953 |
| 8 | 5·0759202 | 5·9306638 | 8 | 5·0375426 | 5·8743878 | 8 | 4·9964445 | 5·8151246 |
| 9 | 5·0661728 | 5·9215684 | 9 | 5·0277952 | 5·8653042 | 9 | 4·9866971 | 5·8060506 |
| 10 | 5·0569376 | 5·9125589 | 10 | 5·0185600 | 5·8563143 | 10 | 4·9774619 | 5·7970795 |
| 11 | 5·0480731 | 5·9035588 | 11 | 5·0096955 | 5·8473413 | 11 | 4·9685974 | 5·7881313 |
| 12 | 5·0394511 | 5·8945077 | 12 | 5·0010735 | 5·8383195 | 12 | 4·9599754 | 5·7791393 |
| 13 | 5·0309566 | 5·8853556 | 13 | 4·9925790 | 5·8291991 | 13 | 4·9514809 | 5·7700501 |
| 14 | 5·0224877 | 5·8760648 | 14 | 4·9841101 | 5·8199400 | 14 | 4·9430120 | 5·7608231 |
| 15 | 5·0139559 | 5·8666093 | 15 | 4·9755783 | 5·8105153 | 15 | 4·9344802 | 5·7514291 |
| 16 | 5·0052856 | 5·8569735 | 16 | 4·9669080 | 5·8009086 | 16 | 4·9258099 | 5·7418516 |
| 17 | 4·9964148 | 5·8471546 | 17 | 4·9580372 | 5·7911156 | 17 | 4·9169391 | 5·7320845 |
| 18 | 4·9872943 | 5·8371565 | 18 | 4·9489167 | 5·7811410 | 18 | 4·9078186 | 5·7221328 |
| 19 | 4·9778885 | 5·8269934 | 19 | 4·9395109 | 5·7709986 | 19 | 4·8984128 | 5·7120109 |
| 20 | 4·9681747 | 5·8166872 | 20 | 4·9297971 | 5·7607108 | 20 | 4·8886990 | 5·7017413 |
| 21 | 4·9581435 | 5·8062652 | 21 | 4·9197659 | 5·7503070 | 21 | 4·8786678 | 5·6913542 |
| 22 | 4·9480319 | 5·7957601 | 22 | 4·9096543 | 5·7398203 | 22 | 4·8685562 | 5·6808858 |
| 23 | 4·9378426 | 5·7851708 | 23 | 4·8994650 | 5·7292501 | 23 | 4·8583669 | 5·6703341 |
| 24 | 4·9275774 | 5·7744948 | 24 | 4·8891998 | 5·7185945 | 24 | 4·8481017 | 5·6596979 |
| 25 | 4·9172373 | 5·7637291 | 25 | 4·8788597 | 5·7078505 | 25 | 4·8377616 | 5·6489744 |
| 26 | 4·9068224 | 5·7528703 | 26 | 4·8684448 | 5·6970143 | 26 | 4·8273467 | 5·6381601 |
| 27 | 4·8963320 | 5·7419136 | 27 | 4·8579544 | 5·6860816 | 27 | 4·8168563 | 5·6272505 |
| 28 | 4·8857645 | 5·7308532 | 28 | 4·8473869 | 5·6750472 | 28 | 4·8062888 | 5·6162407 |
| 29 | 4·8751177 | 5·7196830 | 29 | 4·8367401 | 5·6639048 | 29 | 4·7956420 | 5·6051250 |
| 30 | 4·8643883 | 5·7083962 | 30 | 4·8260107 | 5·6526475 | 30 | 4·7849126 | 5·5938959 |
| 31 | 4·8535723 | 5·6969843 | 31 | 4·8151947 | 5·6412674 | 31 | 4·7740966 | 5·5825461 |
| 32 | 4·8426648 | 5·6854387 | 32 | 4·8042872 | 5·6297559 | 32 | 4·7631891 | 5·5710672 |
| 33 | 4·8316601 | 5·6737493 | 33 | 4·7932825 | 5·6181033 | 33 | 4·7521844 | 5·5594495 |
| 34 | 4·8205517 | 5·6619059 | 34 | 4·7821741 | 5·6062991 | 34 | 4·7410760 | 5·5476831 |
| 35 | 4·8093322 | 5·6498970 | 35 | 4·7709546 | 5·5943320 | 35 | 4·7298565 | 5·5357561 |
| 36 | 4·7979934 | 5·6377091 | 36 | 4·7596158 | 5·5821900 | 36 | 4·7185177 | 5·5236571 |
| 37 | 4·7865262 | 5·6253294 | 37 | 4·7481486 | 5·5698588 | 37 | 4·7070505 | 5·5113730 |
| 38 | 4·7749208 | 5·6127424 | 38 | 4·7365432 | 5·5573245 | 38 | 4·6954451 | 5·4988885 |
| 39 | 4·7631664 | 5·5999324 | 39 | 4·7247888 | 5·5445708 | 39 | 4·6836907 | 5·4861892 |
| 40 | 4·7512516 | 5·5868820 | 40 | 4·7128740 | 5·5315812 | 40 | 4·6717759 | 5·4732574 |
| 41 | 4·7391639 | 5·5735726 | 41 | 4·7007863 | 5·5183371 | 41 | 4·6596882 | 5·4600756 |
| 42 | 4·7268901 | 5·5599836 | 42 | 4·6885125 | 5·5048185 | 42 | 4·6474144 | 5·4466244 |
| 43 | 4·7144161 | 5·5460928 | 43 | 4·6760385 | 5·4910033 | 43 | 4·6349404 | 5·4328818 |
| 44 | 4·7017272 | 5·5318765 | 44 | 4·6633496 | 5·4768683 | 44 | 4·6222515 | 5·4188246 |
| 45 | 4·6888075 | 5·5173081 | 45 | 4·6504299 | 5·4623875 | 45 | 4·6093318 | 5·4044276 |
| 46 | 4·6756405 | 5·5023585 | 46 | 4·6372629 | 5·4475323 | 46 | 4·5961648 | 5·3896628 |
| 47 | 4·6622088 | 5·4869966 | 47 | 4·6238312 | 5·4322713 | 47 | 4·5827331 | 5·3744993 |
| 48 | 4·6484942 | 5·4711867 | 48 | 4·6101166 | 5·4165704 | 48 | 4·5690185 | 5·3589024 |
| 49 | 4·6344776 | 5·4548897 | 49 | 4·5961000 | 5·4003904 | 49 | 4·5550019 | 5·3428349 |
| 50 | 4·6201392 | 5·4380625 | 50 | 4·5817616 | 5·3836886 | 50 | 4·5406635 | 5·3262535 |
| 51 | 4·6054582 | 5·4206566 | 51 | 4·5670806 | 5·3664166 | 51 | 4·5259825 | 5·3091102 |
| 52 | 4·5901685 | 5·4026171 | 52 | 4·5517909 | 5·3485202 | 52 | 4·5106928 | 5·2913511 |
| 53 | 4·5744340 | 5·3839250 | 53 | 4·5360564 | 5·3299819 | 53 | 4·4949583 | 5·2729609 |
| 54 | 4·5582374 | 5·3645272 | 54 | 4·5198598 | 5·3107491 | 54 | 4·4787617 | 5·2538878 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x, y}$ and $N_{x, y}$.

| Age of Female ($y$) | 72 | | 73 | | | 74 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | λ $D_{x, 72}$ | λ $N_{x, 72}$ | Age of Male ($x$) | λ $D_{x, 73}$ | λ $N_{x, 73}$ | Age of Male ($x$) | λ $D_{x, 74}$ | λ $N_{x, 74}$ |
| 55 | 4·5415515 | 5·3443608 | 55 | 4·5031739 | 5·2907612 | 55 | 4·4620758 | 5·2340714 |
| 56 | 4·5243386 | 5·3233579 | 56 | 4·4859610 | 5·2699475 | 56 | 4·4448629 | 5·2134429 |
| 57 | 4·5065506 | 5·3014390 | 57 | 4·4681730 | 5·2482326 | 57 | 4·4270749 | 5·1919239 |
| 58 | 4·4881291 | 5·2785186 | 58 | 4·4497515 | 5·2255290 | 58 | 4·4086534 | 5·1694320 |
| 59 | 4·4690055 | 5·2545036 | 59 | 4·4306279 | 5·2017442 | 59 | 4·3895298 | 5·1458715 |
| 60 | 4·4491007 | 5·2292927 | 60 | 4·4107231 | 5·1767769 | 60 | 4·3696250 | 5·1211421 |
| 61 | 4·4283254 | 5·2027789 | 61 | 4·3899478 | 5·1505184 | 61 | 4·3488497 | 5·0951352 |
| 62 | 4·4065799 | 5·1748451 | 62 | 4·3682023 | 5·1228542 | 62 | 4·3271042 | 5·0677343 |
| 63 | 4·3837542 | 5·1453702 | 63 | 4·3453766 | 5·0936596 | 63 | 4·3042785 | 5·0388164 |
| 64 | 4·3597280 | 5·1142235 | 64 | 4·3213504 | 5·0628049 | 64 | 4·2802523 | 5·0082501 |
| 65 | 4·3343706 | 5·0812693 | 65 | 4·2959930 | 5·0301527 | 65 | 4·2548949 | 4·9758971 |
| 66 | 4·3075410 | 5·0463630 | 66 | 4·2691634 | 4·9955580 | 66 | 4·2280653 | 4·9416118 |
| 67 | 4·2790879 | 5·0093532 | 67 | 4·2407103 | 4·9588695 | 67 | 4·1996122 | 4·9052420 |
| 68 | 4·2488498 | 4·9700836 | 68 | 4·2104722 | 4·9199270 | 68 | 4·1693741 | 4·8666270 |
| 69 | 4·2166545 | 4·9283861 | 69 | 4·1782769 | 4·8785655 | 69 | 4·1371758 | 4·8255995 |
| 70 | 4·1823199 | 4·8840904 | 70 | 4·1439423 | 4·8346089 | 70 | 4·1028442 | 4·7819843 |
| 71 | 4·1456533 | 4·8370149 | 71 | 4·1072757 | 4·7878776 | 71 | 4·0661776 | 4·7355981 |
| 72 | 4·1064517 | 4·7869721 | 72 | 4·0680741 | 4·7381818 | 72 | 4·0269760 | 4·6862518 |
| 73 | 4·0645020 | 4·7337653 | 73 | 4·0261244 | 4·6853243 | 73 | 3·9850263 | 4·6337465 |
| 74 | 4·0195804 | 4·6771907 | 74 | 3·9812028 | 4·6290998 | 74 | 3·9401047 | 4·5778754 |
| 75 | 3·9714531 | 4·6170361 | 75 | 3·9330755 | 4·5692944 | 75 | 3·8919774 | 4·5184245 |
| 76 | 3·9198757 | 4·5530802 | 76 | 3·8814981 | 4·5056870 | 76 | 3·8404000 | 4·4551699 |
| 77 | 3·8645938 | 4·4850941 | 77 | 3·8262162 | 4·4380456 | 77 | 3·7851181 | 4·3878808 |
| 78 | 3·8053424 | 4·4128377 | 78 | 3·7669648 | 4·3661321 | 78 | 3·7258667 | 4·3163151 |
| 79 | 3·7418463 | 4·3360639 | 79 | 3·7034687 | 4·2896957 | 79 | 3·6623706 | 4·2402247 |
| 80 | 3·6738199 | 4·2545149 | 80 | 3·6354423 | 4·2084793 | 80 | 3·5943442 | 4·1593485 |
| 81 | 3·6009673 | 4·1679232 | 81 | 3·5625897 | 4·1222146 | 81 | 3·5214916 | 4·0734185 |
| 82 | 3·5229822 | 4·0760121 | 82 | 3·4846046 | 4·0306228 | 82 | 3·4435065 | 3·9821563 |
| 83 | 3·4395483 | 3·9784932 | 83 | 3·4011707 | 3·9334174 | 83 | 3·3600726 | 3·8852724 |
| 84 | 3·3503385 | 3·8750688 | 84 | 3·3119609 | 3·8302986 | 84 | 3·2708628 | 3·7824691 |
| 85 | 3·2550157 | 3·7654309 | 85 | 3·2166381 | 3·7209577 | 85 | 3·1755400 | 3·6734356 |
| 86 | 3·1532323 | 3·6492609 | 86 | 3·1148547 | 3·6050755 | 86 | 3·0737566 | 3·5578523 |
| 87 | 3·0446305 | 3·5262281 | 87 | 3·0062529 | 3·4823233 | 87 | 2·9651548 | 3·4353894 |
| 88 | 2·9288421 | 3·3959909 | 88 | 2·8904645 | 3·3523572 | 88 | 2·8493664 | 3·3057053 |
| 89 | 2·8054887 | 3·2581977 | 89 | 2·7671111 | 3·2148261 | 89 | 2·7260130 | 3·1684466 |
| 90 | 2·6741812 | 3·1124850 | 90 | 2·6358036 | 3·0693658 | 90 | 2·5947055 | 3·0232497 |
| 91 | 2·5345207 | 2·9584765 | 91 | 2·4961431 | 2·9156014 | 91 | 2·4550450 | 2·8697391 |
| 92 | 2·3860976 | 2·7957841 | 92 | 2·3477200 | 2·7531439 | 92 | 2·3066219 | 2·7075276 |
| 93 | 2·2284921 | 2·6240076 | 93 | 2·1901145 | 2·5815936 | 93 | 2·1490164 | 2·5362136 |
| 94 | 2·0612740 | 2·4427306 | 94 | 2·0228964 | 2·4005345 | 94 | 1·9817983 | 2·3553823 |
| 95 | 1·8840029 | 2·2515171 | 95 | 1·8456253 | 2·2095330 | 95 | 1·8045272 | 2·1646027 |
| 96 | 1·6962280 | 2·0499096 | 96 | 1·6578504 | 2·0081316 | 96 | 1·6167523 | 1·9634181 |
| 97 | 1·4974881 | 1·8374066 | 97 | 1·4591105 | 1·7958328 | 97 | 1·4180124 | 1·7513322 |
| 98 | 1·2873118 | 1·6134390 | 98 | 1·2489342 | 1·5720673 | 98 | 1·2078361 | 1·5277832 |
| 99 | 1·0652174 | 1·3772898 | 99 | 1·0268398 | 1·3361354 | 99 | 0·9857417 | 1·2920699 |
| 100 | 0·8307126 | 1·1279498 | 100 | 0·7923350 | 1·0870287 | 100 | 0·7512369 | 1·0432169 |
| 101 | 0·5832951 | 0·8637391 | 101 | 0·5449175 | 0·8230958 | 101 | 0·5038194 | 0·7795676 |
| 102 | 0·3224521 | 0·5814035 | 102 | 0·2840745 | 0·5411048 | 102 | 0·2429764 | 0·4979381 |
| 103 | 0·0476605 | 0·2736262 | 103 | 0·0092829 | 0·2337827 | 103 | 9·9681848 | 0·1911155 |
| 104 | 9·7583869 | $\bar{1}$·9210098 | 104 | 9·7200093 | $\bar{1}$·8817840 | 104 | 9·6789112 | $\bar{1}$·8397922 |
| 105 | 9·4540875 | | 105 | 9·4157099 | | 105 | 9·3746118 | |
| 106 | 9·1342083 | | 106 | 9·0958307 | | 106 | 9·0547326 | |
| 107 | 8·7981849 | | 107 | 8·7598073 | | 107 | 8·7187092 | |
| 108 | 8·4454426 | | 108 | 8·4070650 | | 108 | 8·3659669 | |
| 109 | 8·0753963 | | 109 | 8·0370187 | | 109 | 7·9959206 | |

## JOINT LIVES :—Male and Female Life.

## Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female (y) | 75 | | 76 | | | 77 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (x) | $\lambda D_{x,75}$ | $\lambda N_{x,75}$ | Age of Male (x) | $\lambda D_{x,76}$ | $\lambda N_{x,76}$ | Age of Male (x) | $\lambda D_{x,77}$ | $\lambda N_{x,77}$ |
| 0 | 5·1588473 | 5·8650400 | 0 | 5·1116284 | 5·8006216 | 0 | 5·0609876 | 5·7326607 |
| 1 | 5·0748451 | 5·8350821 | 1 | 5·0276262 | 5·7699169 | 1 | 4·9769854 | 5·7011811 |
| 2 | 5·0395642 | 5·8176810 | 2 | 4·9923453 | 5·7522274 | 2 | 4·9417045 | 5·6831941 |
| 3 | 5·0174509 | 5·8041026 | 3 | 4·9702320 | 5·7384930 | 3 | 4·9195912 | 5·6692983 |
| 4 | 5·0005492 | 5·7923083 | 4 | 4·9533303 | 5·7266013 | 4 | 4·9026895 | 5·6573064 |
| 5 | 4·9863218 | 5·7815656 | 5 | 4·9391029 | 5·7157975 | 5 | 4·8884621 | 5·6464373 |
| 6 | 4·9739606 | 5·7715291 | 6 | 4·9267417 | 5·7057237 | 6 | 4·8761009 | 5·6363244 |
| 7 | 4·9628171 | 5·7619536 | 7 | 4·9155982 | 5·6961293 | 7 | 4·8649574 | 5·6267084 |
| 8 | 4·9524029 | 5·7526797 | 8 | 4·9051840 | 5·6868503 | 8 | 4·8545432 | 5·6174224 |
| 9 | 4·9426555 | 5·7436142 | 9 | 4·8954366 | 5·6777914 | 9 | 4·8447958 | 5·6083687 |
| 10 | 4·9334203 | 5·7346607 | 10 | 4·8862014 | 5·6688542 | 10 | 4·8355606 | 5·5994461 |
| 11 | 4·9245558 | 5·7257367 | 11 | 4·8773369 | 5·6599536 | 11 | 4·8266961 | 5·5905677 |
| 12 | 4·9159338 | 5·7167735 | 12 | 4·8687149 | 5·6510183 | 12 | 4·8180741 | 5·5816599 |
| 13 | 4·9074393 | 5·7077155 | 13 | 4·8602204 | 5·6419912 | 13 | 4·8095796 | 5·5726627 |
| 14 | 4·8989704 | 5·6985200 | 14 | 4·8517515 | 5·6328272 | 14 | 4·8011107 | 5·5635302 |
| 15 | 4·8904386 | 5·6891570 | 15 | 4·8432197 | 5·6234948 | 15 | 4·7925789 | 5·5542284 |
| 16 | 4·8817683 | 5·6796082 | 16 | 4·8345494 | 5·6139749 | 16 | 4·7839086 | 5·5447371 |
| 17 | 4·8728975 | 5·6698674 | 17 | 4·8256786 | 5·6042597 | 17 | 4·7750378 | 5·5350481 |
| 18 | 4·8637770 | 5·6599385 | 18 | 4·8165581 | 5·5943539 | 18 | 4·7659173 | 5·5251644 |
| 19 | 4·8543712 | 5·6498364 | 19 | 4·8071523 | 5·5842713 | 19 | 4·7565115 | 5·5151015 |
| 20 | 4·8446574 | 5·6395846 | 20 | 4·7974385 | 5·5740366 | 20 | 4·7467977 | 5·5048834 |
| 21 | 4·8346262 | 5·6292142 | 21 | 4·7874073 | 5·5636822 | 21 | 4·7367665 | 5·4945441 |
| 22 | 4·8245146 | 5·6187624 | 22 | 4·7772957 | 5·5532469 | 22 | 4·7266549 | 5·4841246 |
| 23 | 4·8143253 | 5·6082288 | 23 | 4·7671064 | 5·5427301 | 23 | 4·7164656 | 5·4736243 |
| 24 | 4·8040601 | 5·5976111 | 24 | 4·7568412 | 5·5321307 | 24 | 4·7062004 | 5·4630417 |
| 25 | 4·7937200 | 5·5869073 | 25 | 4·7465011 | 5·5214454 | 25 | 4·6958603 | 5·4523747 |
| 26 | 4·7833051 | 5·5761139 | 26 | 4·7360862 | 5·5106718 | 26 | 4·6854454 | 5·4416199 |
| 27 | 4·7728147 | 5·5652265 | 27 | 4·7255958 | 5·4998057 | 27 | 4·6749550 | 5·4307738 |
| 28 | 4·7622472 | 5·5542402 | 28 | 4·7150283 | 5·4888421 | 28 | 4·6643875 | 5·4198319 |
| 29 | 4·7516004 | 5·5431494 | 29 | 4·7043815 | 5·4777753 | 29 | 4·6537407 | 5·4087881 |
| 30 | 4·7408710 | 5·5319476 | 30 | 4·6936521 | 5·4665989 | 30 | 4·6430113 | 5·3976363 |
| 31 | 4·7300550 | 5·5206268 | 31 | 4·6828361 | 5·4553059 | 31 | 4·6321953 | 5·3863693 |
| 32 | 4·7191475 | 5·5091788 | 32 | 4·6719286 | 5·4438875 | 32 | 4·6212878 | 5·3749794 |
| 33 | 4·7081428 | 5·4975947 | 33 | 4·6609239 | 5·4323352 | 33 | 4·6102831 | 5·3634572 |
| 34 | 4·6970344 | 5·4858639 | 34 | 4·6498155 | 5·4206387 | 34 | 4·5991747 | 5·3517932 |
| 35 | 4·6858149 | 5·4739759 | 35 | 4·6385960 | 5·4087871 | 35 | 4·5879552 | 5·3399769 |
| 36 | 4·6744761 | 5·4619181 | 36 | 4·6272572 | 5·3967691 | 36 | 4·5766164 | 5·3279961 |
| 37 | 4·6630089 | 5·4496780 | 37 | 4·6157900 | 5·3845713 | 37 | 4·5651492 | 5·3158392 |
| 38 | 4·6514035 | 5·4372420 | 38 | 4·6041846 | 5·3721805 | 38 | 4·5535438 | 5·3034915 |
| 39 | 4·6396491 | 5·4245937 | 39 | 4·5924302 | 5·3595819 | 39 | 4·5417894 | 5·2909392 |
| 40 | 4·6277343 | 5·4117178 | 40 | 4·5805154 | 5·3467586 | 40 | 4·5298746 | 5·2781670 |
| 41 | 4·6156466 | 5·3985954 | 41 | 4·5684277 | 5·3336936 | 41 | 4·5177869 | 5·2651559 |
| 42 | 4·6033728 | 5·3852082 | 42 | 4·5561539 | 5·3203675 | 42 | 4·5055131 | 5·2518888 |
| 43 | 4·5908988 | 5·3715350 | 43 | 4·5436799 | 5·3067600 | 43 | 4·4930391 | 5·2383442 |
| 44 | 4·5782099 | 5·3575526 | 44 | 4·5309910 | 5·2928491 | 44 | 4·4803502 | 5·2245010 |
| 45 | 4·5652902 | 5·3432358 | 45 | 4·5180713 | 5·2786091 | 45 | 4·4674305 | 5·2103346 |
| 46 | 4·5521232 | 5·3285574 | 46 | 4·5049043 | 5·2640134 | 46 | 4·4542635 | 5·1958178 |
| 47 | 4·5386915 | 5·3134870 | 47 | 4·4914726 | 5·2490320 | 47 | 4·4408318 | 5·1809214 |
| 48 | 4·5249769 | 5·2979904 | 48 | 4·4777580 | 5·2336314 | 48 | 4·4271172 | 5·1656126 |
| 49 | 4·5109603 | 5·2820300 | 49 | 4·4637414 | 5·2177742 | 49 | 4·4131006 | 5·1498541 |
| 50 | 4·4966219 | 5·2655645 | 50 | 4·4494030 | 5·2014184 | 50 | 4·3987622 | 5·1336044 |
| 51 | 4·4819409 | 5·2485449 | 51 | 4·4347220 | 5·1845177 | 51 | 4·3840812 | 5·1168158 |
| 52 | 4·4666512 | 5·2309175 | 52 | 4·4194323 | 5·1670168 | 52 | 4·3687915 | 5·0994362 |
| 53 | 4·4509167 | 5·2126696 | 53 | 4·4036978 | 5·1489051 | 53 | 4·3530570 | 5·0814553 |
| 54 | 4·4347201 | 5·1937499 | 54 | 4·3875012 | 5·1301329 | 54 | 4·3368604 | 5·0628241 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female (y) | 75 | | | 76 | | | 77 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (x) | λ $D_{x,\,75}$ | λ $N_{x,\,75}$ | Age of Male (x) | λ $D_{x,\,76}$ | λ $N_{x,\,76}$ | Age of Male (x) | λ $D_{x,\,77}$ | λ $N_{x,\,77}$ |
| 55 | 4·4180342 | 5·1740991 | 55 | 4·3708153 | 5·1106412 | 55 | 4·3201745 | 5·0434853 |
| 56 | 4·4008213 | 5·1536485 | 56 | 4·3536024 | 5·0903625 | 56 | 4·3029616 | 5·0233718 |
| 57 | 4·3830333 | 5·1323218 | 57 | 4·3358144 | 5·0692203 | 57 | 4·2851736 | 5·0024077 |
| 58 | 4·3646118 | 5·1100325 | 58 | 4·3173929 | 5·0471303 | 58 | 4·2667521 | 4·9805088 |
| 59 | 4·3454882 | 5·0866912 | 59 | 4·2982693 | 5·0239985 | 59 | 4·2476285 | 4·9575833 |
| 60 | 4·3255834 | 5·0621938 | 60 | 4·2783645 | 4·9997276 | 60 | 4·2277237 | 4·9335283 |
| 61 | 4·3048081 | 5·0364321 | 61 | 4·2575892 | 4·9742053 | 61 | 4·2069484 | 4·9082399 |
| 62 | 4·2830626 | 5·0092903 | 62 | 4·2358437 | 4·9473161 | 62 | 4·1852029 | 4·8815969 |
| 63 | 4·2602369 | 4·9806437 | 63 | 4·2130180 | 4·9189352 | 63 | 4·1623772 | 4·8534762 |
| 64 | 4·2362107 | 4·9503610 | 64 | 4·1889918 | 4·8889317 | 64 | 4·1383510 | 4·8237448 |
| 65 | 4·2108533 | 4·9183035 | 65 | 4·1636344 | 4·8571648 | 65 | 4·1129936 | 4·7922635 |
| 66 | 4·1840237 | 4·8843245 | 66 | 4·1368048 | 4·8234880 | 66 | 4·0861640 | 4·7588839 |
| 67 | 4·1555706 | 4·8482704 | 67 | 4·1083517 | 4·7877466 | 67 | 4·0577109 | 4·7234508 |
| 68 | 4·1253325 | 4·8099810 | 68 | 4·0781136 | 4·7497789 | 68 | 4·0274728 | 4·6858017 |
| 69 | 4·0931372 | 4·7692865 | 69 | 4·0459183 | 4·7094158 | 69 | 3·9952775 | 4·6457659 |
| 70 | 4·0588026 | 4·7250112 | 70 | 4·0115837 | 4·6664786 | 70 | 3·9609429 | 4·6031656 |
| 71 | 4·0221360 | 4·6799718 | 71 | 3·9749171 | 4·6207846 | 71 | 3·9242763 | 4·5578144 |
| 72 | 3·9829344 | 4·6309758 | 72 | 3·9357155 | 4·5721391 | 72 | 3·8850747 | 4·5095185 |
| 73 | 3·9409847 | 4·5788245 | 73 | 3·8937658 | 4·5203424 | 73 | 3·8431250 | 4·4580764 |
| 74 | 3·8960631 | 4·5233098 | 74 | 3·8488442 | 4·4651859 | 74 | 3·7982034 | 4·4032777 |
| 75 | 3·8479358 | 4·4642161 | 75 | 3·8007169 | 4·4064523 | 75 | 3·7500761 | 4·3449053 |
| 76 | 3·7963584 | 4·4013198 | 76 | 3·7491395 | 4·3439159 | 76 | 3·6984987 | 4·2827318 |
| 77 | 3·7410765 | 4·3343866 | 77 | 3·6938576 | 4·2773438 | 77 | 3·6432168 | 4·2165220 |
| 78 | 3·6818251 | 4·2631761 | 78 | 3·6346062 | 4·2064916 | 78 | 3·5839654 | 4·1460328 |
| 79 | 3·6183290 | 4·1874358 | 79 | 3·5711101 | 4·1311087 | 79 | 3·5204693 | 4·0710100 |
| 80 | 3·5503026 | 4·1069079 | 80 | 3·5030837 | 4·0509328 | 80 | 3·4524429 | 3·9911929 |
| 81 | 3·4774500 | 4·0213204 | 81 | 3·4302311 | 3·9656950 | 81 | 3·3795903 | 3·9063081 |
| 82 | 3·3994649 | 3·9303947 | 82 | 3·3522460 | 3·8751134 | 82 | 3·3016052 | 3·8160768 |
| 83 | 3·3160310 | 3·8338417 | 83 | 3·2688121 | 3·7788984 | 83 | 3·2181713 | 3·7202064 |
| 84 | 3·2268212 | 3·7313615 | 84 | 3·1796023 | 3·6767494 | 84 | 3·1289615 | 3·6183965 |
| 85 | 3·1314984 | 3·6226450 | 85 | 3·0842795 | 3·5683566 | 85 | 3·0336387 | 3·5103345 |
| 86 | 3·0297150 | 3·5073701 | 86 | 2·9824961 | 3·4533993 | 86 | 2·9318553 | 3·3957025 |
| 87 | 2·9211132 | 3·3852068 | 87 | 2·8738943 | 3·3315451 | 87 | 2·8232535 | 3·2741652 |
| 88 | 2·8053248 | 3·2558136 | 88 | 2·7581059 | 3·2024524 | 88 | 2·7074651 | 3·1453814 |
| 89 | 2·6819714 | 3·1188376 | 89 | 2·6347525 | 3·0657675 | 89 | 2·5841117 | 3·0089969 |
| 90 | 2·5506639 | 2·9739140 | 90 | 2·5034450 | 2·9211270 | 90 | 2·4528042 | 2·8646475 |
| 91 | 2·4110034 | 2·8206677 | 91 | 2·3637845 | 2·7681547 | 91 | 2·3131437 | 2·7119582 |
| 92 | 2·2625803 | 2·6587114 | 92 | 2·2153614 | 2·6064631 | 92 | 2·1647206 | 2·5505402 |
| 93 | 2·1049748 | 2·4876445 | 93 | 2·0577559 | 2·4356533 | 93 | 2·0071151 | 2·3799940 |
| 94 | 1·9377567 | 2·3070521 | 94 | 1·8905378 | 2·2553078 | 94 | 1·8398970 | 2·1999074 |
| 95 | 1·7604856 | 2·1165028 | 95 | 1·7132667 | 2·0650006 | 95 | 1·6626259 | 2·0098490 |
| 96 | 1·5727107 | 1·9155428 | 96 | 1·5254918 | 1·8642737 | 96 | 1·4748510 | 1·8093684 |
| 97 | 1·3739708 | 1·7036808 | 97 | 1·3267519 | 1·6526427 | 97 | 1·2761111 | 1·5979748 |
| 98 | 1·1637945 | 1·4803562 | 98 | 1·1165756 | 1·4295536 | 98 | 1·0659348 | 1·3751275 |
| 99 | 0·9417001 | 1·2448805 | 99 | 0·8944812 | 1·1943228 | 99 | 0·8438404 | 1·1401528 |
| 100 | 0·7071953 | 0·9962752 | 100 | 0·6599764 | 0·9459902 | 100 | 0·6093356 | 0·8921002 |
| 101 | 0·4597778 | 0·7329403 | 101 | 0·4125589 | 0·6829569 | 101 | 0·3619181 | 0·6294096 |
| 102 | 0·1989348 | 0·4516943 | 102 | 0·1517159 | 0·4021238 | 102 | 0·1010751 | 0·3489665 |
| 103 | 9·9241432 | 0·1453518 | 103 | 9·8769243 | 0·0963538 | 103 | 9·8262835 | 0·0437944 |
| 104 | 9·6348696 | $\bar{1}$·7947668 | 104 | 9·5876507 | $\bar{1}$·7464785 | 104 | 9·5370099 | $\bar{1}$·6947806 |
| 105 | 9·3305702 | | 105 | 9·2833513 | | 105 | 9·2327105 | |
| 106 | 9·0106910 | | 106 | 8·9634721 | | 106 | 8·9128313 | |
| 107 | 8·6746676 | | 107 | 8·6274487 | | 107 | 8·5768079 | |
| 108 | 8·3219253 | | 108 | 8·2747064 | | 108 | 8·2240656 | |
| 109 | 7·9518790 | | 109 | 7·9046601 | | 109 | 7·8540193 | |

## JOINT LIVES:—Male and Female Life.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female (y) | 78 | | 79 | | | 80 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (x) | λ $D_{x,\,78}$ | λ $N_{x,\,78}$ | Age of Male (x) | λ $D_{x,\,79}$ | λ $N_{x,\,79}$ | Age of Male (x) | λ $D_{x,\,80}$ | λ $N_{x,\,80}$ |
| 0 | 5·0066690 | 5·6609290 | 0 | 4·9484061 | 5·5851920 | 0 | 4·8859213 | 5·5051990 |
| 1 | 4·9226668 | 5·6286491 | 1 | 4·8644039 | 5·5520837 | 1 | 4·8019191 | 5·4712378 |
| 2 | 4·8873859 | 5·6103551 | 2 | 4·8291230 | 5·5334746 | 2 | 4·7666382 | 5·4523047 |
| 3 | 4·8652726 | 5·5962938 | 3 | 4·8070097 | 5·5192432 | 3 | 4·7445249 | 5·4378997 |
| 4 | 4·8483709 | 5·5841976 | 4 | 4·7901080 | 5·5070403 | 4 | 4·7276232 | 5·4255867 |
| 5 | 4·8341435 | 5·5732612 | 5 | 4·7758806 | 5·4960331 | 5 | 4·7133958 | 5·4145071 |
| 6 | 4·8217823 | 5·5631060 | 6 | 4·7635194 | 5·4858340 | 6 | 4·7010346 | 5·4042611 |
| 7 | 4·8106388 | 5·5534669 | 7 | 4·7523759 | 5·4761692 | 7 | 4·6898911 | 5·3945692 |
| 8 | 4·8002246 | 5·5441714 | 8 | 4·7419617 | 5·4668627 | 8 | 4·6794769 | 5·3852494 |
| 9 | 4·7904772 | 5·5351212 | 9 | 4·7322143 | 5·4578137 | 9 | 4·6697295 | 5·3762006 |
| 10 | 4·7812420 | 5·5262121 | 10 | 4·7229791 | 5·4489167 | 10 | 4·6604943 | 5·3673134 |
| 11 | 4·7723775 | 5·5173546 | 11 | 4·7141146 | 5·4400792 | 11 | 4·6516298 | 5·3584949 |
| 12 | 4·7637555 | 5·5084732 | 12 | 4·7054926 | 5·4312232 | 12 | 4·6430078 | 5·3496637 |
| 13 | 4·7552610 | 5·4995060 | 13 | 4·6969981 | 5·4222850 | 13 | 4·6345133 | 5·3407534 |
| 14 | 4·7467921 | 5·4904041 | 14 | 4·6885292 | 5·4132138 | 14 | 4·6260444 | 5·3317123 |
| 15 | 4·7382603 | 5·4811330 | 15 | 4·6799974 | 5·4039727 | 15 | 4·6175126 | 5·3225015 |
| 16 | 4·7295900 | 5·4716703 | 16 | 4·6713271 | 5·3945387 | 16 | 4·6088423 | 5·3130953 |
| 17 | 4·7207192 | 5·4620069 | 17 | 4·6624563 | 5·3849009 | 17 | 4·5999715 | 5·3034834 |
| 18 | 4·7115987 | 5·4521459 | 18 | 4·6533358 | 5·3750620 | 18 | 4·5908510 | 5·2936664 |
| 19 | 4·7021929 | 5·4421015 | 19 | 4·6439300 | 5·3650366 | 19 | 4·5814452 | 5·2836594 |
| 20 | 4·6924791 | 5·4319000 | 20 | 4·6342162 | 5·3548504 | 20 | 4·5717314 | 5·2734888 |
| 21 | 4·6824479 | 5·4215753 | 21 | 4·6241850 | 5·3445403 | 21 | 4·5617002 | 5·2631916 |
| 22 | 4·6723363 | 5·4111707 | 22 | 4·6140734 | 5·3341503 | 22 | 4·5515886 | 5·2528159 |
| 23 | 4·6621470 | 5·4006864 | 23 | 4·6038841 | 5·3236801 | 23 | 4·5413993 | 5·2423605 |
| 24 | 4·6518818 | 5·3901200 | 24 | 4·5936189 | 5·3131300 | 24 | 4·5311341 | 5·2318243 |
| 25 | 4·6415417 | 5·3794700 | 25 | 4·5832788 | 5·3024964 | 25 | 4·5207940 | 5·2212068 |
| 26 | 4·6311268 | 5·3687336 | 26 | 4·5728639 | 5·2917770 | 26 | 4·5103791 | 5·2105039 |
| 27 | 4·6206364 | 5·3579067 | 27 | 4·5623735 | 5·2809685 | 27 | 4·4998887 | 5·1997130 |
| 28 | 4·6100689 | 5·3469850 | 28 | 4·5518060 | 5·2700662 | 28 | 4·4893212 | 5·1888292 |
| 29 | 4·5994221 | 5·3359633 | 29 | 4·5411592 | 5·2590651 | 29 | 4·4786744 | 5·1778478 |
| 30 | 4·5886927 | 5·3248347 | 30 | 4·5304298 | 5·2479592 | 30 | 4·4679450 | 5·1667627 |
| 31 | 4·5778767 | 5·3135929 | 31 | 4·5196138 | 5·2367410 | 31 | 4·4571290 | 5·1555677 |
| 32 | 4·5669692 | 5·3022296 | 32 | 4·5087063 | 5·2254033 | 32 | 4·4462215 | 5·1442540 |
| 33 | 4·5559645 | 5·2907365 | 33 | 4·4977016 | 5·2139375 | 33 | 4·4352168 | 5·1328144 |
| 34 | 4·5448561 | 5·2791034 | 34 | 4·4865932 | 5·2023341 | 34 | 4·4241084 | 5·1212388 |
| 35 | 4·5336366 | 5·2673203 | 35 | 4·4753737 | 5·1905824 | 35 | 4·4128889 | 5·1095175 |
| 36 | 4·5222978 | 5·2553755 | 36 | 4·4640349 | 5·1786720 | 36 | 4·4015501 | 5·0976390 |
| 37 | 4·5108306 | 5·2432566 | 37 | 4·4525677 | 5·1665897 | 37 | 4·3900829 | 5·0855921 |
| 38 | 4·4992252 | 5·2309509 | 38 | 4·4409623 | 5·1543229 | 38 | 4·3784775 | 5·0733623 |
| 39 | 4·4874708 | 5·2184431 | 39 | 4·4292079 | 5·1418578 | 39 | 4·3667231 | 5·0609372 |
| 40 | 4·4755560 | 5·2057180 | 40 | 4·4172931 | 5·1291783 | 40 | 4·3548083 | 5·0483016 |
| 41 | 4·4634683 | 5·1927594 | 41 | 4·4052054 | 5·1162679 | 41 | 4·3427206 | 5·0354381 |
| 42 | 4·4511945 | 5·1795475 | 42 | 4·3929316 | 5·1031100 | 42 | 4·3304468 | 5·0223294 |
| 43 | 4·4387205 | 5·1660635 | 43 | 4·3804576 | 5·0896826 | 43 | 4·3179728 | 5·0089577 |
| 44 | 4·4260316 | 5·1522846 | 44 | 4·3677687 | 5·0759661 | 44 | 4·3052839 | 4·9952991 |
| 45 | 4·4131119 | 5·1381880 | 45 | 4·3548490 | 5·0619359 | 45 | 4·2923642 | 4·9813324 |
| 46 | 4·3999449 | 5·1237472 | 46 | 4·3416820 | 5·0475665 | 46 | 4·2791972 | 4·9670315 |
| 47 | 4·3865132 | 5·1089318 | 47 | 4·3282503 | 5·0328294 | 47 | 4·2657655 | 4·9523681 |
| 48 | 4·3727986 | 5·0937106 | 48 | 4·3145357 | 5·0176914 | 48 | 4·2520509 | 4·9373102 |
| 49 | 4·3587820 | 5·0780463 | 49 | 4·3005191 | 5·0021172 | 49 | 4·2380343 | 4·9218217 |
| 50 | 4·3444436 | 5·0618980 | 50 | 4·2861807 | 4·9860651 | 50 | 4·2236959 | 4·9058617 |
| 51 | 4·3297626 | 5·0452177 | 51 | 4·2714997 | 4·9694886 | 51 | 4·2090149 | 4·8893835 |
| 52 | 4·3144729 | 5·0279524 | 52 | 4·2562100 | 4·9523332 | 52 | 4·1937252 | 4·8723328 |
| 53 | 4·2987384 | 5·0100967 | 53 | 4·2404755 | 4·9345954 | 53 | 4·1779907 | 4·8547085 |
| 54 | 4·2825418 | 4·9916008 | 54 | 4·2242789 | 4·9162296 | 54 | 4·1617941 | 4·8364647 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female (y) | 78 | | | 79 | | | 80 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (x) | λ $D_{x,78}$ | λ $N_{x,78}$ | Age of Male (x) | λ $D_{x,79}$ | λ $N_{x,79}$ | Age of Male (x) | λ $D_{x,80}$ | λ $N_{x,80}$ |
| 55 | 4·2658559 | 4·9724083 | 55 | 4·2075930 | 4·8971767 | 55 | 4·1451082 | 4·8175468 |
| 56 | 4·2486430 | 4·9524529 | 56 | 4·1903801 | 4·8773736 | 56 | 4·1278953 | 4·7978877 |
| 57 | 4·2308550 | 4·9316602 | 57 | 4·1725921 | 4·8567446 | 57 | 4·1101073 | 4·7774174 |
| 58 | 4·2124335 | 4·9099458 | 58 | 4·1541706 | 4·8352079 | 58 | 4·0916858 | 4·7560501 |
| 59 | 4·1933099 | 4·8872183 | 59 | 4·1350470 | 4·8126708 | 59 | 4·0725622 | 4·7336963 |
| 60 | 4·1734051 | 4·8633764 | 60 | 4·1151422 | 4·7890332 | 60 | 4·0526574 | 4·7102562 |
| 61 | 4·1526298 | 4·8383100 | 61 | 4·0943669 | 4·7641874 | 61 | 4·0318821 | 4·6856209 |
| 62 | 4·1308843 | 4·8119087 | 62 | 4·0726214 | 4·7380127 | 62 | 4·0101366 | 4·6596738 |
| 63 | 4·1080586 | 4·7840407 | 63 | 4·0497957 | 4·7103941 | 63 | 3·9873109 | 4·6322865 |
| 64 | 4·0840324 | 4·7545762 | 64 | 4·0257695 | 4·6811887 | 64 | 3·9632847 | 4·6033374 |
| 65 | 4·0586750 | 4·7233736 | 65 | 4·0004121 | 4·6502589 | 65 | 3·9379273 | 4·5726728 |
| 66 | 4·0318454 | 4·6902856 | 66 | 3·9735825 | 4·6174558 | 66 | 3·9110977 | 4·5401481 |
| 67 | 4·0033923 | 4·6551558 | 67 | 3·9451294 | 4·5826230 | 67 | 3·8826446 | 4·5056056 |
| 68 | 3·9731542 | 4·6178200 | 68 | 3·9148913 | 4·5455960 | 68 | 3·8524065 | 4·4688809 |
| 69 | 3·9409589 | 4·5781081 | 69 | 3·8826960 | 4·5062024 | 69 | 3·8202112 | 4·4298006 |
| 70 | 3·9066243 | 4·5358400 | 70 | 3·8483614 | 4·4642627 | 70 | 3·7858766 | 4·3881834 |
| 71 | 3·8699577 | 4·4908294 | 71 | 3·8116948 | 4·4195886 | 71 | 3·7492100 | 4·3438415 |
| 72 | 3·8307561 | 4·4428810 | 72 | 3·7724932 | 4·3719844 | 72 | 3·7100084 | 4·2965770 |
| 73 | 3·7888064 | 4·3917917 | 73 | 3·7305435 | 4·3212460 | 73 | 3·6680587 | 4·2461861 |
| 74 | 3·7438848 | 4·3373510 | 74 | 3·6856219 | 4·2671609 | 74 | 3·6231371 | 4·1924545 |
| 75 | 3·6957575 | 4·2793391 | 75 | 3·6374946 | 4·2095094 | 75 | 3·5750098 | 4·1351606 |
| 76 | 3·6441801 | 4·2175292 | 76 | 3·5859172 | 4·1480620 | 76 | 3·5234324 | 4·0740753 |
| 77 | 3·5888982 | 4·1516841 | 77 | 3·5306353 | 4·0825822 | 77 | 3·4681505 | 4·0089590 |
| 78 | 3·5296468 | 4·0815591 | 78 | 3·4713839 | 4·0128234 | 78 | 3·4088991 | 3·9395662 |
| 79 | 3·4661507 | 4·0069006 | 79 | 3·4078878 | 3·9385292 | 79 | 3·3454030 | 3·8656393 |
| 80 | 3·3981243 | 3·9274443 | 80 | 3·3398614 | 3·8594379 | 80 | 3·2773766 | 3·7869125 |
| 81 | 3·3252717 | 3·8429192 | 81 | 3·2670088 | 3·7752739 | 81 | 3·2045240 | 3·7031133 |
| 82 | 3·2472866 | 3·7530412 | 82 | 3·1890237 | 3·6857560 | 82 | 3·1265389 | 3·6139549 |
| 83 | 3·1638527 | 3·6575215 | 83 | 3·1055898 | 3·5905889 | 83 | 3·0431050 | 3·5191478 |
| 84 | 3·0746429 | 3·5560564 | 84 | 3·0163800 | 3·4894734 | 84 | 2·9538952 | 3·4183845 |
| 85 | 2·9793201 | 3·4483337 | 85 | 2·9210572 | 3·3820947 | 85 | 2·8585724 | 3·3113542 |
| 86 | 2·8775367 | 3·3340319 | 86 | 2·8192738 | 3·2681311 | 86 | 2·7567890 | 3·1977325 |
| 87 | 2·7689349 | 3·2128189 | 87 | 2·7106720 | 3·1472484 | 87 | 2·6481872 | 3·0771866 |
| 88 | 2·6531465 | 3·0843515 | 88 | 2·5948836 | 3·0191039 | 88 | 2·5323988 | 2·9493705 |
| 89 | 2·5297931 | 2·9482750 | 89 | 2·4715302 | 2·8833428 | 89 | 2·4090454 | 2·8139311 |
| 90 | 2·3984856 | 2·8042253 | 90 | 2·3402227 | 2·7396001 | 90 | 2·2777379 | 2·6705019 |
| 91 | 2·2588251 | 2·6518263 | 91 | 2·2005622 | 2·5874999 | 91 | 2·1380774 | 2·5187073 |
| 92 | 2·1104020 | 2·4906915 | 92 | 2·0521391 | 2·4266544 | 92 | 1·9896543 | 2·3581583 |
| 93 | 1·9527965 | 2·3204190 | 93 | 1·8945336 | 2·2566636 | 93 | 1·8320488 | 2·1884560 |
| 94 | 1·7855784 | 2·1405973 | 94 | 1·7273155 | 2·0771152 | 94 | 1·6648307 | 2·0091884 |
| 95 | 1·6083073 | 1·9507970 | 95 | 1·5500444 | 1·8875807 | 95 | 1·4875596 | 1·8199274 |
| 96 | 1·4205324 | 1·7505678 | 96 | 1·3622695 | 1·6876110 | 96 | 1·2997847 | 1·6202246 |
| 97 | 1·2217925 | 1·5394274 | 97 | 1·1635296 | 1·4767273 | 97 | 1·1010448 | 1·4096035 |
| 98 | 1·0116162 | 1·3168255 | 98 | 0·9533533 | 1·2543910 | 98 | 0·8908685 | 1·1875320 |
| 99 | 0·7895218 | 1·0821101 | 99 | 0·7312589 | 1·0199343 | 99 | 0·6687741 | 0·9533682 |
| 100 | 0·5550170 | 0·8343508 | 100 | 0·4967541 | 0·7724684 | 100 | 0·4342693 | 0·7061885 |
| 101 | 0·3075995 | 0·5719998 | 101 | 0·2493366 | 0·5104914 | 101 | 0·1868518 | 0·4445600 |
| 102 | 0·0467565 | 0·2920344 | 102 | 9·9884936 | 0·2309596 | 102 | 9·9260088 | 0·1655411 |
| 103 | 9·7719649 | 1̄·9873981 | 103 | 9·7137020 | 1̄·9270109 | 103 | 9·6512172 | 1̄·8621910 |
| 104 | 9·4826913 | 1̄·6392872 | 104 | 9·4244284 | 1̄·5796693 | 104 | 9·3619436 | 1̄·5158738 |
| 105 | 9·1783919 | | 105 | 9·1201290 | | 105 | 9·0576442 | |
| 106 | 8·8585127 | | 106 | 8·8002498 | | 106 | 8·7377650 | |
| 107 | 8·5224893 | | 107 | 8·4642264 | | 107 | 8·4017416 | |
| 108 | 8·1697470 | | 108 | 8·1114841 | | 108 | 8·0489993 | |
| 109 | 7·7997007 | | 109 | 7·7414378 | | 109 | 7·6789530 | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 81 | | 82 | | | 83 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda\ D_{x,\,81}$ | $\lambda\ N_{x,\,81}$ | Age of Male ($x$) | $\lambda\ D_{x,\,82}$ | $\lambda\ N_{x,\,82}$ | Age of Male ($x$) | $\lambda\ D_{x,\,83}$ | $\lambda\ N_{x,\,83}$ |
| 0 | 4·8189261 | 5·4206910 | 0 | 4·7471210 | 5·3313953 | 0 | 4·6701957 | 5·2370290 |
| 1 | 4·7349239 | 5·3858511 | 1 | 4·6631188 | 5·2956537 | 1 | 4·5861935 | 5·2003622 |
| 2 | 4·6996430 | 5·3665875 | 2 | 4·6278379 | 5·2760515 | 2 | 4·5509126 | 5·1804158 |
| 3 | 4·6775297 | 5·3520042 | 3 | 4·6057246 | 5·2612881 | 3 | 4·5287993 | 5·1654681 |
| 4 | 4·6606280 | 5·3395797 | 4 | 4·5888229 | 5·2487482 | 4 | 4·5118976 | 5·1528129 |
| 5 | 4·6464006 | 5·3284247 | 5 | 4·5745955 | 5·2375174 | 5 | 4·4976702 | 5·1415027 |
| 6 | 4·6340394 | 5·3181308 | 6 | 4·5622343 | 5·2271727 | 6 | 4·4853090 | 5·1311075 |
| 7 | 4·6228959 | 5·3084086 | 7 | 4·5510908 | 5·2174200 | 7 | 4·4741655 | 5·1213212 |
| 8 | 4·6124817 | 5·2990746 | 8 | 4·5406766 | 5·2080681 | 8 | 4·4637513 | 5·1119514 |
| 9 | 4·6027343 | 5·2900235 | 9 | 4·5309292 | 5·1990143 | 9 | 4·4540039 | 5·1028914 |
| 10 | 4·5934991 | 5·2811456 | 10 | 4·5216940 | 5·1901434 | 10 | 4·4447687 | 5·0940272 |
| 11 | 4·5846346 | 5·2723436 | 11 | 4·5128295 | 5·1813582 | 11 | 4·4359042 | 5·0852560 |
| 12 | 4·5760126 | 5·2635364 | 12 | 4·5042075 | 5·1725723 | 12 | 4·4272822 | 5·0764924 |
| 13 | 4·5675181 | 5·2546539 | 13 | 4·4957130 | 5·1637170 | 13 | 4·4187877 | 5·0676619 |
| 14 | 4·5590492 | 5·2456419 | 14 | 4·4872441 | 5·1547343 | 14 | 4·4103188 | 5·0587077 |
| 15 | 4·5505174 | 5·2364607 | 15 | 4·4787123 | 5·1455817 | 15 | 4·4017870 | 5·0495843 |
| 16 | 4·5418471 | 5·2270831 | 16 | 4·4700420 | 5·1362321 | 16 | 4·3931167 | 5·0402617 |
| 17 | 4·5329763 | 5·2174961 | 17 | 4·4611712 | 5·1266706 | 17 | 4·3842459 | 5·0307256 |
| 18 | 4·5238558 | 5·2077014 | 18 | 4·4520507 | 5·1168972 | 18 | 4·3751254 | 5·0209737 |
| 19 | 4·5144500 | 5·1977124 | 19 | 4·4426449 | 5·1069266 | 19 | 4·3657196 | 5·0110204 |
| 20 | 4·5047362 | 5·1875565 | 20 | 4·4329311 | 5·0967854 | 20 | 4·3560058 | 5·0008937 |
| 21 | 4·4947050 | 5·1772729 | 21 | 4·4228999 | 5.0865136 | 21 | 4·3459746 | 4·9906341 |
| 22 | 4·4845934 | 5·1669097 | 22 | 4·4127883 | 5·0761638 | 22 | 4·3358630 | 4·9802957 |
| 23 | 4·4744041 | 5·1564683 | 23 | 4·4025990 | 5·0657347 | 23 | 4·3256737 | 4·9698798 |
| 24 | 4·4641389 | 5·1459469 | 24 | 4·3923338 | 5·0552269 | 24 | 4·3154085 | 4·9593844 |
| 25 | 4·4537988 | 5·1353432 | 25 | 4·3819937 | 5·0446382 | 25 | 4·3050684 | 4·9488089 |
| 26 | 4·4433839 | 5·1246568 | 26 | 4·3715788 | 5·0339655 | 26 | 4·2946535 | 4·9381513 |
| 27 | 4·4328935 | 5·1138821 | 27 | 4·3610884 | 5·0232077 | 27 | 4·2841631 | 4·9274068 |
| 28 | 4·4223260 | 5·1030162 | 28 | 4·3505209 | 5·0123581 | 28 | 4·2735956 | 4·9165745 |
| 29 | 4·4116792 | 5·0920536 | 29 | 4·3398741 | 5·0014135 | 29 | 4·2629488 | 4·9056464 |
| 30 | 4·4009498 | 5·0809884 | 30 | 4·3291447 | 4·9903677 | 30 | 4·2522194 | 4·8946190 |
| 31 | 4·3901338 | 5·0698145 | 31 | 4·3183287 | 4·9792137 | 31 | 4·2414034 | 4·8834848 |
| 32 | 4·3792263 | 5·0585248 | 32 | 4·3074212 | 4·9679451 | 32 | 4·2304959 | 4·8722367 |
| 33 | 4·3682216 | 5·0471093 | 33 | 4·2964165 | 4·9565545 | 33 | 4·2194912 | 4·8608672 |
| 34 | 4·3571132 | 5·0355606 | 34 | 4·2853081 | 4·9450301 | 34 | 4·2083828 | 4·8493684 |
| 35 | 4·3458937 | 5·0238675 | 35 | 4·2740886 | 4·9333648 | 35 | 4·1971633 | 4·8377279 |
| 36 | 4·3345549 | 5·0120202 | 36 | 4·2627498 | 4·9215460 | 36 | 4·1858245 | 4·8259374 |
| 37 | 4·3230877 | 5·0000056 | 37 | 4·2512826 | 4·9095635 | 37 | 4·1743573 | 4·8139837 |
| 38 | 4·3114823 | 4·9878124 | 38 | 4·2396772 | 4·8974033 | 38 | 4·1627519 | 4·8018563 |
| 39 | 4·2997279 | 4·9754249 | 39 | 4·2279228 | 4·8850529 | 39 | 4·1509975 | 4·7895398 |
| 40 | 4·2878131 | 4·9628299 | 40 | 4·2160080 | 4·8724966 | 40 | 4·1390827 | 4·7770213 |
| 41 | 4·2757254 | 4·9500118 | 41 | 4·2039203 | 4·8597194 | 41 | 4·1269950 | 4·7642838 |
| 42 | 4·2634516 | 4·9369508 | 42 | 4·1916465 | 4·8467051 | 42 | 4·1147212 | 4·7513114 |
| 43 | 4·2509776 | 4·9236294 | 43 | 4·1791725 | 4·8334327 | 43 | 4·1022472 | 4·7380866 |
| 44 | 4·2382887 | 4·9100280 | 44 | 4·1664836 | 4·8198827 | 44 | 4·0895583 | 4·7245871 |
| 45 | 4·2253690 | 4·8961210 | 45 | 4·1535639 | 4·8060347 | 45 | 4·0766386 | 4·7107916 |
| 46 | 4·2122020 | 4·8818855 | 46 | 4·1403969 | 4·7918604 | 46 | 4·0634716 | 4·6966779 |
| 47 | 4·1987703 | 4·8672925 | 47 | 4·1269652 | 4·7773348 | 47 | 4·0500399 | 4·6822146 |
| 48 | 4·1850557 | 4·8523104 | 48 | 4·1132506 | 4·7624250 | 48 | 4·0363253 | 4·6673745 |
| 49 | 4·1710391 | 4·8369036 | 49 | 4·0992340 | 4·7470963 | 49 | 4·0223087 | 4·6521196 |
| 50 | 4·1567007 | 4·8210318 | 50 | 4·0848956 | 4·7313075 | 50 | 4·0079703 | 4·6364106 |
| 51 | 4·1420197 | 4·8046471 | 51 | 4·0702146 | 4·7150125 | 51 | 3·9932893 | 4·6202001 |
| 52 | 4·1267300 | 4·7876956 | 52 | 4·0549249 | 4·6981554 | 52 | 3·9779996 | 4·6034331 |
| 53 | 4·1109955 | 4·7701795 | 53 | 4·0391904 | 4·6807415 | 53 | 3·9622651 | 4·5861164 |
| 54 | 4·0947989 | 4·7520530 | 54 | 4·0229938 | 4·6627257 | 54 | 3·9460685 | 4·5682068 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female (y) | 81 | | 82 | | | 83 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (x) | λ $D_{x,\,81}$ | λ $N_{x,\,81}$ | Age of Male (x) | λ $D_{x,\,82}$ | λ $N_{x,\,82}$ | Age of Male (x) | λ $D_{x,\,83}$ | λ $N_{x,\,83}$ |
| 55 | 4·0781130 | 4·7332615 | 55 | 4·0063079 | 4·6440563 | 55 | 3·9293826 | 4·5496521 |
| 56 | 4·0609001 | 4·7137425 | 56 | 3·9890950 | 4·6246686 | 56 | 3·9121697 | 4·5303901 |
| 57 | 4·0431121 | 4·6934209 | 57 | 3·9713070 | 4·6044916 | 57 | 3·8943817 | 4·5103501 |
| 58 | 4·0246906 | 4·6722180 | 58 | 3·9528855 | 4·5834436 | 58 | 3·8759602 | 4·4894509 |
| 59 | 4·0055670 | 4·6500403 | 59 | 3·9337619 | 4·5614348 | 59 | 3·8568366 | 4·4676034 |
| 60 | 3·9856622 | 4·6267892 | 60 | 3·9138571 | 4·5383659 | 60 | 3·8369318 | 4·4447087 |
| 61 | 3·9648869 | 4·6023574 | 61 | 3·8930818 | 4.5141290 | 61 | 3·8161565 | 4·4206593 |
| 62 | 3·9431414 | 4·5766273 | 62 | 3·8713363 | 4·4886084 | 62 | 3·7944110 | 4·3953394 |
| 63 | 3·9203157 | 4·5494745 | 63 | 3·8485106 | 4·4616782 | 63 | 3·7715853 | 4·3686241 |
| 64 | 3·8962895 | 4·5207597 | 64 | 3·8244844 | 4·4332054 | 64 | 3·7475591 | 4·3403797 |
| 65 | 3·8709321 | 4·4903585 | 65 | 3·7991270 | 4·4030411 | 65 | 3·7222017 | 4·3104645 |
| 66 | 3·8441025 | 4·4581045 | 66 | 3·7722974 | 4·3710577 | 66 | 3·6953721 | 4·2787186 |
| 67 | 3·8156494 | 4·4238458 | 67 | 3·7438443 | 4·3370745 | 67 | 3·6669190 | 4·2450135 |
| 68 | 3·7854113 | 4·3874161 | 68 | 3·7136062 | 4·3009334 | 68 | 3·6366809 | 4·2091522 |
| 69 | 3·7532160 | 4·3486427 | 69 | 3·6814109 | 4·2624592 | 69 | 3·6044856 | 4·1709704 |
| 70 | 3·7188814 | 4·3073429 | 70 | 3·6470763 | 4·2214700 | 70 | 3·5701510 | 4·1302842 |
| 71 | 3·6822148 | 4·2633271 | 71 | 3·6104097 | 4·1777751 | 71 | 3·5334844 | 4·0869031 |
| 72 | 3·6430132 | 4·2163981 | 72 | 3·5712081 | 4·1311752 | 72 | 3·4942828 | 4·0406269 |
| 73 | 3·6010635 | 4·1663493 | 73 | 3·5292584 | 4·0814643 | 73 | 3·4523331 | 3·9912473 |
| 74 | 3·5561419 | 4·1129675 | 74 | 3·4843368 | 4·0284265 | 74 | 3·4074115 | 3·9385492 |
| 75 | 3·5080146 | 4·0560289 | 75 | 3·4362095 | 3·9718392 | 75 | 3·3592842 | 3·8823071 |
| 76 | 3·4564372 | 3·9953026 | 76 | 3·3846321 | 3·9114693 | 76 | 3·3077068 | 3·8222897 |
| 77 | 3·4011553 | 3·9305492 | 77 | 3·3293502 | 3·8470758 | 77 | 3·2524249 | 3·7582524 |
| 78 | 3·3419039 | 3·8615201 | 78 | 3·2700988 | 3·7784095 | 78 | 3·1931735 | 3·6899460 |
| 79 | 3·2784078 | 3·7879597 | 79 | 3·2066027 | 3·7052126 | 79 | 3·1296774 | 3·6171115 |
| 80 | 3·2103814 | 3·7095998 | 80 | 3·1385763 | 3·6272183 | 80 | 3·0616510 | 3·5394801 |
| 81 | 3·1375288 | 3·6261637 | 81 | 3·0657237 | 3·5441487 | 81 | 2·9887984 | 3·4567743 |
| 82 | 3·0595437 | 3·5373707 | 82 | 2·9877386 | 3·4557178 | 82 | 2·9108133 | 3·3687069 |
| 83 | 2·9761098 | 3·4429219 | 83 | 2·9043047 | 3·3616307 | 83 | 2·8273794 | 3·2749823 |
| 84 | 2·8869000 | 3·3425155 | 84 | 2·8150949 | 3·2615830 | 84 | 2·7381696 | 3·1752929 |
| 85 | 2·7915772 | 3·2358367 | 85 | 2·7197721 | 3·1552583 | 85 | 2·6428468 | 3·0693251 |
| 86 | 2·6897938 | 3·1225615 | 86 | 2·6179887 | 3·0423326 | 86 | 2·5410634 | 2·9567503 |
| 87 | 2·5811920 | 3·0023558 | 87 | 2·5093869 | 2·9224706 | 87 | 2·4324616 | 2·8372348 |
| 88 | 2·4654036 | 2·8748747 | 88 | 2·3935985 | 2·7953273 | 88 | 2·3166732 | 2·7104322 |
| 89 | 2·3420502 | 2·7397614 | 89 | 2·2702451 | 2·6605468 | 89 | 2·1933198 | 2·5,59864 |
| 90 | 2·2107427 | 2·5966521 | 90 | 2·1389376 | 2·5177605 | 90 | 2·0620123 | 2·4335298 |
| 91 | 2·0710822 | 2·4451681 | 91 | 1·9992771 | 2·3665937 | 91 | 1·9223518 | 2·2826824 |
| 92 | 1·9226591 | 2·2849232 | 92 | 1·8508540 | 2·2066570 | 92 | 1·7739287 | 2·1230597 |
| 93 | 1·7650536 | 2·1155153 | 93 | 1·6932485 | 2·0375508 | 93 | 1·6163232 | 1·9542594 |
| 94 | 1·5978355 | 1·9365338 | 94 | 1·5260304 | 1·8588613 | 94 | 1·4491051 | 1·7758696 |
| 95 | 1·4205644 | 1·7475524 | 95 | 1·3487593 | 1·6701642 | 95 | 1·2718340 | 1·5874618 |
| 96 | 1·2327895 | 1·5481252 | 96 | 1·1609844 | 1·4710158 | 96 | 1·0840591 | 1·3885967 |
| 97 | 1·0340496 | 1·3377746 | 97 | 0·9622445 | 1·2609439 | 97 | 0·8853192 | 1·1788043 |
| 98 | 0·8238733 | 1·1159731 | 98 | 0·7520682 | 1·0394220 | 98 | 0·6751429 | 0·9575690 |
| 99 | 0·6017789 | 0·8820917 | 99 | 0·5299738 | 0·8058270 | 99 | 0·4530485 | 0·7242677 |
| 100 | 0·3672741 | 0·6352525 | 100 | 0·2954690 | 0·5593080 | 100 | 0·2185437 | 0·4780757 |
| 101 | 0·1198566 | 0·3739597 | 101 | 0·0480515 | 0·2984382 | 101 | 9·9711262 | 0·2175892 |
| 102 | 9·8590136 | 0·0954135 | 102 | 9·7872085 | 0·0203198 | 102 | 9·7102832 | $\bar{1}$·9400680 |
| 103 | 9·5842220 | $\bar{1}$·7928118 | 103 | 9·5124169 | $\bar{1}$·7184186 | 103 | 9·4354916 | $\bar{1}$·6387887 |
| 104 | 9·2949484 | $\bar{1}$·4474681 | 104 | 9·2231433 | $\bar{1}$·3741983 | 104 | 9·1462180 | $\bar{1}$·2955671 |
| 105 | 8·9906490 | | 105 | 8·9188439 | | 105 | 8·8419186 | |
| 106 | 8·6707698 | | 106 | 8·5989647 | | 106 | 8·5220394 | |
| 107 | 8·3347464 | | 107 | 8·2629413 | | 107 | 8·1860160 | |
| 108 | 7·9820041 | | 108 | 7·9101990 | | 108 | 7·8332737 | |
| 109 | 7·6119578 | | 109 | 7·5401527 | | 109 | 7·4632274 | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female ($y$) | 84 | | | 85 | | | 86 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda D_{x,84}$ | $\lambda N_{x,84}$ | Age of Male ($x$) | $\lambda D_{x,85}$ | $\lambda N_{x,85}$ | Age of Male ($x$) | $\lambda D_{x,86}$ | $\lambda N_{x,86}$ |
| 0 | 4·5878287 | 5·1372965 | 0 | 4·4996880 | 5·0318899 | 0 | 4·4054301 | 4·9204891 |
| 1 | 4·5038265 | 5·0996830 | 1 | 4·4156858 | 4·9933097 | 1 | 4·3214279 | 4·8809228 |
| 2 | 4·4685456 | 5·0793861 | 2 | 4·3804049 | 4·9726568 | 2 | 4·2861470 | 4.8599101 |
| 3 | 4·4464323 | 5·0642525 | 3 | 4·3582916 | 4·9573353 | 3 | 4·2640337 | 4·8443989 |
| 4 | 4·4295306 | 5·0514786 | 4 | 4·3413899 | 4·9444422 | 4 | 4·2471320 | 4·8313866 |
| 5 | 4·4153032 | 5·0400898 | 5 | 4·3271625 | 4·9329717 | 5 | 4·2329046 | 4·8198341 |
| 6 | 4·4029420 | 5·0296406 | 6 | 4·3148013 | 4·9224695 | 6 | 4·2205434 | 4·8092755 |
| 7 | 4·3917985 | 5·0198210 | 7 | 4·3036578 | 4·9126136 | 7 | 4·2093999 | 4·7993840 |
| 8 | 4·3813843 | 5·0104306 | 8 | 4·2932436 | 4·9032024 | 8 | 4·1989857 | 4·7899493 |
| 9 | 4·3716369 | 5·0013641 | 9 | 4·2834962 | 4·8941271 | 9 | 4·1892383 | 4·7808650 |
| 10 | 4·3624017 | 4·9925031 | 10 | 4·2742610 | 4·8852696 | 10 | 4·1800031 | 4·7720083 |
| 11 | 4·3535372 | 4·9837462 | 11 | 4·2653965 | 4·8765232 | 11 | 4·1711386 | 4·7632730 |
| 12 | 4·3449152 | 4·9750019 | 12 | 4·2567745 | 4·8677991 | 12 | 4·1625166 | 4·7545654 |
| 13 | 4·3364207 | 4·9661976 | 13 | 4·2482800 | 4·8590175 | 13 | 4·1540221 | 4·7458076 |
| 14 | 4·3279518 | 4·9572696 | 14 | 4·2398111 | 4·8501179 | 14 | 4·1455532 | 4·7369333 |
| 15 | 4·3194200 | 4·9481752 | 15 | 4·2312793 | 4·8410496 | 15 | 4·1370214 | 4·7278933 |
| 16 | 4·3107497 | 4·9388803 | 16 | 4·2226090 | 4·8317821 | 16 | 4·1283511 | 4·7186511 |
| 17 | 4·3018789 | 4·9293678 | 17 | 4·2137382 | 4·8222949 | 17 | 4·1194803 | 4·7091885 |
| 18 | 4·2927584 | 4·9196381 | 18 | 4·2046177 | 4·8125851 | 18 | 4·1103598 | 4·6995004 |
| 19 | 4·2833526 | 4·9097020 | 19 | 4·1952119 | 4·8026670 | 19 | 4·1009540 | 4·6895983 |
| 20 | 4·2736388 | 4·8995885 | 20 | 4·1854981 | 4·7925668 | 20 | 4·0912402 | 4·6795115 |
| 21 | 4·2636076 | 4·8893409 | 21 | 4·1754669 | 4·7823300 | 21 | 4·0812090 | 4·6692853 |
| 22 | 4·2534960 | 4·8790144 | 22 | 4·1653553 | 4·7720150 | 22 | 4·0710974 | 4·6589801 |
| 23 | 4·2433067 | 4·8686098 | 23 | 4·1551660 | 4·7616220 | 23 | 4·0609081 | 4·6485991 |
| 24 | 4·2330415 | 4·8581274 | 24 | 4·1449008 | 4·7511505 | 24 | 4·0506429 | 4·6381387 |
| 25 | 4·2227014 | 4·8475646 | 25 | 4·1345607 | 4·7406003 | 25 | 4·0403028 | 4·6275993 |
| 26 | 4·2122865 | 4·8369201 | 26 | 4·1241458 | 4·7299686 | 26 | 4·0298879 | 4·6169805 |
| 27 | 4·2017961 | 4·8261909 | 27 | 4·1136554 | 4·7192526 | 27 | 4·0193975 | 4·6062771 |
| 28 | 4·1912286 | 4·8153718 | 28 | 4·1030879 | 4·7084490 | 28 | 4·0088300 | 4·5954863 |
| 29 | 4·1805818 | 4·8044612 | 29 | 4·0924411 | 4·6975519 | 29 | 3·9981832 | 4·5846049 |
| 30 | 4·1698524 | 4·7934502 | 30 | 4·0817117 | 4·6865585 | 30 | 3·9874538 | 4·5736257 |
| 31 | 4·1590364 | 4·7823350 | 31 | 4·0708957 | 4·6754593 | 31 | 3·9766378 | 4·5625445 |
| 32 | 4·1481289 | 4·7711066 | 32 | 4·0599882 | 4·6642508 | 32 | 3·9657303 | 4·5513526 |
| 33 | 4·1371242 | 4·7597585 | 33 | 4·0489835 | 4·6529229 | 33 | 3·9547256 | 4·5400438 |
| 34 | 4·1260158 | 4·7482811 | 34 | 4·0378751 | 4·6414672 | 34 | 3·9436172 | 4·5286085 |
| 35 | 4·1147963 | 4·7366666 | 35 | 4·0266556 | 4·6298742 | 35 | 3·9323977 | 4·5170379 |
| 36 | 4·1034575 | 4·7249015 | 36 | 4·0153168 | 4·6181350 | 36 | 3·9210589 | 4·5053215 |
| 37 | 4·0919903 | 4·7129761 | 37 | 4·0038496 | 4·6062362 | 37 | 3·9095917 | 4·4934486 |
| 38 | 4·0803849 | 4·7008784 | 38 | 3·9922442 | 4·5941672 | 38 | 3·8979863 | 4·4814068 |
| 39 | 4·0686305 | 4·6885951 | 39 | 3·9804898 | 4·5819145 | 39 | 3·8862319 | 4·4691828 |
| 40 | 4·0567157 | 4·6761108 | 40 | 3·9685750 | 4·5694639 | 40 | 3·8743171 | 4·4567639 |
| 41 | 4·0440280 | 4·6634126 | 41 | 3·9564873 | 4·5568003 | 41 | 3·8622294 | 4·4441341 |
| 42 | 4·0323542 | 4·6504805 | 42 | 3·9442135 | 4·5439076 | 42 | 3·8499556 | 4·4312777 |
| 43 | 4·0198802 | 4·6372986 | 43 | 3·9317395 | 4·5307677 | 43 | 3·8374816 | 4·4181773 |
| 44 | 4·0071913 | 4·6238476 | 44 | 3·9190506 | 4·5173614 | 44 | 3·8247927 | 4·4048137 |
| 45 | 3·9942716 | 4·6101044 | 45 | 3·9061309 | 4·5036670 | 45 | 3·8118730 | 4·3911657 |
| 46 | 3·9811046 | 4·5960451 | 46 | 3·8929639 | 4·4896611 | 46 | 3·7987060 | 4·3772099 |
| 47 | 3·9676729 | 4·5816432 | 47 | 3·8795322 | 4·4753164 | 47 | 3·7852743 | 4·3629200 |
| 48 | 3·9539583 | 4·5668679 | 48 | 3·8658176 | 4·4606031 | 48 | 3·7715597 | 4·3482654 |
| 49 | 3·9399417 | 4·5516838 | 49 | 3·8518010 | 4·4454862 | 49 | 3·7575431 | 4·3332122 |
| 50 | 3·9256033 | 4·5360507 | 50 | 3·8374626 | 4·4299250 | 50 | 3·7432047 | 4·3177195 |
| 51 | 3·9109223 | 4·5199207 | 51 | 3·8227816 | 4·4138720 | 51 | 3·7285237 | 4·3017393 |
| 52 | 3·8956326 | 4·5032387 | 52 | 3·8074919 | 4·3972704 | 52 | 3·7132340 | 4·2852143 |
| 53 | 3·8798981 | 4·4860140 | 53 | 3·7917574 | 4·3801332 | 53 | 3·6974995 | 4·2681594 |
| 54 | 3·8637015 | 4·4682050 | 54 | 3·7755608 | 4·3624188 | 54 | 3·6813029 | 4·2505354 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 84 | | | 85 | | | 86 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | λ $D_{x,\,84}$ | λ $N_{x,\,84}$ | Age of Male ($x$) | λ $D_{x,\,85}$ | λ $N_{x,\,85}$ | Age of Male ($x$) | λ $D_{x,\,86}$ | λ $N_{x,\,86}$ |
| 55 | 3·8470156 | 4·4497597 | 55 | 3·7588749 | 4·3440777 | 55 | 3·6646170 | 4·2322920 |
| 56 | 3·8298027 | 4·4306173 | 56 | 3·7416620 | 4·3250486 | 56 | 3·6474041 | 4·2133714 |
| 57 | 3·8120147 | 4·4107073 | 57 | 3·7238740 | 4·3052626 | 57 | 3·6296161 | 4·1937027 |
| 58 | 3·7935932 | 4·3899500 | 58 | 3·7054525 | 4·2846402 | 58 | 3·6111946 | 4·1732087 |
| 59 | 3·7744696 | 4·3682566 | 59 | 3·6863289 | 4·2630935 | 59 | 3·5920710 | 4·1518018 |
| 60 | 3·7545648 | 4·3455286 | 60 | 3·6664241 | 4·2405248 | 60 | 3·5721662 | 4·1293848 |
| 61 | 3·7337895 | 4·3216589 | 61 | 3·6456488 | 4·2168273 | 61 | 3·5513909 | 4·1058514 |
| 62 | 3·7120440 | 4·2965318 | 62 | 3·6239033 | 4·1918851 | 62 | 3·5296454 | 4·0810866 |
| 63 | 3·6892183 | 4·2700228 | 63 | 3·6010776 | 4·1655740 | 63 | 3·5068197 | 4·0549657 |
| 64 | 3·6651921 | 4·2419987 | 64 | 3·5770514 | 4·1377613 | 64 | 3·4827935 | 4·0273558 |
| 65 | 3·6398347 | 4·2123168 | 65 | 3·5516940 | 4·1083048 | 65 | 3·4574361 | 3·9981154 |
| 66 | 3·6130051 | 4·1808275 | 66 | 3·5248644 | 4·0770535 | 66 | 3·4306065 | 3·9670943 |
| 67 | 3·5845520 | 4·1473584 | 67 | 3·4964113 | 4·0438490 | 67 | 3·4021534 | 3·9341316 |
| 68 | 3·5543139 | 4·1117828 | 68 | 3·4661732 | 4·0085239 | 68 | 3·3719153 | 3·8990617 |
| 69 | 3·5221186 | 4·0738848 | 69 | 3·4339779 | 3·9709017 | 69 | 3·3397200 | 3·8617070 |
| 70 | 3·4877840 | 4·0334950 | 70 | 3·3996433 | 3·9307983 | 70 | 3·3053854 | 3·8218828 |
| 71 | 3·4511174 | 3·9904197 | 71 | 3·3629767 | 3·8880222 | 71 | 3·2687188 | 3·7793959 |
| 72 | 3·4119158 | 3·9444595 | 72 | 3·3237751 | 3·8423708 | 72 | 3·2295172 | 3·7340458 |
| 73 | 3·3699661 | 3·8954060 | 73 | 3·2818254 | 3·7936346 | 73 | 3·1875675 | 3·6856200 |
| 74 | 3·3250445 | 3·8430408 | 74 | 3·2369038 | 3·7415967 | 74 | 3·1426459 | 3·6339005 |
| 75 | 3·2769172 | 3·7871394 | 75 | 3·1887765 | 3·6860291 | 75 | 3·0945186 | 3·5786610 |
| 76 | 3·2253398 | 3·7274673 | 76 | 3·1371991 | 3·6266986 | 76 | 3·0429412 | 3·5196640 |
| 77 | 3·1700579 | 3·6637829 | 77 | 3·0819172 | 3·5633588 | 77 | 2·9876593 | 3·4566659 |
| 78 | 3·1108065 | 3·5958323 | 78 | 3·0226658 | 3·4957607 | 78 | 2·9284079 | 3·3894129 |
| 79 | 3·0473104 | 3·5233562 | 79 | 2·9591697 | 3·4236402 | 79 | 2·8649118 | 3·3176421 |
| 80 | 2·9792840 | 3·4460860 | 80 | 2·8911433 | 3·3467269 | 80 | 2·7968854 | 3·2410826 |
| 81 | 2·9064314 | 3·3637425 | 81 | 2·8182907 | 3·2647418 | 81 | 2·7240328 | 3·1594526 |
| 82 | 2·8284463 | 3·2760372 | 82 | 2·7403056 | 3·1773966 | 82 | 2·6460477 | 3·0724632 |
| 83 | 2·7450124 | 3·1826728 | 83 | 2·6568717 | 3·0843918 | 83 | 2·5626138 | 2·9798155 |
| 84 | 2·6558026 | 3·0833436 | 84 | 2·5676619 | 2·9854198 | 84 | 2·4734040 | 2·8811997 |
| 85 | 2·5604798 | 2·9777305 | 85 | 2·4723391 | 2·8801640 | 85 | 2·3780812 | 2·7762980 |
| 86 | 2·4586964 | 2·8655102 | 86 | 2·3705557 | 2·7682946 | 86 | 2·2762978 | 2·6647821 |
| 87 | 2·3500946 | 2·7463422 | 87 | 2·2619539 | 2·6494780 | 87 | 2·1676960 | 2·5463119 |
| 88 | 2·2343062 | 2·6198829 | 88 | 2·1461655 | 2·5233614 | 88 | 2·0519076 | 2·4205432 |
| 89 | 2·1109528 | 2·4857739 | 89 | 2·0228121 | 2·3895913 | 89 | 1·9285542 | 2·2871126 |
| 90 | 1·9796453 | 2·3436479 | 90 | 1·8915046 | 2·2477986 | 90 | 1·7972467 | 2·1456541 |
| 91 | 1·8399848 | 2·1931260 | 91 | 1·7518441 | 2·0976050 | 91 | 1·6575862 | 1·9957874 |
| 92 | 1·6915617 | 2·0338201 | 92 | 1·6034210 | 1·9386188 | 92 | 1·5091631 | 1·8371261 |
| 93 | 1·5339562 | 1·8653303 | 93 | 1·4458155 | 1·7704418 | 93 | 1·3515576 | 1·6692639 |
| 94 | 1·3667381 | 1·6872435 | 94 | 1·2785974 | 1·5926619 | 94 | 1·1843395 | 1·4917916 |
| 95 | 1·1894670 | 1·4991342 | 95 | 1·1013263 | 1·4048525 | 95 | 1·0070684 | 1·3042859 |
| 96 | 1·0016921 | 1·3005542 | 96 | 0·9135514 | 1·2065722 | 96 | 0·8192935 | 1·1063031 |
| 97 | 0·8029522 | 1·0910476 | 97 | 0·7148115 | 0·9973471 | 97 | 0·6205536 | 0·8973851 |
| 98 | 0·5927759 | 0·8700936 | 98 | 0·5046352 | 0·7766867 | 98 | 0·4103773 | 0·6770044 |
| 99 | 0·3706815 | 0·6370993 | 99 | 0·2825408 | 0·5439812 | 99 | 0·1882829 | 0·4446068 |
| 100 | 0·1361767 | 0·3912351 | 100 | 0·0480360 | 0·2984601 | 100 | 9·9537781 | 0·1993986 |
| 101 | 9·8887592 | 0·1311694 | 101 | 9·8006185 | 0·0387791 | 101 | 9·7063606 | $\bar{1}$·9401179 |
| 102 | 9·6279162 | $\bar{1}$·8541238 | 102 | 9·5397755 | $\bar{1}$·7623784 | 102 | 9·4455176 | $\bar{1}$ 6641717 |
| 103 | 9·3531246 | $\bar{1}$·5537617 | 103 | 9·2649839 | $\bar{1}$·4626974 | 103 | 9·1707260 | $\bar{1}$·3654880 |
| 104 | 9·0638510 | $\bar{1}$·2113876 | 104 | 8·9757103 | $\bar{1}$·1218880 | 104 | 8·8814524 | $\bar{1}$·0257154 |
| 105 | 8·7595516 | | 105 | 8·6714109 | | 105 | 8·5771530 | |
| 106 | 8·4396724 | | 106 | 8·3515317 | | 106 | 8·2572738 | |
| 107 | 8·1036490 | | 107 | 8·0155083 | | 107 | 7·9212504 | |
| 108 | 7·7509067 | | 108 | 7·6627660 | | 108 | 7·5685081 | |
| 109 | 7·3808604 | | 109 | 7·2927197 | | 109 | 7·1984618 | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female ($y$) | 87 | | 88 | | | 89 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda D_{x,87}$ | $\lambda N_{x,87}$ | Age of Male ($x$) | $\lambda D_{x,88}$ | $\lambda N_{x,88}$ | Age of Male ($x$) | $\lambda D_{x,89}$ | $\lambda N_{x,89}$ |
| 0 | 4·3047010 | 4·8027635 | 0 | 4·1971356 | 4·6783663 | 0 | 4·0823578 | 4·5469435 |
| 1 | 4·2206988 | 4·7621922 | 1 | 4·1131334 | 4·6367757 | 1 | 3·9983556 | 4·5043163 |
| 2 | 4·1854179 | 4·7408149 | 2 | 4·0778525 | 4·6150300 | 2 | 3·9630747 | 4·4822006 |
| 3 | 4·1633046 | 4·7251142 | 3 | 4·0557392 | 4·5991371 | 3 | 3·9409614 | 4·4661158 |
| 4 | 4·1464029 | 4·7119809 | 4 | 4·0388375 | 4·5858847 | 4 | 3·9240597 | 4·4527414 |
| 5 | 4·1321755 | 4·7003472 | 5 | 4·0246101 | 4·5741667 | 5 | 3·9098323 | 4·4409414 |
| 6 | 4·1198143 | 4·6897323 | 6 | 4·0122489 | 4·5634977 | 6 | 3·8974711 | 4·4302148 |
| 7 | 4·1086708 | 4·6798020 | 7 | 4·0011054 | 4·5535287 | 7 | 3·8863276 | 4·4202079 |
| 8 | 4·0982566 | 4·6703442 | 8 | 3·9906912 | 4·5440449 | 8 | 3·8759134 | 4·4106980 |
| 9 | 4·0885092 | 4·6612475 | 9 | 3·9809438 | 4·5349364 | 9 | 3·8661660 | 4·4015763 |
| 10 | 4·0792740 | 4·6523924 | 10 | 3·9717086 | 4·5260786 | 10 | 3·8569308 | 4·3927156 |
| 11 | 4·0704095 | 4·6436658 | 11 | 3·9628441 | 4·5173604 | 11 | 3·8480663 | 4·3840040 |
| 12 | 4·0617875 | 4·6349747 | 12 | 3·9542221 | 4·5086847 | 12 | 3·8394443 | 4·3753422 |
| 13 | 4·0532930 | 4·6262377 | 13 | 3·9457276 | 4·4999685 | 13 | 3·8309498 | 4·3666458 |
| 14 | 4·0448241 | 4·6173894 | 14 | 3·9372587 | 4·4911435 | 14 | 3·8224809 | 4·3578438 |
| 15 | 4·0362923 | 4·6083752 | 15 | 3·9287269 | 4·4821554 | 15 | 3·8139491 | 4·3488809 |
| 16 | 4·0276220 | 4·5991601 | 16 | 3·9200566 | 4·4729653 | 16 | 3·8052788 | 4·3397157 |
| 17 | 4·0187512 | 4·5897207 | 17 | 3·9111858 | 4·4635504 | 17 | 3·7964080 | 4·3303239 |
| 18 | 4·0096307 | 4·5800532 | 18 | 3·9020653 | 4·4539032 | 18 | 3·7872875 | 4·3206970 |
| 19 | 4·0002249 | 4·5701680 | 19 | 3·8926595 | 4·4440347 | 19 | 3·7778817 | 4·3108444 |
| 20 | 3·9905111 | 4·5600939 | 20 | 3·8829457 | 4·4339727 | 20 | 3·7681679 | 4·3007954 |
| 21 | 3·9804799 | 4·5498775 | 21 | 3·8729145 | 4·4237664 | 21 | 3·7581367 | 4·2905975 |
| 22 | 3·9703683 | 4·5395832 | 22 | 3·8628029 | 4·4134816 | 22 | 3·7480251 | 4·2803225 |
| 23 | 3·9601790 | 4·5292113 | 23 | 3·8526136 | 4·4031198 | 23 | 3·7378358 | 4·2699700 |
| 24 | 3·9499138 | 4·5187622 | 24 | 3·8423484 | 4·3926806 | 24 | 3·7275706 | 4·2595406 |
| 25 | 3·9395737 | 4·5082345 | 25 | 3·8320083 | 4·3821635 | 25 | 3·7172305 | 4·2490332 |
| 26 | 3·9291588 | 4·4976265 | 26 | 3·8215934 | 4·3715665 | 26 | 3·7068156 | 4·2384466 |
| 27 | 3·9186684 | 4·4869353 | 27 | 3·8111030 | 4·3608870 | 27 | 3·6963252 | 4·2277780 |
| 28 | 3·9081009 | 4·4761581 | 28 | 3·8005355 | 4·3501217 | 28 | 3·6857577 | 4·2170244 |
| 29 | 3·8974541 | 4·4652896 | 29 | 3·7898887 | 4·3392665 | 29 | 3·6751109 | 4·2061812 |
| 30 | 3·8867247 | 4·4543257 | 30 | 3·7791593 | 4·3283159 | 30 | 3·6643815 | 4·1952444 |
| 31 | 3·8759087 | 4·4432591 | 31 | 3·7683433 | 4·3172650 | 31 | 3·6535655 | 4·1842069 |
| 32 | 3·8650012 | 4·4320849 | 32 | 3·7574358 | 4·3061054 | 32 | 3·6426580 | 4·1730632 |
| 33 | 3·8539965 | 4·4207935 | 33 | 3·7464311 | 4·2948320 | 33 | 3·6316533 | 4·1618045 |
| 34 | 3·8428881 | 4·4093778 | 34 | 3·7353227 | 4·2834340 | 34 | 3·6205449 | 4·1504251 |
| 35 | 3·8316686 | 4·3978278 | 35 | 3·7241032 | 4·2719041 | 35 | 3·6093254 | 4·1389129 |
| 36 | 3·8203298 | 4·3861337 | 36 | 3·7127644 | 4·2602310 | 36 | 3·5979866 | 4·1272603 |
| 37 | 3·8088626 | 4·3742845 | 37 | 3·7012972 | 4·2484045 | 37 | 3·5865194 | 4·1154551 |
| 38 | 3·7972572 | 4·3622685 | 38 | 3·6896918 | 4·2364126 | 38 | 3·5749140 | 4·1034862 |
| 39 | 3·7855028 | 4·3500728 | 39 | 3·6779374 | 4·2242429 | 39 | 3·5631596 | 4·0913413 |
| 40 | 3·7735880 | 4·3376828 | 40 | 3·6660226 | 4·2118819 | 40 | 3·5512448 | 4·0790068 |
| 41 | 3·7615003 | 4·3250854 | 41 | 3·6539349 | 4·1993139 | 41 | 3·5391571 | 4·0664683 |
| 42 | 3·7492265 | 4·3122637 | 42 | 3·6416611 | 4·1865252 | 42 | 3·5268833 | 4·0537091 |
| 43 | 3·7367525 | 4·2992003 | 43 | 3·6291871 | 4·1734971 | 43 | 3·5144093 | 4·0407152 |
| 44 | 3·7240636 | 4·2858769 | 44 | 3·6164982 | 4·1602118 | 44 | 3·5017204 | 4·0274658 |
| 45 | 3·7111439 | 4·2722729 | 45 | 3·6035785 | 4·1466489 | 45 | 3·4888007 | 4·0139418 |
| 46 | 3·6979769 | 4·2583644 | 46 | 3·5904115 | 4·1327859 | 46 | 3·4756337 | 4·0001211 |
| 47 | 3·6845452 | 4·2441264 | 47 | 3·5769798 | 4·1185964 | 47 | 3·4622020 | 3·9859785 |
| 48 | 3·6708306 | 4·2295283 | 48 | 3·5632652 | 4·1040515 | 48 | 3·4484874 | 3·9714837 |
| 49 | 3·6568140 | 4·2145353 | 49 | 3·5492486 | 4·0891167 | 49 | 3·4344708 | 3·9566040 |
| 50 | 3·6424756 | 4·1991077 | 50 | 3·5349102 | 4·0737507 | 50 | 3·4201324 | 3·9412972 |
| 51 | 3·6277946 | 4·1831967 | 51 | 3·5202292 | 4·0579052 | 51 | 3·4054514 | 3·9255137 |
| 52 | 3·6125049 | 4·1667438 | 52 | 3·5049395 | 4·0415206 | 52 | 3·3901617 | 3·9091938 |
| 53 | 3·5967704 | 4·1497673 | 53 | 3·4892050 | 4·0246182 | 53 | 3·3744272 | 3·8923612 |
| 54 | 3·5805738 | 4·1322283 | 54 | 3·4730084 | 4·0071599 | 54 | 3·3582306 | 3·8749796 |

## JOINT LIVES :—Male and Female Life.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female ($y$) | 87 | | | 88 | | | 89 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | λ $D_{x,87}$ | λ·$N_{x,87}$ | Age of Male ($x$) | λ $D_{x,88}$ | λ $N_{x,88}$ | Age of Male ($x$) | λ $D_{x,89}$ | λ $N_{x,89}$ |
| 55 | 3·5638879 | 4·1140787 | 55 | 3·4563225 | 3·9890981 | 55 | 3·3415447 | 3·8570012 |
| 56 | 3·5466750 | 4·0952590 | 56 | 3·4391096 | 3·9703757 | 56 | 3·3243318 | 3·8383699 |
| 57 | 3·5288870 | 4·0757028 | 57 | 3·4213216 | 3·9509244 | 57 | 3·3065438 | 3·8190192 |
| 58 | 3·5104655 | 4·0553306 | 58 | 3·4029001 | 3·9306689 | 58 | 3·2881223 | 3·7988729 |
| 59 | 3·4913419 | 4·0340567 | 59 | 3·3837765 | 3·9095207 | 59 | 3·2689987 | 3·7778457 |
| 60 | 3·4714371 | 4·0117839 | 60 | 3·3638717 | 3·8873860 | 60 | 3·2490939 | 3·7558414 |
| 61 | 3·4506618 | 3·9884073 | 61 | 3·3430964 | 3·8641585 | 61 | 3·2283186 | 3·7327563 |
| 62 | 3·4289163 | 3·9638114 | 62 | 3·3213509 | 3·8397244 | 62 | 3·2065731 | 3·7084753 |
| 63 | 3·4060906 | 3·9378728 | 63 | 3·2985252 | 3·8139591 | 63 | 3·1837474 | 3·6828767 |
| 64 | 3·3820644 | 3·9104579 | 64 | 3·2744990 | 3·7867315 | 64 | 3·1597212 | 3·6558268 |
| 65 | 3·3567070 | 3·8814252 | 65 | 3·2491416 | 3·7578983 | 65 | 3·1343638 | 3·6271855 |
| 66 | 3·3298774 | 3·8506242 | 66 | 3·2223120 | 3·7273094 | 66 | 3·1075342 | 3·5968005 |
| 67 | 3·3014243 | 3·8178965 | 67 | 3·1938589 | 3·6948052 | 67 | 3·0790811 | 3·5645122 |
| 68 | 3·2711862 | 3·7830720 | 68 | 3·1636208 | 3·6602193 | 68 | 3·0488430 | 3·5301536 |
| 69 | 3·2389909 | 3·7459760 | 69 | 3·1314255 | 3·6233724 | 69 | 3·0166477 | 3·4935487 |
| 70 | 3·2046563 | 3·7064224 | 70 | 3·0970909 | 3·5840800 | 70 | 2·9823131 | 3·4545083 |
| 71 | 3·1679897 | 3·6642169 | 71 | 3·0604243 | 3·5421479 | 71 | 2·9456465 | 3·4128396 |
| 72 | 3·1287881 | 3·6191581 | 72 | 3·0212227 | 3·4973720 | 72 | 2·9064449 | 3·3683392 |
| 73 | 3·0868384 | 3·5710353 | 73 | 2·9792730 | 3·4495424 | 73 | 2·8644952 | 3·3207941 |
| 74 | 3·0419168 | 3·5196272 | 74 | 2·9343514 | 3·3984381 | 74 | 2·8195736 | 3·2699844 |
| 75 | 2·9937895 | 3·4647068 | 75 | 2·8862241 | 3·3438297 | 75 | 2·7714463 | 3·2156798 |
| 76 | 2·9422121 | 3·4060377 | 76 | 2·8346467 | 3·2854800 | 76 | 2·7198689 | 3·1576417 |
| 77 | 2·8869302 | 3·3433735 | 77 | 2·7793648 | 3·2231428 | 77 | 2·6645870 | 3·0956230 |
| 78 | 2·8276788 | 3·2764597 | 78 | 2·7201134 | 3·1565619 | 78 | 2·6053356 | 3·0293680 |
| 79 | 2·7641827 | 3·2050335 | 79 | 2·6566173 | 3·0854733 | 79 | 2·5418395 | 2·9586107 |
| 80 | 2·6961563 | 3·1288217 | 80 | 2·5885909 | 3·0096039 | 80 | 2·4738131 | 2·8830763 |
| 81 | 2·6233037 | 3·0475431 | 81 | 2·5157383 | 2·9286708 | 81 | 2·4009605 | 2·8024830 |
| 82 | 2·5453186 | 2·9609063 | 82 | 2·4377532 | 2·8423820 | 82 | 2·3229754 | 2·7165367 |
| 83 | 2·4618847 | 2·8686110 | 83 | 2·3543193 | 2·7504367 | 83 | 2·2395415 | 2·6249356 |
| 84 | 2·3726749 | 2·7703490 | 84 | 2·2651095 | 2·6525229 | 84 | 2·1503317 | 2·5273682 |
| 85 | 2·2773521 | 2·6657995 | 85 | 2·1697867 | 2·5483231 | 85 | 2·0550089 | 2·4235113 |
| 86 | 2·1755687 | 2·5546333 | 86 | 2·0680033 | 2·4375048 | 86 | 1·9532255 | 2·3130390 |
| 87 | 2·0669669 | 2·4365125 | 87 | 1·9594015 | 2·3197288 | 87 | 1·8446237 | 2·1956061 |
| 88 | 1·9511785 | 2·3110860 | 88 | 1·8436131 | 2·1946465 | 88 | 1·7288353 | 2·0708640 |
| 89 | 1·8278251 | 2·1779966 | 89 | 1·7202597 | 2·0618960 | 89 | 1·6054819 | 1·9384522 |
| 90 | 1·6965176 | 2·0368743 | 90 | 1·5889522 | 1·9211083 | 90 | 1·4741744 | 1·7979983 |
| 91 | 1·5568571 | 1·8873376 | 91 | 1·4492917 | 1·7719041 | 91 | 1·3345139 | 1·6491216 |
| 92 | 1·4084340 | 1·7289962 | 92 | 1·3008686 | 1·6138873 | 92 | 1·1860908 | 1·4914345 |
| 93 | 1·2508285 | 1·5614556 | 93 | 1·1432631 | 1·4466583 | 93 | 1·0284853 | 1·3245232 |
| 94 | 1·0836104 | 1·3842942 | 94 | 0·9760450 | 1·2698164 | 94 | 0·8612672 | 1·1479822 |
| 95 | 0·9063393 | 1·1970903 | 95 | 0·7987739 | 1·0829181 | 95 | 0·6839961 | 0·9614021 |
| 96 | 0·7185644 | 0·9994090 | 96 | 0·6109990 | 0·8855308 | 96 | 0·4962212 | 0·7643181 |
| 97 | 0·5198245 | 0·7907846 | 97 | 0·4122591 | 0·6772053 | 97 | 0·2974813 | 0·5562784 |
| 98 | 0·3096482 | 0·5707297 | 98 | 0·2020828 | 0·4574428 | 98 | 0·0873050 | 0·3368198 |
| 99 | 0·0875538 | 0·3386158 | 99 | 9·9799884 | 0·2256969 | 99 | 9·8652106 | 0·1053739 |
| 100 | 9·8530490 | 0·0937368 | 100 | 9·7454836 | $\bar{1}$·9810934 | 100 | 9·6307058 | $\bar{1}$·8612356 |
| 101 | 9·6056315 | $\bar{1}$·8348656 | 101 | 9·4980661 | $\bar{1}$·7226339 | 101 | 9·3832883 | $\bar{1}$·6030361 |
| 102 | 9·3447885 | $\bar{1}$·5594278 | 102 | 9·2372231 | $\bar{1}$·4477780 | 102 | 9·1224453 | $\bar{1}$·3287872 |
| 103 | 9·0699969 | $\bar{1}$·2615008 | 103 | 8·9624315 | $\bar{1}$·1504494 | 103 | 8·8476537 | $\bar{1}$·0322157 |
| 104 | 8·7807233 | $\bar{2}$·9232440 | 104 | 8·6731579 | $\bar{2}$·8135810 | 104 | 8·5583801 | $\bar{2}$·6963564 |
| 105 | 8·4764239 | | 105 | 8·3688585 | | 105 | 8·2540807 | |
| 106 | 8·1565447 | | 106 | 8·0489793 | | 106 | 7·9342015 | |
| 107 | 7·8205213 | | 107 | 7·7129559 | | 107 | 7·5981781 | |
| 108 | 7·4677790 | | 108 | 7·3602136 | | 108 | 7·2454358 | |
| 109 | 7·0977327 | | 109 | 6·9901673 | | 109 | 6·8753895 | |

### JOINT LIVES :—Male and Female Life.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 90 | | 91 | | | 92 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda\ D_{x,\,90}$ | $\lambda\ N_{x,\,90}$ | Age of Male ($x$) | $\lambda\ D_{x,\,91}$ | $\lambda\ N_{x,\,91}$ | Age of Male ($x$) | $\lambda\ D_{x,\,92}$ | $\lambda\ N_{x,\,92}$ |
| 0 | 3·9599807 | 4·4081215 | 0 | 3·8296064 | 4·2615187 | 0 | 3·6908260 | 4·1067364 |
| 1 | 3·8759785 | 4·3644455 | 1 | 3·7456042 | 4·2167811 | 1 | 3·6068238 | 4·0609263 |
| 2 | 3·8406976 | 4·3419569 | 2 | 3·7103233 | 4·1939179 | 2 | 3·5715429 | 4·0376871 |
| 3 | 3·8185843 | 4·3256802 | 3 | 3·6882100 | 4·1774496 | 3 | 3·5494296 | 4·0210275 |
| 4 | 3·8016826 | 4·3121854 | 4 | 3·6713083 | 4·1633347 | 4 | 3·5325279 | 4·0072933 |
| 5 | 3·7874552 | 4·3003029 | 5 | 3·6570809 | 4·1518695 | 5 | 3·5183005 | 3·9952459 |
| 6 | 3·7750940 | 4·2895194 | 6 | 3·6447197 | 4·1410297 | 6 | 3·5059393 | 3·9843496 |
| 7 | 3·7639505 | 4·2794730 | 7 | 3·6335762 | 4·1309437 | 7 | 3·4947958 | 3·9742238 |
| 8 | 3·7535363 | 4·2699367 | 8 | 3·6231620 | 4·1213800 | 8 | 3·4843816 | 3·9646320 |
| 9 | 3·7437889 | 4·2608003 | 9 | 3·6134146 | 4·1122286 | 9 | 3·4746342 | 3·9554645 |
| 10 | 3·7345537 | 4·2519362 | 10 | 3·6041794 | 4·1033592 | 10 | 3·4653990 | 3·9465903 |
| 11 | 3·7256892 | 4·2432296 | 11 | 3·5953149 | 4·0946574 | 11 | 3·4565345 | 3·9378908 |
| 12 | 3·7170672 | 4·2345806 | 12 | 3·5866929 | 4·0860194 | 12 | 3·4479125 | 3·9292641 |
| 13 | 3·7085727 | 4·2259026 | 13 | 3·5781984 | 4·0773588 | 13 | 3·4394180 | 3·9206189 |
| 14 | 3·7001038 | 4·2171232 | 14 | 3·5697295 | 4·0686007 | 14 | 3·4309491 | 3·9118817 |
| 15 | 3·6915720 | 4·2081844 | 15 | 3·5611977 | 4·0596857 | 15 | 3·4224173 | 3·9029890 |
| 16 | 3·6829017 | 4·1990439 | 16 | 3·5525274 | 4·0505689 | 16 | 3·4137470 | 3·8938960 |
| 17 | 3·6740309 | 4·1896748 | 17 | 3·5436566 | 4·0412225 | 17 | 3·4048762 | 3·8845717 |
| 18 | 3·6649104 | 4·1800676 | 18 | 3·5345361 | 4·0316347 | 18 | 3·3957557 | 3·8750034 |
| 19 | 3·6555046 | 4·1702313 | 19 | 3·5251303 | 4·0218138 | 19 | 3·3863499 | 3·8651976 |
| 20 | 3·6457908 | 4·1601935 | 20 | 3·5154165 | 4·0117881 | 20 | 3·3766361 | 3·8551829 |
| 21 | 3·6357596 | 4·1500054 | 21 | 3·5053853 | 4·0016078 | 21 | 3·3666049 | 3·8450112 |
| 22 | 3·6256480 | 4·1397385 | 22 | 3·4952737 | 3·9913501 | 22 | 3·3564933 | 3·8347614 |
| 23 | 3·6154587 | 4·1293953 | 23 | 3·4850844 | 3·9810150 | 23 | 3·3463040 | 3·8244351 |
| 24 | 3·6051935 | 4·1189750 | 24 | 3·4748192 | 3·9706039 | 24 | 3·3360388 | 3·8140317 |
| 25 | 3·5948534 | 4·1084774 | 25 | 3·4644791 | 3·9601153 | 25 | 3·3256987 | 3·8035520 |
| 26 | 3·5844385 | 4·0979005 | 26 | 3·4540642 | 3·9495481 | 26 | 3·3152838 | 3·7929937 |
| 27 | 3·5739481 | 4·0872423 | 27 | 3·4435738 | 3·9388993 | 27 | 3·3047934 | 3·7823551 |
| 28 | 3·5633806 | 4·0764996 | 28 | 3·4330063 | 3·9281669 | 28 | 3·2942259 | 3·7716316 |
| 29 | 3·5527338 | 4·0656682 | 29 | 3·4223595 | 3·9173469 | 29 | 3·2835791 | 3·7608219 |
| 30 | 3·5420044 | 4·0547432 | 30 | 3·4116301 | 3·9064336 | 30 | 3·2728497 | 3·7499202 |
| 31 | 3·5311884 | 4·0437198 | 31 | 3·4008141 | 3·8954220 | 31 | 3·2620337 | 3·7389208 |
| 32 | 3·5202809 | 4·0325898 | 32 | 3·3899066 | 3·8843064 | 32 | 3·2511262 | 3·7278169 |
| 33 | 3·5092762 | 4·0213472 | 33 | 3·3789019 | 3·8730781 | 33 | 3·2401215 | 3·7166035 |
| 34 | 3·4981678 | 4·0099827 | 34 | 3·3677935 | 3·8617297 | 34 | 3·2290131 | 3·7052692 |
| 35 | 3·4869483 | 3·9984895 | 35 | 3·3565740 | 3·8502516 | 35 | 3·2177936 | 3·6938079 |
| 36 | 3·4756095 | 3·9868546 | 36 | 3·3452352 | 3·8386363 | 36 | 3·2064548 | 3·6822074 |
| 37 | 3·4641423 | 3·9750704 | 37 | 3·3337680 | 3·8268701 | 37 | 3·1949876 | 3·6704620 |
| 38 | 3·4525369 | 3·9631231 | 38 | 3·3221626 | 3·8149444 | 38 | 3·1833822 | 3·6585542 |
| 39 | 3·4407825 | 3·9510017 | 39 | 3·3104082 | 3·8028449 | 39 | 3·1716278 | 3·6464762 |
| 40 | 3·4288677 | 3·9386923 | 40 | 3·2984934 | 3·7905589 | 40 | 3·1597130 | 3·6342132 |
| 41 | 3·4167800 | 3·9261809 | 41 | 3·2864057 | 3·7780731 | 41 | 3·1476253 | 3·6217515 |
| 42 | 3·4045062 | 3·9134520 | 42 | 3·2741319 | 3·7653720 | 42 | 3·1353515 | 3·6090766 |
| 43 | 3·3920322 | 3·9004879 | 43 | 3·2616579 | 3·7524388 | 43 | 3·1228775 | 3·5961714 |
| 44 | 3·3793433 | 3·8872734 | 44 | 3·2489690 | 3·7392550 | 44 | 3·1101886 | 3·5830196 |
| 45 | 3·3664236 | 3·8737867 | 45 | 3·2360493 | 3·7258039 | 45 | 3·0972689 | 3·5695998 |
| 46 | 3·3532566 | 3·8600060 | 46 | 3·2228823 | 3·7120618 | 46 | 3·0841019 | 3·5558945 |
| 47 | 3·3398249 | 3·8459069 | 47 | 3·2094506 | 3·6980039 | 47 | 3·0706702 | 3·5418762 |
| 48 | 3·3261103 | 3·8314608 | 48 | 3·1957360 | 3·6836026 | 48 | 3·0569556 | 3·5275178 |
| 49 | 3·3120937 | 3·8166323 | 49 | 3·1817194 | 3·6688246 | 49 | 3·0429390 | 3·5127858 |
| 50 | 3·2977553 | 3·8013817 | 50 | 3·1673810 | 3·6536273 | 50 | 3·0286006 | 3·4976400 |
| 51 | 3·2830743 | 3·7856586 | 51 | 3·1527000 | 3·6379598 | 51 | 3·0139196 | 3·4820270 |
| 52 | 3·2677846 | 3·7693988 | 52 | 3·1374103 | 3·6217598 | 52 | 2·9986299 | 3·4658810 |
| 53 | 3·2520501 | 3·7526330 | 53 | 3·1216758 | 3·6050549 | 53 | 2·9828954 | 3·4492369 |
| 54 | 3·2358535 | 3·7353226 | 54 | 3·1054792 | 3·5878142 | 54 | 2·9666988 | 3·4320600 |

## JOINT LIVES:—Male and Female Life.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female (y) | 90 | | 91 | | | 92 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (x) | λ $D_{x,\,90}$ | λ $N_{x,\,90}$ | Age of Male (x) | λ $D_{x,\,91}$ | λ $N_{x,\,91}$ | Age of Male (x) | λ $D_{x,\,92}$ | λ $N_{x,\,92}$ |
| 55 | 3·2191676 | 3·7174242 | 55 | 3·0887933 | 3·5699881 | 55 | 2·9500129 | 3·4143060 |
| 56 | 3·2019547 | 3·6988788 | 56 | 3·0715804 | 3·5515269 | 56 | 2·9328000 | 3·3959209 |
| 57 | 3·1841667 | 3·6796232 | 57 | 3·0537924 | 3·5323607 | 57 | 2·9150120 | 3·3768405 |
| 58 | 3·1657452 | 3·6595816 | 58 | 3·0353709 | 3·5124175 | 58 | 2·8965905 | 3·3569914 |
| 59 | 3·1466216 | 3·6386679 | 59 | 3·0162473 | 3·4916124 | 59 | 2·8774669 | 3·3362888 |
| 60 | 3·1267168 | 3·6167884 | 60 | 2·9963425 | 3·4698509 | 60 | 2·8575621 | 3·3146401 |
| 61 | 3·1059415 | 3·5938386 | 61 | 2·9755672 | 3·4470302 | 61 | 2·8367868 | 3·2919418 |
| 62 | 3·0841960 | 3·5697051 | 62 | 2·9538217 | 3·4230364 | 62 | 2·8150413 | 3·2680818 |
| 63 | 3·0613703 | 3·5442640 | 63 | 2·9309960 | 3·3977477 | 63 | 2·7922156 | 3·2429373 |
| 64 | 3·0373441 | 3·5173847 | 64 | 2·9069698 | 3·3710316 | 64 | 2·7681894 | 3·2163774 |
| 65 | 3·0119867 | 3·4889257 | 65 | 2·8816124 | 3·3427471 | 65 | 2·7428320 | 3·1882603 |
| 66 | 2·9851571 | 3·4587363 | 66 | 2·8547828 | 3·3127442 | 66 | 2·7160024 | 3·1584364 |
| 67 | 2·9567040 | 3·4266563 | 67 | 2·8263297 | 3·2808630 | 67 | 2·6875493 | 3·1267465 |
| 68 | 2·9264659 | 3·3925178 | 68 | 2·7960916 | 3·2469358 | 68 | 2·6573112 | 3·0930216 |
| 69 | 2·8942706 | 3·3561433 | 69 | 2·7638963 | 3·2107842 | 69 | 2·6251159 | 3·0570847 |
| 70 | 2·8599360 | 3·3173465 | 70 | 2·7295617 | 3·1722222 | 70 | 2·5907813 | 3·0187484 |
| 71 | 2·8232694 | 3·2759328 | 71 | 2·6928951 | 3·1310540 | 71 | 2·5541147 | 2·9778178 |
| 72 | 2·7840678 | 3·2316979 | 72 | 2·6536935 | 3·0870759 | 72 | 2·5149131 | 2·9340872 |
| 73 | 2·7421181 | 3·1844294 | 73 | 2·6117438 | 3·0400744 | 73 | 2·4729634 | 2·8873438 |
| 74 | 2·6971965 | 3·1339050 | 74 | 2·5668222 | 2·9898275 | 74 | 2·4280418 | 2·8373655 |
| 75 | 2·6490692 | 3·0798955 | 75 | 2·5186949 | 2·9361039 | 75 | 2·3799145 | 2·7839193 |
| 76 | 2·5974918 | 3·0221611 | 76 | 2·4671175 | 2·8786642 | 76 | 2·3283371 | 2·7267655 |
| 77 | 2·5422099 | 2·9604531 | 77 | 2·4118356 | 2·8172592 | 77 | 2·2730552 | 2·6656551 |
| 78 | 2·4829585 | 2·8945149 | 78 | 2·3525842 | 2·7516309 | 78 | 2·2138038 | 2·6003291 |
| 79 | 2·4194624 | 2·8240823 | 79 | 2·2890881 | 2·6815126 | 79 | 2·1503077 | 2·5305186 |
| 80 | 2·3514360 | 2·7488769 | 80 | 2·2210617 | 2·6066307 | 80 | 2·0822813 | 2·4559482 |
| 81 | 2·2785834 | 2·6686160 | 81 | 2·1482091 | 2·5266946 | 81 | 2·0094287 | 2·3763342 |
| 82 | 2·2005983 | 2·5830060 | 82 | 2·0702240 | 2·4414139 | 82 | 1·9314436 | 2·2913760 |
| 83 | 2·1171644 | 2·4917440 | 83 | 1·9867901 | 2·3504851 | 83 | 1·8480097 | 2·2007714 |
| 84 | 2·0279546 | 2·3945165 | 84 | 1·8975803 | 2·2535922 | 84 | 1·7587999 | 2·1042078 |
| 85 | 1·9326318 | 2·2910024 | 85 | 1·8022575 | 2·1504141 | 85 | 1·6634771 | 2·0013589 |
| 86 | 1·8308484 | 2·1808694 | 86 | 1·7004741 | 2·0406174 | 86 | 1·5616937 | 1·8918935 |
| 87 | 1·7222466 | 2·0637761 | 87 | 1·5918723 | 1·9238598 | 87 | 1·4530919 | 1·7754670 |
| 88 | 1·6064582 | 1·9393710 | 88 | 1·4760839 | 1·7997891 | 88 | 1·3373035 | 1·6517266 |
| 89 | 1·4831048 | 1·8072941 | 89 | 1·3527305 | 1·6680429 | 89 | 1·2139501 | 1·5203093 |
| 90 | 1·3517973 | 1·6671736 | 90 | 1·2214230 | 1·5282506 | 90 | 1·0826426 | 1·3808405 |
| 91 | 1·2121368 | 1·5186258 | 91 | 1·0817625 | 1·3800302 | 91 | 0·9429821 | 1·2329428 |
| 92 | 1·0637137 | 1·3612574 | 92 | 0·9333394 | 1·2229868 | 92 | 0·7945590 | 1·0762217 |
| 93 | 0·9061082 | 1·1946753 | 93 | 0·7757339 | 1·0567143 | 93 | 0·6369535 | 0·9102668 |
| 94 | 0·7388901 | 1·0184426 | 94 | 0·6085158 | 0·8808136 | 94 | 0·4697354 | 0·7346638 |
| 95 | 0·5616190 | 0·8321511 | 95 | 0·4312447 | 0·6948157 | 95 | 0·2924643 | 0·5490155 |
| 96 | 0·3738441 | 0·6353933 | 96 | 0·2434698 | 0·4983243 | 96 | 0·1046894 | 0·3527805 |
| 97 | 0·1751042 | 0·4276484 | 97 | 0·0447299 | 0·2909246 | 97 | 9·9059495 | 0·1456314 |
| 98 | 9·9649279 | 0·2084682 | 98 | 9·8345536 | 0·0720292 | 98 | 9·6957732 | $\bar{1}$·9271136 |
| 99 | 9·7428335 | $\bar{1}$·9773120 | 99 | 9·6124592 | $\bar{1}$·8411717 | 99 | 9·4736788 | $\bar{1}$·6965311 |
| 100 | 9·5083287 | $\bar{1}$·7335183 | 100 | 9·3779544 | $\bar{1}$·5976952 | 100 | 9·2391740 | $\bar{1}$·4533183 |
| 101 | 9·2609112 | $\bar{1}$·4759616 | 101 | 9·1305369 | $\bar{1}$·3404441 | 101 | 8·9917565 | $\bar{1}$·1964525 |
| 102 | 9·0000682 | $\bar{1}$·2019431 | 102 | 8·8696939 | $\bar{1}$·0674428 | 102 | 8·7309135 | $\bar{2}$·9237620 |
| 103 | 8·7252766 | $\bar{2}$·9063350 | 103 | 8·5949023 | $\bar{2}$·7723217 | 103 | 8·4561219 | $\bar{2}$·6304279 |
| 104 | 8·4360030 | $\bar{2}$·5717038 | 104 | 8·3056287 | $\bar{2}$·4393327 | 104 | 8·1668483 | $\bar{2}$·2988531 |
| 105 | 8·1317036 | | 105 | 8·0013293 | | 105 | 7·8625489 | |
| 106 | 7·8118244 | | 106 | 7·6814501 | | 106 | 7·5426697 | |
| 107 | 7·4758010 | | 107 | 7·3454267 | | 107 | 7·2066463 | |
| 108 | 7·1230587 | | 108 | 6·9926844 | | 108 | 6·8539040 | |
| 109 | 6·7530124 | | 109 | 6·6226381 | | 109 | 6·4838577 | |

## JOINT LIVES:—MALE AND FEMALE LIFE.

## Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female ($y$) | 93 | | 94 | | | 95 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda D_{x,93}$ | $\lambda N_{x,93}$ | Age of Male ($x$) | $\lambda D_{x,94}$ | $\lambda N_{x,94}$ | Age of Male ($x$) | $\lambda D_{x,95}$ | $\lambda N_{x,95}$ |
| 0 | 3·5432198 | 3·9433609 | 0 | 3·3863569 | 3·7709602 | 0 | 3·2197957 | 3·5890779 |
| 1 | 3·4592176 | 3·8964678 | 1 | 3·3023547 | 3·7229735 | 1 | 3·1357935 | 3·5399877 |
| 2 | 3·4239367 | 3·8728511 | 2 | 3·2670738 | 3·6989787 | 2 | 3·1005126 | 3·5156116 |
| 3 | 3·4018234 | 3·8560011 | 3 | 3·2449605 | 3·6819383 | 3 | 3·0783993 | 3·4983823 |
| 4 | 3·3849217 | 3·8421478 | 4 | 3·2280588 | 3·6679672 | 4 | 3·0614976 | 3·4842927 |
| 5 | 3·3706943 | 3·8300193 | 5 | 3·2138314 | 3·6557567 | 5 | 3·0472702 | 3·4720013 |
| 6 | 3·3583331 | 3·8190666 | 6 | 3·2014702 | 3.6447487 | 6 | 3·0349090 | 3·4609369 |
| 7 | 3·3471896 | 3·8089014 | 7 | 3·1903267 | 3·6345438 | 7 | 3·0237655 | 3·4506924 |
| 8 | 3·3367754 | 3·7992813 | 8 | 3·1799125 | 3·6248955 | 8 | 3·0133513 | 3·4410161 |
| 9 | 3·3270280 | 3·7900972 | 9 | 3·1701651 | 3·6156934 | 9 | 3·0036039 | 3·4317962 |
| 10 | 3·3177928 | 3·7812160 | 10 | 3·1609299 | 3·6068058 | 10 | 2·9943687 | 3·4229002 |
| 11 | 3·3089283 | 3·7725197 | 11 | 3·1520654 | 3·5981106 | 11 | 2·9855042 | 3·4142058 |
| 12 | 3·3003063 | 3·7639018 | 12 | 3·1434434 | 3·5895017 | 12 | 2·9768822 | 3·4056052 |
| 13 | 3·2918118 | 3·7552725 | 13 | 3·1349489 | 3·5808862 | 13 | 2·9683877 | 3·3970035 |
| 14 | 3·2833429 | 3·7465533 | 14 | 3·1264800 | 3·5721859 | 14 | 2·9599188 | 3·3883215 |
| 15 | 3·2748111 | 3·7376839 | 15 | 3·1179482 | 3·5633363 | 15 | 2·9513870 | 3·3794917 |
| 16 | 3·2661408 | 3·7286127 | 16 | 3·1092779 | 3·5542893 | 16 | 2·9427167 | 3·3704656 |
| 17 | 3·2572700 | 3·7193106 | 17 | 3·1004071 | 3·5450076 | 17 | 2·9338459 | 3·3612055 |
| 18 | 3·2481495 | 3·7097617 | 18 | 3·0912866 | 3·5354777 | 18 | 2·9247254 | 3·3516941 |
| 19 | 3·2387437 | 3·6999712 | 19 | 3·0818808 | 3·5257029 | 19 | 2·9153196 | 3·3419346 |
| 20 | 3·2290299 | 3·6899674 | 20 | 3·0721670 | 3·5157096 | 20 | 2·9056058 | 3·3319528 |
| 21 | 3·2189987 | 3·6798029 | 21 | 3·0621358 | 3·5055529 | 21 | 2·8955746 | 3·3218031 |
| 22 | 3·2088871 | 3·6695614 | 22 | 3·0520242 | 3·4953181 | 22 | 2·8854630 | 3·3115755 |
| 23 | 3·1986978 | 3·6592429 | 23 | 3·0418349 | 3·4850069 | 23 | 2·8752737 | 3·3012714 |
| 24 | 3·1884326 | 3·6488477 | 24 | 3·0315697 | 3·4746198 | 24 | 2·8650085 | 3·2908914 |
| 25 | 3·1780925 | 3·6383754 | 25 | 3·0212296 | 3·4641555 | 25 | 2·8546684 | 3·2804350 |
| 26 | 3·1676776 | 3·6278265 | 26 | 3·0108147 | 3·4536134 | 26 | 2·8442535 | 3·2699013 |
| 27 | 3·1571872 | 3·6171965 | 27 | 3·0003243 | 3·4429938 | 27 | 2·8337631 | 3·2592880 |
| 28 | 3·1466197 | 3·6064835 | 28 | 2·9897568 | 3·4322887 | 28 | 2·8231956 | 3·2485926 |
| 29 | 3·1359729 | 3·5956825 | 29 | 2·9791100 | 3·4214982 | 29 | 2·8125488 | 3·2378116 |
| 30 | 3·1252435 | 3·5847913 | 30 | 2·9683806 | 3·4106170 | 30 | 2·8018194 | 3·2269400 |
| 31 | 3·1144275 | 3·5738031 | 31 | 2·9575646 | 3·3996396 | 31 | 2·7910034 | 3·2159729 |
| 32 | 3·1035200 | 3·5627127 | 32 | 2·9466571 | 3·3885601 | 32 | 2·7800959 | 3·2049042 |
| 33 | 3·0925153 | 3·5515098 | 33 | 2·9356524 | 3·3773709 | 33 | 2·7690912 | 3·1937275 |
| 34 | 3·0814069 | 3·5401918 | 34 | 2·9245440 | 3·3660650 | 34 | 2·7579828 | 3·1824338 |
| 35 | 3·0701874 | 3·5287445 | 35 | 2·9133245 | 3·3546328 | 35 | 2·7467633 | 3·1710158 |
| 36 | 3·0588486 | 3·5171616 | 36 | 2·9019857 | 3·3430650 | 36 | 2·7354245 | 3·1594629 |
| 37 | 3·0473814 | 3·5054308 | 37 | 2·8905185 | 3·3313518 | 37 | 2·7239573 | 3·1477653 |
| 38 | 3·0357760 | 3·4935445 | 38 | 2·8789131 | 3·3194812 | 38 | 2·7123519 | 3·1359121 |
| 39 | 3·0240216 | 3·4814856 | 39 | 2·8671587 | 3·3074423 | 39 | 2·7005975 | 3·1238911 |
| 40 | 3·0121068 | 3·4692445 | 40 | 2·8552439 | 3·2952217 | 40 | 2·6886827 | 3·1116902 |
| 41 | 3·0000191 | 3·4568047 | 41 | 2·8431562 | 3·2828053 | 41 | 2·6765950 | 3·0992952 |
| 42 | 2·9877453 | 3·4441555 | 42 | 2·8308824 | 3·2701788 | 42 | 2·6643212 | 3·0866915 |
| 43 | 2·9752713 | 3·4312775 | 43 | 2·8184084 | 3·2573262 | 43 | 2·6518472 | 3·0738635 |
| 44 | 2·9625824 | 3·4181543 | 44 | 2·8057195 | 3·2442308 | 44 | 2·6391583 | 3·0607946 |
| 45 | 2·9496627 | 3·4047668 | 45 | 2·7927998 | 3·2308736 | 45 | 2·6262386 | 3·0474662 |
| 46 | 2·9364957 | 3·3910947 | 46 | 2·7796328 | 3·2172339 | 46 | 2·6130716 | 3·0338579 |
| 47 | 2·9230640 | 3·3771142 | 47 | 2·7662011 | 3·2032886 | 47 | 2·5996399 | 3·0199467 |
| 48 | 2·9093494 | 3·3627968 | 48 | 2·7524865 | 3·1890108 | 48 | 2·5859253 | 3·0057060 |
| 49 | 2·8953328 | 3·3481100 | 49 | 2·7384699 | 3·1743664 | 49 | 2·5719087 | 2·9911033 |
| 50 | 2·8809944 | 3·3330120 | 50 | 2·7241315 | 3·1593148 | 50 | 2·5575703 | 2·9760959 |
| 51 | 2·8663134 | 3·3174501 | 51 | 2·7094505 | 3·1438027 | 51 | 2·5428893 | 2·9606311 |
| 52 | 2·8510237 | 3·3013571 | 52 | 2·6941608 | 3·1277593 | 52 | 2·5275996 | 2·9446361 |
| 53 | 2·8352892 | 3·2847692 | 53 | 2·6784263 | 3·1112258 | 53 | 2·5118651 | 2·9281536 |
| 54 | 2·8190926 | 3·2676536 | 54 | 2·6622297 | 3·0941685 | 54 | 2·4956685 | 2·9111534 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 93 | | 94 | | | 95 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | λ $D_{x,\,93}$ | λ $N_{x,\,93}$ | Age of Male ($x$) | λ $D_{x,\,94}$ | λ $N_{x,\,94}$ | Age of Male ($x$) | λ $D_{x,\,95}$ | λ $N_{x,\,95}$ |
| 55 | 2·8024067 | 3·2499672 | 55 | 2·6455438 | 3·0765458 | 55 | 2·4789826 | 2·8935915 |
| 56 | 2·7851938 | 3·2316559 | 56 | 2·6283309 | 3·0583050 | 56 | 2·4617697 | 2·8754178 |
| 57 | 2·7674058 | 3·2126566 | 57 | 2·6105429 | 3·0393832 | 57 | 2·4439817 | 2·8565706 |
| 58 | 2·7489843 | 3·1928962 | 58 | 2·5921214 | 3·0197077 | 58 | 2·4255602 | 2·8369770 |
| 59 | 2·7298607 | 3·1722921 | 59 | 2·5729978 | 2·9991967 | 59 | 2·4064366 | 2·8165554 |
| 60 | 2·7099559 | 3·1507503 | 60 | 2·5530930 | 2·9777579 | 60 | 2·3865318 | 2·7952145 |
| 61 | 2·6891806 | 3·1281691 | 61 | 2·5323177 | 2·9552889 | 61 | 2·3657565 | 2·7728533 |
| 62 | 2·6674351 | 3·1044362 | 62 | 2·5105722 | 2·9316775 | 62 | 2·3440110 | 2·7493606 |
| 63 | 2·6446094 | 3·0794302 | 63 | 2·4877465 | 2·9068036 | 63 | 2·3211853 | 2·7246133 |
| 64 | 2·6205832 | 3·0530189 | 64 | 2·4637203 | 2·8805358 | 64 | 2·2971591 | 2·6984833 |
| 65 | 2·5952258 | 3·0250629 | 65 | 2·4383629 | 2·8527337 | 65 | 2·2718017 | 2·6708301 |
| 66 | 2·5683962 | 2·9954110 | 66 | 2·4115333 | 2·8232472 | 66 | 2·2449721 | 2·6415029 |
| 67 | 2·5399431 | 2·9639039 | 67 | 2·3830802 | 2·7919172 | 67 | 2·2165190 | 2·6103439 |
| 68 | 2·5097050 | 2·9303743 | 68 | 2·3528421 | 2·7585751 | 68 | 2·1862809 | 2·5771838 |
| 69 | 2·4775097 | 2·8946434 | 69 | 2·3206468 | 2·7230434 | 69 | 2·1540856 | 2·5418450 |
| 70 | 2·4431751 | 2·8565253 | 70 | 2·2863122 | 2·6851351 | 70 | 2·1197510 | 2·5041404 |
| 71 | 2·4065085 | 2·8158227 | 71 | 2·2496456 | 2·6446542 | 71 | 2·0830844 | 2·4638736 |
| 72 | 2·3673069 | 2·7723327 | 72 | 2·2104440 | 2·6013950 | 72 | 2·0438828 | 2·4208399 |
| 73 | 2·3253572 | 2·7258390 | 73 | 2·1684943 | 2·5551440 | 73 | 2·0019331 | 2·3748234 |
| 74 | 2·2804356 | 2·6761190 | 74 | 2·1235727 | 2·5056763 | 74 | 1·9570115 | 2·3256009 |
| 75 | 2·2323083 | 2·6229431 | 75 | 2·0754454 | 2·4527599 | 75 | 1·9088842 | 2·2729392 |
| 76 | 2·1807309 | 2·5660673 | 76 | 2·0238680 | 2·3961558 | 76 | 1·8573068 | 2·2165958 |
| 77 | 2·1254490 | 2·5052423 | 77 | 1·9685861 | 2·3356075 | 77 | 1·8020249 | 2·1563204 |
| 78 | 2·0661976 | 2·4402099 | 78 | 1·9093347 | 2·2708600 | 78 | 1·7427735 | 2·0918516 |
| 79 | 2·0027015 | 2·3707000 | 79 | 1·8458386 | 2·2016432 | 79 | 1·6792774 | 2·0229198 |
| 80 | 1·9346751 | 2·2964357 | 80 | 1·7778122 | 2·1276774 | 80 | 1·6112510 | 1·9492465 |
| 81 | 1·8618225 | 2·2171311 | 81 | 1·7049596 | 2·0486764 | 81 | 1·5383984 | 1·8705420 |
| 82 | 1·7838374 | 2·1324896 | 82 | 1·6269745 | 1·9643436 | 82 | 1·4604133 | 1·7865108 |
| 83 | 1·7004035 | 2·0422053 | 83 | 1·5435406 | 1·8743722 | 83 | 1·3769794 | 1·6968455 |
| 84 | 1·6111937 | 1·9459617 | 84 | 1·4543308 | 1·7784457 | 84 | 1·2877696 | 1·6012297 |
| 85 | 1·5158709 | 1·8434383 | 85 | 1·3590080 | 1·6762371 | 85 | 1·1924468 | 1·4993351 |
| 86 | 1·4140875 | 1·7342973 | 86 | 1·2572246 | 1·5674169 | 86 | 1·0906634 | 1·3908239 |
| 87 | 1·3054857 | 1·6181967 | 87 | 1·1486228 | 1·4516360 | 87 | 0·9820616 | 1·2753597 |
| 88 | 1·1896973 | 1·4947819 | 88 | 1·0328344 | 1·3285407 | 88 | 0·8662732 | 1·1535788 |
| 89 | 1·0663439 | 1·3636891 | 89 | 0·9094810 | 1·1977684 | 89 | 0·7429198 | 1·0221190 |
| 90 | 0·9350364 | 1·2245435 | 90 | 0·7781735 | 1·0589420 | 90 | 0·6116123 | 0·8836103 |
| 91 | 0·7953759 | 1·0769608 | 91 | 0·6385130 | 0·9116742 | 91 | 0·4719518 | 0·7366594 |
| 92 | 0·6469528 | 0·9205511 | 92 | 0·4900899 | 0·7555776 | 92 | 0·3235287 | 0·5808680 |
| 93 | 0·4893473 | 0·7549214 | 93 | 0·3324844 | 0·5902398 | 93 | 0·1659232 | 0·4158411 |
| 94 | 0·3221292 | 0·5796350 | 94 | 0·1652663 | 0·4152739 | 94 | 9·9987051 | 0·2411479 |
| 95 | 0·1448581 | 0·3942590 | 95 | 9·9879952 | 0·2302189 | 95 | 9·8214340 | 0·0564793 |
| 96 | 9·9570832 | 0·1984371 | 96 | 9·8002203 | 0·0346285 | 96 | 9·6336591 | $\bar{1}$·8611758 |
| 97 | 9·7583433 | $\bar{1}$·9914476 | 97 | 9·6014804 | $\bar{1}$·8282086 | 97 | 9·4349192 | $\bar{1}$·6548501 |
| 98 | 9·5481670 | $\bar{1}$·7731279 | 98 | 9·3913041 | $\bar{1}$·6099144 | 98 | 9·2247429 | $\bar{1}$·4374334 |
| 99 | 9·3260726 | $\bar{1}$·5430742 | 99 | 9·1692097 | $\bar{1}$·3798492 | 99 | 9·0026485 | $\bar{1}$·2070955 |
| 100 | 9·0915678 | $\bar{1}$·3001605 | 100 | 8·9347049 | $\bar{1}$·1376705 | 100 | 8·7681437 | $\bar{2}$·9647309 |
| 101 | 8·8441503 | $\bar{1}$·0437551 | 101 | 8·6872874 | $\bar{2}$·8813847 | 101 | 8·5207262 | $\bar{2}$·7101174 |
| 102 | 8·5833073 | $\bar{2}$·7715875 | 102 | 8·4264444 | $\bar{2}$·6106602 | 102 | 8·2598832 | $\bar{2}$·4377506 |
| 103 | 8·3085157 | $\bar{2}$·4785665 | 103 | 8·1516528 | $\bar{2}$·3180633 | 103 | 7·9850916 | $\bar{2}$·1492191 |
| 104 | 8·0192421 | $\bar{2}$·1492191 | 104 | 7·8623792 | $\bar{3}$·9912261 | 104 | 7·6958180 | $\bar{3}$·8195439 |
| 105 | 7·7149427 | $\bar{3}$·7160033 | 105 | 7·5580798 | $\bar{3}$·5563025 | 105 | 7·3915186 | |
| 106 | 7·3950635 | | 106 | 7·2382006 | | 106 | 7·0716394 | |
| 107 | 7·0590401 | | 107 | 6·9021772 | | 107 | 6·7356160 | |
| 108 | 6·7062978 | | 108 | 6·5494349 | | 108 | 6·3828737 | |
| 109 | 6·3362515 | | 109 | 6·1793886 | | 109 | 6·0128274 | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 96 | | 97 | | | 98 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | $\lambda\ D_{x,\ 96}$ | $\lambda\ N_{x,\ 96}$ | Age of Male ($x$) | $\lambda\ D_{x,\ 97}$ | $\lambda\ N_{x,\ 97}$ | Age of Male ($x$) | $\lambda\ D_{x,\ 98}$ | $\lambda\ N_{x,\ 98}$ |
| 0 | 3·0430837 | 3·3972255 | 0 | 2·8557572 | 3·1948669 | 0 | 2·6573419 | 2·9813751 |
| 1 | 2·9590815 | 3·3470163 | 1 | 2·7717550 | 3·1435153 | 1 | 2·5733397 | 2·9288453 |
| 2 | 2·9238006 | 3·3222578 | 2 | 2·7364741 | 3·1183669 | 2 | 2·5380588 | 2·9032935 |
| 3 | 2·9016873 | 3·3048373 | 3 | 2·7143608 | 3·1007534 | 3 | 2·5159455 | 2·8854811 |
| 4 | 2·8847856 | 3·2906301 | 4 | 2·6974591 | 3·0864275 | 4 | 2·4990438 | 2·8710321 |
| 5 | 2·8705582 | 3·2782580 | 5 | 2·6832317 | 3·0739723 | 5 | 2·4848164 | 2·8584927 |
| 6 | 2·8581970 | 3·2671375 | 6 | 2·6708705 | 3·0627959 | 6 | 2·4724552 | 2·8472567 |
| 7 | 2·8470535 | 3·2568526 | 7 | 2·6597270 | 3·0524705 | 7 | 2·4613117 | 2·8368904 |
| 8 | 2·8366393 | 3·2471463 | 8 | 2·6493128 | 3·0427338 | 8 | 2·4508975 | 2·8271223 |
| 9 | 2·8268919 | 3·2379094 | 9 | 2·6395654 | 3·0334781 | 9 | 2·4411501 | 2·8178462 |
| 10 | 2·8176567 | 3·2290052 | 10 | 2·6303302 | 3·0245649 | 10 | 2·4319149 | 2·8089236 |
| 11 | 2·8087922 | 3·2203105 | 11 | 2·6214657 | 3·0158709 | 11 | 2·4230504 | 2·8002282 |
| 12 | 2·8001702 | 3·2117174 | 12 | 2·6128437 | 3·0072838 | 12 | 2·4144284 | 2·7916493 |
| 13 | 2·7916757 | 3·2031295 | 13 | 2·6043492 | 2·9987086 | 13 | 2·4059339 | 2·7830864 |
| 14 | 2·7832068 | 3·1944641 | 14 | 2·5958803 | 2·9900616 | 14 | 2·3974650 | 2·7744564 |
| 15 | 2·7746750 | 3·1856555 | 15 | 2·5873485 | 2·9812721 | 15 | 2·3889332 | 2·7656887 |
| 16 | 2·7660047 | 3·1766483 | 16 | 2·5786782 | 2·9722876 | 16 | 2·3802629 | 2·7567251 |
| 17 | 2·7571339 | 3·1674102 | 17 | 2·5698074 | 2·9630669 | 17 | 2·3713921 | 2·7475275 |
| 18 | 2·7480134 | 3·1579177 | 18 | 2·5606869 | 2·9535949 | 18 | 2·3622716 | 2·7380691 |
| 19 | 2·7386076 | 3·1481731 | 19 | 2·5512811 | 2·9438658 | 19 | 2·3528658 | 2·7283587 |
| 20 | 2·7288938 | 3·1382019 | 20 | 2·5415673 | 2·9339052 | 20 | 2·3431520 | 2·7184095 |
| 21 | 2·7188626 | 3·1280595 | 21 | 2·5315361 | 2·9237697 | 21 | 2·3331208 | 2·7082815 |
| 22 | 2·7087510 | 3·1178388 | 22 | 2·5214245 | 2·9135564 | 22 | 2·3230092 | 2·6980744 |
| 23 | 2·6985617 | 3·1075416 | 23 | 2·5112352 | 2·9032659 | 23 | 2·3128199 | 2·6877920 |
| 24 | 2·6882965 | 3·0971689 | 24 | 2·5009700 | 2·8929001 | 24 | 2·3025547 | 2·6774327 |
| 25 | 2·6779564 | 3·0867200 | 25 | 2·4906299 | 2·8824585 | 25 | 2·2922146 | 2·6669979 |
| 26 | 2·6675415 | 3·0761936 | 26 | 2·4802150 | 2·8719399 | 26 | 2·2817997 | 2·6564873 |
| 27 | 2·6570511 | 3·0655887 | 27 | 2·4697246 | 2·8613420 | 27 | 2·2713093 | 2·6458976 |
| 28 | 2·6464836 | 3·0549015 | 28 | 2·4591571 | 2·8506640 | 28 | 2·2607418 | 2·6352263 |
| 29 | 2·6358368 | 3·0441293 | 29 | 2·4485103 | 2·8398995 | 29 | 2·2500950 | 2·6244729 |
| 30 | 2·6251074 | 3·0332673 | 30 | 2·4377809 | 2·8290476 | 30 | 2·2393656 | 2·6136283 |
| 31 | 2·6142914 | 3·0223104 | 31 | 2·4269649 | 2·8181005 | 31 | 2·2285496 | 2·6026925 |
| 32 | 2·6033839 | 3·0112523 | 32 | 2·4160574 | 2·8070531 | 32 | 2·2176421 | 2·5916555 |
| 33 | 2·5923792 | 3·0000863 | 33 | 2·4050527 | 2·7958988 | 33 | 2·2066374 | 2·5805121 |
| 34 | 2·5812708 | 2·9888059 | 34 | 2·3939443 | 2·7846294 | 34 | 2·1955290 | 2·5692556 |
| 35 | 2·5700513 | 2·9774007 | 35 | 2·3827248 | 2·7732377 | 35 | 2·1843095 | 2·5578764 |
| 36 | 2·5587125 | 2·9658627 | 36 | 2·3713860 | 2·7617137 | 36 | 2·1729707 | 2·5463662 |
| 37 | 2·5472453 | 2·9541803 | 37 | 2·3599188 | 2·7500476 | 37 | 2·1615035 | 2·5347151 |
| 38 | 2·5356399 | 2·9423439 | 38 | 2·3483134 | 2·7382262 | 38 | 2·1498981 | 2·5229122 |
| 39 | 2·5238855 | 2·9303407 | 39 | 2·3365590 | 2·7262413 | 39 | 2·1381437 | 2·5109429 |
| 40 | 2·5119707 | 2·9181583 | 40 | 2·3246442 | 2·7140774 | 40 | 2·1262289 | 2·4987983 |
| 41 | 2·4998830 | 2·9057840 | 41 | 2·3125565 | 2·7017225 | 41 | 2·1141412 | 2·4864631 |
| 42 | 2·4876092 | 2·8932023 | 42 | 2·3002827 | 2·6891623 | 42 | 2·1018674 | 2·4739247 |
| 43 | 2·4751352 | 2·8803979 | 43 | 2·2878087 | 2·6763817 | 43 | 2·0893934 | 2·4611668 |
| 44 | 2·4624463 | 2·8673543 | 44 | 2·2751198 | 2·6633635 | 44 | 2·0767045 | 2·4481743 |
| 45 | 2·4495266 | 2·8540539 | 45 | 2·2622001 | 2·6500898 | 45 | 2·0637848 | 2·4349280 |
| 46 | 2·4363596 | 2·8404762 | 46 | 2·2490331 | 2·6365420 | 46 | 2·0506178 | 2·4214098 |
| 47 | 2·4229279 | 2·8265982 | 47 | 2·2356014 | 2·6226968 | 47 | 2·0371861 | 2·4075982 |
| 48 | 2·4092133 | 2·8123939 | 48 | 2·2218868 | 2·6085281 | 48 | 2·0234715 | 2·3934647 |
| 49 | 2·3951967 | 2·7978303 | 49 | 2·2078702 | 2·5940045 | 49 | 2·0094549 | 2·3789808 |
| 50 | 2·3808583 | 2·7828673 | 50 | 2·1935318 | 2.5790825 | 50 | 1·9951165 | 2·3641016 |
| 51 | 2·3661773 | 2·7674483 | 51 | 2·1788508 | 2.5637100 | 51 | 1·9804355 | 2·3487744 |
| 52 | 2·3508876 | 2·7514993 | 52 | 2·1635011 | 2.5478067 | 52 | 1·9651458 | 2·3329163 |
| 53 | 2·3351531 | 2·7350669 | 53 | 2·1478266 | 2.5314227 | 53 | 1·9494113 | 2·3165820 |
| 54 | 2·3189565 | 2·7181203 | 54 | 2·1316300 | 2.5145292 | 54 | 1·9332147 | 2·2997413 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of Female (y) | 96 | | 97 | | | 98 | | |
|---|---|---|---|---|---|---|---|---|
| Age of Male (x) | λ $D_{x,96}$ | λ $N_{x,96}$ | Age of Male (x) | λ $D_{x,97}$ | λ $N_{x,97}$ | Age of Male (x) | λ $D_{x,98}$ | λ $N_{x,98}$ |
| 55 | 2·3022706 | 2·7006189 | 55 | 2·1149441 | 2·4970859 | 55 | 1·9165288 | 2·2823552 |
| 56 | 2·2850577 | 2·6825097 | 56 | 2·0977312 | 2·4790424 | 56 | 1·8993159 | 2·2643752 |
| 57 | 2·2672697 | 2·6637339 | 57 | 2·0799432 | 2·4603355 | 57 | 1·8815279 | 2·2457408 |
| 58 | 2·2488482 | 2·6442199 | 58 | 2·0615217 | 2·4408980 | 58 | 1·8631064 | 2·2263813 |
| 59 | 2·2297246 | 2·6238858 | 59 | 2·0423981 | 2·4206504 | 59 | 1·8439828 | 2·2062185 |
| 60 | 2·2098198 | 2·6026405 | 60 | 2·0224933 | 2·3994990 | 60 | 1·8240780 | 2·1851616 |
| 61 | 2·1890445 | 2·5803832 | 61 | 2·0017180 | 2·3773445 | 61 | 1·8033027 | 2·1631112 |
| 62 | 2·1672990 | 2·5570040 | 62 | 1·9799725 | 2·3540775 | 62 | 1·7815572 | 2·1399568 |
| 63 | 2·1444733 | 2·5323823 | 63 | 1·9571468 | 2·3295772 | 63 | 1·7587315 | 2·1155795 |
| 64 | 2·1204471 | 2·5063847 | 64 | 1·9331206 | 2·3037136 | 64 | 1·7347053 | 2·0898497 |
| 65 | 2·0950897 | 2·4788766 | 65 | 1·9077632 | 2·2763478 | 65 | 1·7093479 | 2·0626275 |
| 66 | 2·0682601 | 2·4497052 | 66 | 1·8809336 | 2·2473303 | 66 | 1·6825183 | 2·0337650 |
| 67 | 2·0398070 | 2·4187122 | 67 | 1·8524805 | 2·2165016 | 67 | 1·6540652 | 2·0031032 |
| 68 | 2·0095689 | 2·3857296 | 68 | 1·8222424 | 2·1836943 | 68 | 1·6238271 | 1·9704729 |
| 69 | 1·9773736 | 2·3505789 | 69 | 1·7900471 | 2·1487300 | 69 | 1·5916318 | 1·9356972 |
| 70 | 1·9430390 | 2·3130738 | 70 | 1·7557125 | 2·1114212 | 70 | 1·5572972 | 1·8985887 |
| 71 | 1·9063724 | 2·2730168 | 71 | 1·7190459 | 2·0715727 | 71 | 1·5206306 | 1·8589490 |
| 72 | 1·8671708 | 2·2302036 | 72 | 1·6798443 | 2·0289770 | 72 | 1·4814290 | 1·8165753 |
| 73 | 1·8252211 | 2·1844171 | 73 | 1·6378946 | 1·9834202 | 73 | 1·4394793 | 1·7712486 |
| 74 | 1·7802995 | 2·1354338 | 74 | 1·5929730 | 1·9346752 | 74 | 1·3945577 | 1·7227474 |
| 75 | 1·7321722 | 2·0830216 | 75 | 1·5448457 | 1·8825086 | 75 | 1·3464304 | 1·6708320 |
| 76 | 1·6805948 | 2·0269364 | 76 | 1·4932683 | 1·8266792 | 76 | 1·2948530 | 1·6152608 |
| 77 | 1·6253129 | 1·9669260 | 77 | 1·4379864 | 1·7669338 | 77 | 1·2395711 | 1·5557823 |
| 78 | 1·5660615 | 1·9027310 | 78 | 1·3787350 | 1·7030092 | 78 | 1·1803197 | 1·4921343 |
| 79 | 1·5025654 | 1·8340791 | 79 | 1·3152389 | 1·6346365 | 79 | 1·1168236 | 1·4240416 |
| 80 | 1·4345390 | 1·7606923 | 80 | 1·2472125 | 1·5615331 | 80 | 1·0487972 | 1·3512279 |
| 81 | 1·3616864 | 1·6822814 | 81 | 1·1743599 | 1·4834118 | 81 | 0·9759446 | 1·2733995 |
| 82 | 1·2837013 | 1·5985454 | 82 | 1·0963748 | 1·3999730 | 82 | 0·8979595 | 1·1902588 |
| 83 | 1·2002674 | 1·5091797 | 83 | 1·0129409 | 1·3109035 | 83 | 0·8145256 | 1·1014962 |
| 84 | 1·1110576 | 1·4138678 | 84 | 0·9237311 | 1·2158912 | 84 | 0·7253158 | 1·0067826 |
| 85 | 1·0157348 | 1·3122832 | 85 | 0·8284083 | 1·1146110 | 85 | 0·6299930 | 0·9058067 |
| 86 | 0·9139514 | 1·2040847 | 86 | 0·7266249 | 1·0067227 | 86 | 0·5282096 | 0·7982293 |
| 87 | 0·8053496 | 1·0889224 | 87 | 0·6180231 | 0·8918774 | 87 | 0·4196078 | 0·6837043 |
| 88 | 0·6895612 | 0·9664562 | 88 | 0·5022347 | 0·7697022 | 88 | 0·3038194 | 0·5618524 |
| 89 | 0·5662078 | 0·8363051 | 89 | 0·3788813 | 0·6398748 | 89 | 0·1804660 | 0·4322957 |
| 90 | 0·4349003 | 0·6981005 | 90 | 0·2475738 | 0·5019625 | 90 | 0·0491585 | 0·2947307 |
| 91 | 0·2952398 | 0·5514622 | 91 | 0·1079133 | 0·3556239 | 91 | 9·9094980 | 0·1486643 |
| 92 | 0·1468167 | 0·3959900 | 92 | 9·9594902 | 0·2004674 | 92 | 9·7610749 | $\bar{1}$·9937888 |
| 93 | 9·9892112 | 0·2312656 | 93 | 9·8018847 | 0·0360697 | 93 | 9·6034694 | $\bar{1}$·8297539 |
| 94 | 9·8219931 | 0·0568668 | 94 | 9·6346666 | $\bar{1}$·8619524 | 94 | 9·4362513 | $\bar{1}$·6560023 |
| 95 | 9·6447220 | $\bar{1}$·8723894 | 95 | 9·4573955 | $\bar{1}$·6777894 | 95 | 9·2589802 | $\bar{1}$·4720247 |
| 96 | 9·4569471 | $\bar{1}$·6774244 | 96 | 9·2696206 | $\bar{1}$·4830164 | 96 | 9·0712053 | $\bar{1}$·2776092 |
| 97 | 9·2582072 | $\bar{1}$·4715851 | 97 | 9·0708807 | $\bar{1}$·2773800 | 97 | 8·8724654 | $\bar{1}$·0722499 |
| 98 | 9·0480309 | $\bar{1}$·2540645 | 98 | 8·8607044 | $\bar{1}$·0606978 | 98 | 8·6622891 | $\bar{2}$·8555192 |
| 99 | 8·8259365 | $\bar{1}$·0253059 | 99 | 8·6386100 | $\bar{2}$·8312297 | 99 | 8·4401947 | $\bar{2}$·6273659 |
| 100 | 8·5914317 | $\bar{2}$·7817554 | 100 | 8·4041052 | $\bar{2}$·5910646 | 100 | 8·2056899 | $\bar{2}$·3856063 |
| 101 | 8·3440142 | $\bar{2}$·5263393 | 101 | 8·1566877 | $\bar{2}$·3324385 | 101 | 7·9582724 | $\bar{2}$·1335389 |
| 102 | 8·0831712 | $\bar{2}$·2576786 | 102 | 7·8958447 | $\bar{2}$·0606978 | 102 | 7·6974294 | $\bar{3}$·8573325 |
| 103 | 7·8083796 | $\bar{3}$·9637878 | 103 | 7·6210531 | $\bar{3}$·7781513 | 103 | 7·4226378 | $\bar{3}$·5563025 |
| 104 | 7·5191060 | $\bar{3}$·6434527 | 104 | 7·3317795 | $\bar{3}$·4471580 | 104 | 7·1333642 | $\bar{3}$·2552725 |
| 105 | 7·2148066 | | 105 | 7·0274801 | | 105 | 6·8290648 | |
| 106 | 6·8949274 | | 106 | 6·7076009 | | 106 | 6·5091856 | |
| 107 | 6·5589040 | | 107 | 6·3715775 | | 107 | 6·1731622 | |
| 108 | 6·2061617 | | 108 | 6·0188352 | | 108 | 5·8204199 | |
| 109 | 5·8361154 | | 109 | 5·6487889 | | 109 | 5·4503736 | |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| **Age** of **Female** ($y$) | 99 | | | 100 | | | 101 | |
|---|---|---|---|---|---|---|---|---|
| **Age** of **Male** ($x$) | λ $D_{x,\,99}$ | λ $N_{x,\,99}$ | **Age** of **Male** ($x$) | λ $D_{x,\,100}$ | λ $N_{x,\,100}$ | **Age** of **Male** ($x$) | λ $D_{x,\,101}$ | λ $N_{x,\,101}$ |
| 0 | 2·4473521 | 2·7559693 | 0 | 2·2252916 | 2·5175575 | 0 | 1·9906531 | 2·2643945 |
| 1 | 2·3633499 | 2·7021909 | 1 | 2·1412894 | 2·4623965 | 1 | 1·9066509 | 2·2075819 |
| 2 | 2·3280690 | 2·6762134 | 2 | 2·1060085 | 2·4359415 | 2 | 1·8713700 | 2·1805550 |
| 3 | 2·3059557 | 2·6581880 | 3 | 2·0838952 | 2·4176825 | 3 | 1·8492567 | 2·1620118 |
| 4 | 2·2890540 | 2·6436086 | 4 | 2·0669935 | 2·4029557 | 4 | 1·8323550 | 2·1471109 |
| 5 | 2·2748266 | 2·6309788 | 5 | 2·0527661 | 2·3902249 | 5 | 1·8181276 | 2·1342572 |
| 6 | 2·2624654 | 2·6196807 | 6 | 2·0404049 | 2·3788555 | 6 | 1·8057664 | 2·1228029 |
| 7 | 2·2513219 | 2·6092678 | 7 | 2·0292614 | 2·3683929 | 7 | 1·7946229 | 2·1122759 |
| 8 | 2·2409077 | 2·5994671 | 8 | 2·0188472 | 2·3585516 | 8 | 1·7842087 | 2·1023881 |
| 9 | 2·2311603 | 2·5901695 | 9 | 2·0090998 | 2·3492290 | 9 | 1·7744613 | 2·0930328 |
| 10 | 2·2219251 | 2·5812349 | 10 | 1·9998646 | 2·3402816 | 10 | 1·7652261 | 2·0840674 |
| 11 | 2·2130606 | 2·5725382 | 11 | 1·9910001 | 2·3315817 | 11 | 1·7563616 | 2·0753619 |
| 12 | 2·2044386 | 2·5639649 | 12 | 1·9823781 | 2·3230152 | 12 | 1·7477396 | 2·0668002 |
| 13 | 2·1959441 | 2·5554174 | 13 | 1·9738836 | 2·3144803 | 13 | 1·7392451 | 2·0582802 |
| 14 | 2·1874752 | 2·5468054 | 14 | 1·9654147 | 2·3058898 | 14 | 1·7307762 | 2·0497114 |
| 15 | 2·1789434 | 2·5380582 | 15 | 1·9568829 | 2·2971681 | 15 | 1·7222444 | 2·0410187 |
| 16 | 2·1702731 | 2·5291196 | 16 | 1·9482126 | 2·2882542 | 16 | 1·7135741 | 2·0321374 |
| 17 | 2·1614023 | 2·5199435 | 17 | 1·9393418 | 2·2791046 | 17 | 1·7047033 | 2·0230186 |
| 18 | 2·1522818 | 2·5105102 | 18 | 1·9302213 | 2·2696925 | 18 | 1·6955828 | 2·0136338 |
| 19 | 2·1428760 | 2·5008126 | 19 | 1·9208155 | 2·2600132 | 19 | 1·6861770 | 2·0039760 |
| 20 | 2·1331622 | 2·4908739 | 20 | 1·9111017 | 2·2500881 | 20 | 1·6764632 | 1·9940659 |
| 21 | 2·1231310 | 2·4807527 | 21 | 1·9010705 | 2·2399751 | 21 | 1·6664320 | 1·9839622 |
| 22 | 2·1130194 | 2·4705546 | 22 | 1·8909589 | 2·2297839 | 22 | 1·6563204 | 1·9737797 |
| 23 | 2·1028301 | 2·4602783 | 23 | 1·8807696 | 2·2195159 | 23 | 1·6461311 | 1·9635215 |
| 24 | 2·0925649 | 2·4499271 | 24 | 1·8705044 | 2·2091729 | 24 | 1·6358659 | 1·9531869 |
| 25 | 2·0822248 | 2·4395001 | 25 | 1·8601643 | 2·1987544 | 25 | 1·6255258 | 1·9427777 |
| 26 | 2·0718099 | 2·4289960 | 26 | 1·8497494 | 2·1882589 | 26 | 1·6151109 | 1·9322931 |
| 27 | 2·0613195 | 2·4184156 | 27 | 1·8392590 | 2·1776866 | 27 | 1·6046205 | 1·9217297 |
| 28 | 2·0507520 | 2·4077528 | 28 | 1·8286915 | 2·1670339 | 28 | 1·5940530 | 1·9110872 |
| 29 | 2·0401052 | 2·3970061 | 29 | 1·8180447 | 2·1562974 | 29 | 1·5834062 | 1·9003628 |
| 30 | 2·0293758 | 2·3861742 | 30 | 1·8073153 | 2·1454742 | 30 | 1·5726768 | 1·8895504 |
| 31 | 2·0185598 | 2·3752465 | 31 | 1·7964993 | 2·1345580 | 31 | 1·5618608 | 1·8786476 |
| 32 | 2·0076523 | 2·3642226 | 32 | 1·7855918 | 2·1235446 | 32 | 1·5509533 | 1·8676460 |
| 33 | 1·9966476 | 2·3530898 | 33 | 1·7745871 | 2·1124257 | 33 | 1·5399486 | 1.8565428 |
| 34 | 1·9855392 | 2·3418459 | 34 | 1·7634787 | 2·1011953 | 34 | 1·5288402 | 1·8453269 |
| 35 | 1·9743197 | 2·3304808 | 35 | 1·7522592 | 2·0898448 | 35 | 1·5176207 | 1·8339926 |
| 36 | 1·9629809 | 2·3189849 | 36 | 1·7409204 | 2·0783650 | 36 | 1·5062819 | 1·8225310 |
| 37 | 1·9515137 | 2·3073493 | 37 | 1·7294532 | 2·0667455 | 37 | 1·4948147 | 1·8109311 |
| 38 | 1·9399083 | 2·2955620 | 38 | 1·7178478 | 2·0549772 | 38 | 1·4832093 | 1·7991820 |
| 39 | 1·9281539 | 2·2836121 | 39 | 1·7060934 | 2·0430466 | 39 | 1·4714549 | 1·7872748 |
| 40 | 1·9162391 | 2·2714866 | 40 | 1·6941786 | 2·0309424 | 40 | 1·4595401 | 1·7751938 |
| 41 | 1·9041514 | 2·2591731 | 41 | 1·6820909 | 2·0186507 | 41 | 1·4474524 | 1·7629283 |
| 42 | 1·8918776 | 2·2466566 | 42 | 1·6698171 | 2·0061583 | 42 | 1·4351786 | 1·7504621 |
| 43 | 1·8794036 | 2·2339230 | 43 | 1·6573431 | 1·9934504 | 43 | 1·4227046 | 1·7377832 |
| 44 | 1·8667147 | 2·2209554 | 44 | 1·6446542 | 1·9805106 | 44 | 1·4100157 | 1·7248752 |
| 45 | 1·8537950 | 2·2077378 | 45 | 1·6317345 | 1·9673224 | 45 | 1·3970960 | 1·7117204 |
| 46 | 1·8406280 | 2·1942503 | 46 | 1·6185675 | 1·9538684 | 46 | 1·3839290 | 1·6983016 |
| 47 | 1·8271963 | 2·1804709 | 47 | 1·6051358 | 1·9401263 | 47 | 1·3704973 | 1·6846012 |
| 48 | 1·8134817 | 2·1663760 | 48 | 1·5914212 | 1·9260701 | 48 | 1·3567827 | 1·6705928 |
| 49 | 1·7994651 | 2·1519322 | 49 | 1·5774046 | 1·9116721 | 49 | 1·3427661 | 1·6562430 |
| 50 | 1·7851267 | 2·1370992 | 50 | 1·5630662 | 1·8968871 | 50 | 1·3284277 | 1·6415158 |
| 51 | 1·7704457 | 2·1218184 | 51 | 1·5483852 | 1·8816585 | 51 | 1·3137467 | 1·6263445 |
| 52 | 1·7551560 | 2·1060075 | 52 | 1·5330955 | 1·8658972 | 52 | 1·2984570 | 1·6106421 |
| 53 | 1·7394215 | 2·0897235 | 53 | 1·5173610 | 1·8496675 | 53 | 1·2827225 | 1·5944721 |
| 54 | 1·7232249 | 2·0729381 | 54 | 1·5011644 | 1·8329411 | 54 | 1·2665259 | 1·5778123 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 99 | | | 100 | | | 101 | |
|---|---|---|---|---|---|---|---|---|
| Age of Male ($x$) | λ $D_{x,\,99}$ | λ $N_{x,\,99}$ | Age of Male ($x$) | λ $D_{x,\,100}$ | λ $N_{x,\,100}$ | Age of Male ($x$) | λ $D_{x,\,101}$ | λ $N_{x,\,101}$ |
| 55 | 1·7065390 | 2·0556123 | 55 | 1·4844785 | 1·8156800 | 55 | 1·2498400 | 1·5606239 |
| 56 | 1·6893261 | 2·0376974 | 56 | 1·4672656 | 1·7978365 | 56 | 1·2326271 | 1·5428616 |
| 57 | 1·6715381 | 2·0191362 | 57 | 1·4494776 | 1·7793518 | 57 | 1·2148391 | 1·5244649 |
| 58 | 1·6531166 | 1·9998584 | 58 | 1·4310561 | 1·7601608 | 58 | 1·1964176 | 1·5053698 |
| 59 | 1·6339930 | 1·9797832 | 59 | 1·4119325 | 1·7401834 | 59 | 1·1772940 | 1·4855000 |
| 60 | 1·6140882 | 1·9588242 | 60 | 1·3920277 | 1·7193280 | 60 | 1·1573892 | 1·4647681 |
| 61 | 1·5933129 | 1·9368805 | 61 | 1·3712524 | 1·6975013 | 61 | 1·1366139 | 1·4430689 |
| 62 | 1·5715674 | 1·9138445 | 62 | 1·3495069 | 1·6745911 | 62 | 1·1148684 | 1·4203057 |
| 63 | 1·5487417 | 1·8895947 | 63 | 1·3266812 | 1·6504814 | 63 | 1·0920427 | 1·3963528 |
| 64 | 1·5247155 | 1·8640035 | 64 | 1·3026550 | 1·6250407 | 64 | 1·0680165 | 1·3710863 |
| 65 | 1·4993581 | 1·8369320 | 65 | 1·2772976 | 1·5981325 | 65 | 1·0426591 | 1·3443648 |
| 66 | 1·4725285 | 1·8082305 | 66 | 1·2504680 | 1·5696080 | 66 | 1·0158295 | 1·3160438 |
| 67 | 1·4440754 | 1·7777421 | 67 | 1·2220149 | 1·5393083 | 67 | 0·9873764 | 1·2859622 |
| 68 | 1·4138373 | 1·7452989 | 68 | 1·1917768 | 1·5070662 | 68 | 0·9571383 | 1·2539556 |
| 69 | 1·3816420 | 1·7107197 | 69 | 1·1595815 | 1·4727068 | 69 | 0·9249430 | 1·2198412 |
| 70 | 1·3473074 | 1·6738196 | 70 | 1·1252469 | 1·4360354 | 70 | 0·8906084 | 1·1834435 |
| 71 | 1·3106408 | 1·6344017 | 71 | 1·0885803 | 1·3968599 | 71 | 0·8539418 | 1·1445493 |
| 72 | 1·2714392 | 1·5922578 | 72 | 1·0493787 | 1·3549723 | 72 | 0·8147402 | 1·1029617 |
| 73 | 1·2294895 | 1·5471764 | 73 | 1·0074290 | 1·3101536 | 73 | 0·7727905 | 1·0584603 |
| 74 | 1·1845679 | 1·4989250 | 74 | 0·9625074 | 1·2621876 | 74 | 0·7278689 | 1·0108129 |
| 75 | 1·1364406 | 1·4472775 | 75 | 0·9143801 | 1·2108266 | 75 | 0·6797416 | 0·9598043 |
| 76 | 1·0848632 | 1·3919790 | 76 | 0·8628027 | 1·1558369 | 76 | 0·6281642 | 0·9051642 |
| 77 | 1·0295813 | 1·3327817 | 77 | 0·8075208 | 1·0969517 | 77 | 0·5728823 | 0·8466587 |
| 78 | 0·9703299 | 1·2694195 | 78 | 0·7482694 | 1·0339100 | 78 | 0·5136309 | 0·7840036 |
| 79 | 0·9068338 | 1·2016265 | 79 | 0·6847733 | 0·9664421 | 79 | 0·4501348 | 0·7169294 |
| 80 | 0·8388074 | 1·1291128 | 80 | 0·6167469 | 0·8942662 | 80 | 0·3821084 | 0·6451471 |
| 81 | 0·7659548 | 1·0515924 | 81 | 0·5438943 | 0·8170892 | 81 | 0·3092558 | 0·5683778 |
| 82 | 0·6879697 | 0·9687630 | 82 | 0·4659092 | 0·7346078 | 82 | 0·2312707 | 0·4863171 |
| 83 | 0·6045358 | 0·8803219 | 83 | 0·3824753 | 0·6465116 | 83 | 0·1478368 | 0·3986517 |
| 84 | 0·5153260 | 0·7859346 | 84 | 0·2932655 | 0·5524857 | 84 | 0·0586270 | 0·3050503 |
| 85 | 0·4200032 | 0·6852669 | 85 | 0·1979427 | 0·4521853 | 85 | 9·9633042 | 0·2051773 |
| 86 | 0·3182198 | 0·5780085 | 86 | 0·0961593 | 0·3452561 | 86 | 9·8615208 | 0·0987129 |
| 87 | 0·2096180 | 0·4638034 | 87 | 9·9875575 | 0·2314186 | 87 | 9·7529190 | $\bar{1}$·9852468 |
| 88 | 0·0938296 | 0·3423042 | 88 | 9·8717691 | 0·1102529 | 88 | 9·6371306 | $\bar{1}$·8645111 |
| 89 | 9·9704762 | 0·2130926 | 89 | 9·7484157 | $\bar{1}$·9814562 | 89 | 9·5137772 | $\bar{1}$·7361574 |
| 90 | 9·8391687 | 0·0757659 | 90 | 9·6171082 | $\bar{1}$·8445393 | 90 | 9·3824697 | $\bar{1}$·5997739 |
| 91 | 9·6995082 | $\bar{1}$·9301336 | 91 | 9·4774477 | $\bar{1}$·6990569 | 91 | 9·2428092 | $\bar{1}$·4548449 |
| 92 | 9·5510851 | $\bar{1}$·7754648 | 92 | 9·3290246 | $\bar{1}$·5450596 | 92 | 9·0943861 | $\bar{1}$·3008128 |
| 93 | 9·3934796 | $\bar{1}$·6116171 | 93 | 9·1714191 | $\bar{1}$·3812956 | 93 | 8·9367806 | $\bar{1}$·1383027 |
| 94 | 9·2262615 | $\bar{1}$·4383841 | 94 | 9·0042010 | $\bar{1}$·2081725 | 94 | 8·7695625 | $\bar{2}$·9647309 |
| 95 | 9·0489904 | $\bar{1}$·2547897 | 95 | 8·8269299 | $\bar{1}$·0253059 | 95 | 8·5922914 | $\bar{2}$·7817254 |
| 96 | 8·8612155 | $\bar{1}$·0606978 | 96 | 8·6391550 | $\bar{2}$·8318698 | 96 | 8·4045165 | $\bar{2}$·5899496 |
| 97 | 8·6624756 | $\bar{2}$·8555192 | 97 | 8·4404151 | $\bar{2}$·6273659 | 97 | 8·2057766 | $\bar{2}$·3856062 |
| 98 | 8·4522993 | $\bar{2}$·6384893 | 98 | 8·2302388 | $\bar{2}$·4099331 | 98 | 7·9956003 | $\bar{2}$·1702617 |
| 99 | 8·2302049 | $\bar{2}$·4099331 | 99 | 8·0081444 | $\bar{2}$·1818436 | 99 | 7·7735059 | $\bar{3}$·9395193 |
| 100 | 7·9957001 | $\bar{2}$·1702617 | 100 | 7·7736396 | $\bar{3}$·9395193 | 100 | 7·5390011 | $\bar{3}$·6989700 |
| 101 | 7·7482826 | $\bar{3}$·9138139 | 101 | 7·5262221 | $\bar{3}$·6901961 | 101 | 7·2915836 | $\bar{3}$·4471580 |
| 102 | 7·4874396 | $\bar{3}$·6532125 | 102 | 7·2653791 | $\bar{3}$·4149733 | 102 | 7·0307406 | $\bar{3}$·1760913 |
| 103 | 7·2126480 | $\bar{3}$·3424227 | 103 | 6·9905875 | $\bar{3}$·1461280 | 103 | 6·7559490 | $\bar{4}$·9030900 |
| 104 | 6·9233744 | $\bar{3}$·0000000 | 104 | 6·7013139 | $\bar{4}$·7781513 | 104 | 6·4666754 | $\bar{4}$·6020600 |
| 105 | 6·6190750 | | 105 | 6·3970145 | | 105 | 6·1623760 | |
| 106 | 6·2991958 | | 106 | 6·0771353 | | 106 | 5·8424968 | |
| 107 | 5·9631724 | | 107 | 5·7411119 | | 107 | 5·5064734 | |
| 108 | 5·6104301 | | 108 | 5·3883696 | | 108 | 5·1537311 | |
| 109 | 5·2403838 | | 109 | 5·0183233 | | 109 | 4·7836848 | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of Female ($y$) | 102 | | 103 | | | 104 | | |
|---|---|---|---|---|---|---|---|---|
| **Age of Male** ($x$) | $\lambda\ D_{x,\ 102}$ | $\lambda\ N_{x,\ 102}$ | **Age of Male** ($x$) | $\lambda\ D_{x,\ 103}$ | $\lambda\ N_{x,\ 103}$ | **Age of Male** ($x$) | $\lambda\ D_{x,\ 104}$ | $\lambda\ N_{x,\ 104}$ |
| 0 | 1·7429183 | 1·9932674 | 0 | 1·4815580 | 1.6973279 | 0 | 1·2060322 | 1·3590629 |
| 1 | 1·6589161 | 1·9342454 | 1 | 1·3975558 | 1·6348509 | 1 | 1·1220300 | 1·2901081 |
| 2 | 1·6236352 | 1·9064525 | 2 | 1·3622749 | 1·6058974 | 2 | 1·0867491 | 1·2590967 |
| 3 | 1·6015219 | 1·8875301 | 3 | 1·3401616 | 1·5864129 | 3 | 1·0646358 | 1·2386983 |
| 4 | 1·5846202 | 1·8723987 | 4 | 1·3232599 | 1·5709397 | 4 | 1·0477341 | 1·2226827 |
| 5 | 1·5703928 | 1·8593863 | 5 | 1·3090325 | 1·5576996 | 5 | 1·0335067 | 1·2090751 |
| 6 | 1·5580316 | 1·8478193 | 6 | 1·2966713 | 1·5459772 | 6 | 1·0211455 | 1·1971179 |
| 7 | 1·5468881 | 1·8372101 | 7 | 1·2855278 | 1·5352485 | 7 | 1·0100020 | 1·1862187 |
| 8 | 1·5364739 | 1·8272562 | 8 | 1·2751136 | 1·5252016 | 8 | 0·9995878 | 1·1760246 |
| 9 | 1·5267265 | 1·8178561 | 9 | 1·2653662 | 1·5157308 | 9 | 0·9898404 | 1·1664508 |
| 10 | 1·5174913 | 1·8088629 | 10 | 1·2561310 | 1·5066944 | 10 | 0·9806052 | 1·1573359 |
| 11 | 1·5086268 | 1·8001470 | 11 | 1·2472665 | 1·4979547 | 11 | 0·9717407 | 1·1485533 |
| 12 | 1·5000048 | 1·7915882 | 12 | 1·2386445 | 1·4893945 | 12 | 0·9631187 | 1·1399735 |
| 13 | 1·4915103 | 1·7830821 | 13 | 1·2301500 | 1·4809019 | 13 | 0·9546242 | 1·1314903 |
| 14 | 1·4830414 | 1·7745382 | 14 | 1·2216811 | 1·4723834 | 14 | 0·9461553 | 1·1230018 |
| 15 | 1·4745096 | 1·7658778 | 15 | 1·2131493 | 1·4637617 | 15 | 0·9376235 | 1·1144208 |
| 16 | 1·4658393 | 1·7570360 | 16 | 1·2044790 | 1·4549668 | 16 | 0·9289532 | 1·1056839 |
| 17 | 1·4569685 | 1·7479608 | 17 | 1·1956082 | 1·4459450 | 17 | 0·9200824 | 1·0967294 |
| 18 | 1·4478480 | 1·7386125 | 18 | 1·1864877 | 1·4366555 | 18 | 0·9109619 | 1·0875117 |
| 19 | 1·4384422 | 1·7289833 | 19 | 1·1770819 | 1·4270688 | 19 | 0·9015561 | 1·0780071 |
| 20 | 1·4287284 | 1·7190917 | 20 | 1·1673681 | 1·4172042 | 20 | 0·8918423 | 1·0681859 |
| 21 | 1·4186972 | 1·7089993 | 21 | 1·1573369 | 1·4071257 | 21 | 0·8818111 | 1·0581298 |
| 22 | 1·4085856 | 1·6988284 | 22 | 1·1472253 | 1·3969696 | 22 | 0·8716995 | 1·0479910 |
| 23 | 1·3983963 | 1·6885800 | 23 | 1·1370360 | 1·3867361 | 23 | 0·8615102 | 1·0377770 |
| 24 | 1·3881311 | 1·6782579 | 24 | 1·1267708 | 1·3764255 | 24 | 0·8512450 | 1·0274842 |
| 25 | 1·3777910 | 1·6678591 | 25 | 1·1164307 | 1·3660436 | 25 | 0·8409049 | 1·0171168 |
| 26 | 1·3673761 | 1·6573858 | 26 | 1·1060158 | 1·3555837 | 26 | 0·8304900 | 1·0066799 |
| 27 | 1·3568857 | 1·6468359 | 27 | 1·0955254 | 1·3450481 | 27 | 0·8199996 | 0·9961613 |
| 28 | 1·3463182 | 1·6362050 | 28 | 1·0849579 | 1·3344356 | 28 | 0·8094321 | 0·9855702 |
| 29 | 1·3356714 | 1·6254926 | 29 | 1·0743111 | 1·3237388 | 29 | 0·7987853 | 0·9748984 |
| 30 | 1·3249420 | 1·6146958 | 30 | 1·0635817 | 1·3129576 | 30 | 0·7880559 | 0·9641370 |
| 31 | 1·3141260 | 1·6038067 | 31 | 1·0527657 | 1·3020884 | 31 | 0·7772399 | 0·9532908 |
| 32 | 1·3032185 | 1·5928227 | 32 | 1·0418582 | 1·2911223 | 32 | 0·7663324 | 0·9423504 |
| 33 | 1·2922138 | 1·5817335 | 33 | 1·0308535 | 1·2800591 | 33 | 0·7553277 | 0·9313104 |
| 34 | 1·2811054 | 1·5705383 | 34 | 1·0197451 | 1·2688798 | 34 | 0·7442193 | 0·9201703 |
| 35 | 1·2698859 | 1·5592229 | 35 | 1·0085256 | 1·2575922 | 35 | 0·7329998 | 0·9089030 |
| 36 | 1·2585471 | 1·5477809 | 36 | 0·9971868 | 1·2461759 | 36 | 0·7216610 | 0·8975281 |
| 37 | 1·2470799 | 1·5362048 | 37 | 0·9857196 | 1·2346261 | 37 | 0·7101938 | 0·8860110 |
| 38 | 1·2354745 | 1·5244805 | 38 | 0·9741142 | 1·2229349 | 38 | 0·6985884 | 0·8743542 |
| 39 | 1·2237201 | 1·5125977 | 39 | 0·9623598 | 1·2110831 | 39 | 0·6868340 | 0·8625488 |
| 40 | 1·2118053 | 1·5005480 | 40 | 0·9504450 | 1·1990665 | 40 | 0·6749192 | 0·8505727 |
| 41 | 1·1997176 | 1·4883109 | 41 | 0·9383573 | 1·1868716 | 41 | 0·6628315 | 0·8384272 |
| 42 | 1·1874438 | 1·4758789 | 42 | 0·9260835 | 1·1744785 | 42 | 0·6505577 | 0·8260878 |
| 43 | 1·1749698 | 1·4632328 | 43 | 0·9136095 | 1·1618769 | 43 | 0·6380837 | 0·8135410 |
| 44 | 1·1622809 | 1·4503615 | 44 | 0·9009206 | 1·1490497 | 44 | 0·6253948 | 0·8007789 |
| 45 | 1·1493612 | 1·4372478 | 45 | 0·8880009 | 1·1359845 | 45 | 0·6124751 | 0·7877721 |
| 46 | 1·1361942 | 1·4238715 | 46 | 0·8748339 | 1·1226647 | 46 | 0·5993081 | 0·7745170 |
| 47 | 1·1227625 | 1·4102169 | 47 | 0·8614022 | 1·1090653 | 47 | 0·5858764 | 0·7609951 |
| 48 | 1·1090479 | 1·3962639 | 48 | 0·8476876 | 1·0951729 | 48 | 0·5721618 | 0·7471787 |
| 49 | 1·0950313 | 1·3819774 | 49 | 0·8336710 | 1·0809654 | 49 | 0·5581452 | 0·7330527 |
| 50 | 1·0806929 | 1·3673130 | 50 | 0·8193326 | 1·0663930 | 50 | 0·5438068 | 0·7186013 |
| 51 | 1·0660119 | 1·3522172 | 51 | 0·8046516 | 1·0513803 | 51 | 0·5291258 | 0·7037212 |
| 52 | 1·0507222 | 1·3365818 | 52 | 0·7893619 | 1·0358378 | 52 | 0·5138361 | 0·6882774 |
| 53 | 1·0349877 | 1·3204869 | 53 | 0·7736274 | 1·0198305 | 53 | 0·4981016 | 0·6724027 |
| 54 | 1·0187911 | 1·3039042 | 54 | 0·7574308 | 1·0033485 | 54 | 0·4819050 | 0·6560407 |

## JOINT LIVES :—Male and Female Life.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| **Age** of **Female** ($y$) | 102 | | | 103 | | | 104 | |
|---|---|---|---|---|---|---|---|---|
| **Age** of **Male** ($x$) | $\lambda\ D_{x,\,102}$ | $\lambda\ N_{x,\,102}$ | **Age** of **Male** ($x$) | $\lambda\ D_{x,\,103}$ | $\lambda\ N_{x,\,103}$ | **Age** of **Male** ($x$) | $\lambda\ D_{x,\,104}$ | $\lambda\ N_{x,\,104}$ |
| 55 | 1·0021052 | 1·2868022 | 55 | 0·7407449 | 0·9863507 | 55 | 0·4652191 | 0·6391776 |
| 56 | 0·9848923 | 1·2691345 | 56 | 0·7235320 | 0·9688004 | 56 | 0·4480062 | 0·6217785 |
| 57 | 0·9671043 | 1·2508444 | 57 | 0·7057440 | 0·9506423 | 57 | 0·4302182 | 0·6037829 |
| 58 | 0·9486828 | 1·2318645 | 58 | 0·6873225 | 0·9318086 | 58 | 0·4117967 | 0·5851335 |
| 59 | 0·9295592 | 1·2121210 | 59 | 0·6681989 | 0·9122221 | 59 | 0·3926731 | 0·5657534 |
| 60 | 0·9096544 | 1·1915292 | 60 | 0·6482941 | 0·8918050 | 60 | 0·3727683 | 0·5455545 |
| 61 | 0·8888791 | 1·1699946 | 61 | 0·6275188 | 0·8704624 | 61 | 0·3519930 | 0·5244610 |
| 62 | 0·8671336 | 1·1473980 | 62 | 0·6057733 | 0·8480905 | 62 | 0·3302475 | 0·5023588 |
| 63 | 0·8443079 | 1·1236394 | 63 | 0·5829476 | 0·8245619 | 63 | 0·3074218 | 0·4791577 |
| 64 | 0·8202817 | 1·0985780 | 64 | 0·5589214 | 0·7997677 | 64 | 0·2833956 | 0·4546772 |
| 65 | 0·7949243 | 1·0720881 | 65 | 0·5335640 | 0·7735597 | 65 | 0·2580382 | 0·4288472 |
| 66 | 0·7680947 | 1·0440104 | 66 | 0·5067344 | 0·7458006 | 66 | 0·2312086 | 0·4014867 |
| 67 | 0·7396416 | 1·0141970 | 67 | 0·4782813 | 0·7163206 | 67 | 0·2027555 | 0·3724701 |
| 68 | 0·7094035 | 0·9824748 | 68 | 0·4480432 | 0·6849710 | 68 | 0·1725174 | 0·3415928 |
| 69 | 0·6772082 | 0·9486721 | 69 | 0·4158479 | 0·6515591 | 69 | 0·1403221 | 0·3087138 |
| 70 | 0·6428736 | 0·9125940 | 70 | 0·3815133 | 0·6159185 | 70 | 0·1059875 | 0·2736262 |
| 71 | 0·6062070 | 0·8740583 | 71 | 0·3448467 | 0·5778249 | 71 | 0·0693209 | 0·2361592 |
| 72 | 0·5670054 | 0·8328409 | 72 | 0·3056451 | 0·5371010 | 72 | 0·0301193 | 0·1960656 |
| 73 | 0·5250557 | 0·7887339 | 73 | 0·2636954 | 0·4935138 | 73 | 9·9881696 | 0·1531744 |
| 74 | 0·4801341 | 0·7415061 | 74 | 0·2187738 | 0·4468322 | 74 | 9·9432480 | 0·1072439 |
| 75 | 0·4320068 | 0·6909134 | 75 | 0·1706465 | 0·3968268 | 75 | 9·8951207 | 0·0580462 |
| 76 | 0·3804294 | 0·6367386 | 76 | 0·1190691 | 0·3432313 | 76 | 9·8435433 | 0·0053092 |
| 77 | 0·3251475 | 0·5786965 | 77 | 0·0637872 | 0·2858497 | 77 | 9·7882614 | $\bar{1}$·9487552 |
| 78 | 0·2658961 | 0·5165486 | 78 | 0·0045358 | 0·2243517 | 78 | 9·7290100 | $\bar{1}$·8882357 |
| 79 | 0·2024000 | 0·4499872 | 79 | 9·9410397 | 0·1585133 | 79 | 9·6655139 | $\bar{1}$·8233438 |
| 80 | 0·1343736 | 0·3787249 | 80 | 9·8730133 | 0·0879943 | 80 | 9·5974875 | $\bar{1}$·7538893 |
| 81 | 0·0615210 | 0·3024825 | 81 | 9·8001607 | 0·0124998 | 81 | 9·5246349 | $\bar{1}$·6795187 |
| 82 | 9·9835359 | 0·2209706 | 82 | 9·7221756 | $\bar{1}$·9317121 | 82 | 9·4466498 | $\bar{1}$·5998831 |
| 83 | 9·9001020 | 0·1338581 | 83 | 9·6387417 | $\bar{1}$·8454081 | 83 | 9·3632159 | $\bar{1}$·5146805 |
| 84 | 9·8108922 | 0·0408396 | 84 | 9·5495319 | $\bar{1}$·7531999 | 84 | 9·2740061 | $\bar{1}$·4235735 |
| 85 | 9·7155694 | $\bar{1}$·9415611 | 85 | 9·4542091 | $\bar{1}$·6547539 | 85 | 9·1786833 | $\bar{1}$·3265407 |
| 86 | 9·6137860 | $\bar{1}$·8356272 | 86 | 9·3524257 | $\bar{1}$·5497387 | 86 | 9·0768999 | $\bar{1}$·2227165 |
| 87 | 9·5051842 | $\bar{1}$·7227984 | 87 | 9·2438239 | $\bar{1}$·4377506 | 87 | 8·9682981 | $\bar{1}$·1122698 |
| 88 | 9·3893958 | $\bar{1}$·6026025 | 88 | 9·1280355 | $\bar{1}$·3184807 | 88 | 8·8525097 | $\bar{2}$·9943172 |
| 89 | 9·2660424 | $\bar{1}$·4747988 | 89 | 9·0046821 | $\bar{1}$·1914510 | 89 | 8·7291563 | $\bar{2}$·8686444 |
| 90 | 9·1347349 | $\bar{1}$·3390537 | 90 | 8·8733746 | $\bar{1}$·0565237 | 90 | 8·5978488 | $\bar{2}$·7347998 |
| 91 | 8·9950744 | $\bar{1}$·1947918 | 91 | 8·7337141 | $\bar{2}$·9132839 | 91 | 8·4581883 | $\bar{2}$·5932861 |
| 92 | 8·8466513 | $\bar{1}$·0417873 | 92 | 8·5852910 | $\bar{2}$·7611758 | 92 | 8·3097652 | $\bar{2}$·4424798 |
| 93 | 8·6890458 | $\bar{2}$·8785218 | 93 | 8·4276855 | $\bar{2}$·5998831 | 93 | 8·1521597 | $\bar{2}$·2833012 |
| 94 | 8·5218277 | $\bar{2}$·7075702 | 94 | 8·2604674 | $\bar{2}$·4265113 | 94 | 7·9849416 | $\bar{2}$·1139434 |
| 95 | 8·3445566 | $\bar{2}$·5237465 | 95 | 8·0831963 | $\bar{2}$·2479733 | 95 | 7·8076705 | $\bar{3}$·9294189 |
| 96 | 8·1567817 | $\bar{2}$·3304138 | 96 | 7·8954214 | $\bar{2}$·0530784 | 96 | 7·6198956 | $\bar{3}$·7481880 |
| 97 | 7·9580418 | $\bar{2}$·1303338 | 97 | 7·6966815 | $\bar{3}$·8512583 | 97 | 7·4211557 | $\bar{3}$·5314789 |
| 98 | 7·7478655 | $\bar{3}$·9138139 | 98 | 7·4865052 | $\bar{3}$·6434527 | 98 | 7·2109794 | $\bar{3}$·3222193 |
| 99 | 7·5257711 | $\bar{3}$·6901961 | 99 | 7·2644108 | $\bar{3}$·4149733 | 99 | 6·9888850 | $\bar{3}$·1139434 |
| 100 | 7·2912663 | $\bar{3}$·4471580 | 100 | 7·0299060 | $\bar{3}$·1760913 | 100 | 6·7543802 | $\bar{4}$·9030900 |
| 101 | 7·0438488 | $\bar{3}$·1760913 | 101 | 6·7824885 | $\bar{4}$·9030900 | 101 | 6·5069627 | $\bar{4}$·6020600 |
| 102 | 6·7830058 | $\bar{4}$·9030900 | 102 | 6·5216455 | $\bar{4}$·6020600 | 102 | 6·2461197 | $\bar{4}$·3010300 |
| 103 | 6·5082142 | $\bar{4}$·6020600 | 103 | 6·2468539 | $\bar{4}$·3010300 | 103 | 5·9713281 | |
| 104 | 6·2189406 | $\bar{4}$·3010300 | 104 | 5·9575803 | | 104 | 5·6820545 | |
| 105 | 5·9146412 | | 105 | 5·6532809 | | 105 | 5·3777551 | |
| 106 | 5·5947620 | | 106 | 5·3334017 | | 106 | 5·0578759 | |
| 107 | 5·2587386 | | 107 | 4·9973783 | | 107 | 4·7218525 | |
| 108 | 4·9059963 | | 108 | 4·6446360 | | 108 | 4·3691102 | |
| 109 | 4·5359500 | | 109 | 4·2745897 | | 109 | 3·9990639 | |

## JOINT LIVES:—Male and Female Life.

### Equal Ages.

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | Equal Ages. | |
| 0 | 0 | 2,498,621 | 32,445,916 |
| 1 | 1 | 1,755,658 | 29,947,295 |
| 2 | 2 | 1,496,171 | 28,191,637 |
| 3 | 3 | 1,351,465 | 26,695,466 |
| 4 | 4 | 1,249,843 | 25,344,001 |
| 5 | 5 | 1,170,744 | 24,094,158 |
| 6 | 6 | 1,106,311 | 22,923,414 |
| 7 | 7 | 1,051,254 | 21,817,103 |
| 8 | 8 | 1,002,107 | 20,765,849 |
| 9 | 9 | 958,071 | 19,763,742 |
| 10 | 10 | 918,037 | 18,805,671 |
| 11 | 11 | 881,106 | 17,887,634 |
| 12 | 12 | 846,555 | 17,006,528 |
| 13 | 13 | 813,801 | 16,159,973 |
| 14 | 14 | 782,387 | 15,346,172 |
| 15 | 15 | 751,958 | 14,563,785 |
| 16 | 16 | 722,251 | 13,811,827 |
| 17 | 17 | 693,084 | 13,089,576 |
| 18 | 18 | 664,342 | 12,396,492 |
| 19 | 19 | 635,969 | 11,732,150 |
| 20 | 20 | 607,960 | 11,096,181 |
| 21 | 21 | 580,350 | 10,488,221 |
| 22 | 22 | 553,766 | 9,907,871 |
| 23 | 23 | 528,192 | 9,354,105 |
| 24 | 24 | 503,604 | 8,825,913 |
| 25 | 25 | 479,981 | 8,322,309 |
| 26 | 26 | 457,295 | 7,842,328 |
| 27 | 27 | 435,520 | 7,385,033 |
| 28 | 28 | 414,627 | 6,949,513 |
| 29 | 29 | 394,589 | 6,534,886 |
| 30 | 30 | 375,375 | 6,140,297 |
| 31 | 31 | 356,957 | 5,764,922 |
| 32 | 32 | 339,304 | 5,407,965 |
| 33 | 33 | 322,389 | 5,068,661 |
| 34 | 34 | 306,181 | 4,746,272 |
| 35 | 35 | 290,653 | 4,440,091 |
| 36 | 36 | 275,778 | 4,149,438 |
| 37 | 37 | 261,529 | 3,873,660 |
| 38 | 38 | 247,880 | 3,612,131 |
| 39 | 39 | 234,807 | 3,364,251 |
| 40 | 40 | 222,286 | 3,129,444 |
| 41 | 41 | 210,293 | 2,907,158 |
| 42 | 42 | 198,808 | 2,696,865 |
| 43 | 43 | 187,809 | 2,498,057 |
| 44 | 44 | 177,277 | 2,310,248 |
| 45 | 45 | 167,194 | 2,132,971 |
| 46 | 46 | 157,541 | 1,965,777 |
| 47 | 47 | 148,303 | 1,808,236 |
| 48 | 48 | 139,463 | 1,659,933 |
| 49 | 49 | 131,007 | 1,520,470 |
| 50 | 50 | 122,922 | 1,389,463 |
| 51 | 51 | 115,195 | 1,266,541 |
| 52 | 52 | 107,752 | 1,151,346 |
| 53 | 53 | 100,638 | 1,043,594 |
| 54 | 54 | 93,846·1 | 942,956·1 |
| 55 | 55 | 87,233·5 | 849,110·0 |
| 56 | 56 | 80,880·5 | 761,876·5 |
| 57 | 57 | 74,786·6 | 680,996·0 |
| 58 | 58 | 68,948·9 | 606,209·4 |
| 59 | 59 | 63,363·5 | 537,260·5 |
| 60 | 60 | 58,025·7 | 473,897·0 |
| 61 | 61 | 52,931·2 | 415,871·3 |
| 62 | 62 | 48,076·7 | 362,940·1 |
| 63 | 63 | 43,459·6 | 314,863·4 |
| 64 | 64 | 39,078·9 | 271,403·8 |
| 65 | 65 | 34,935·1 | 232,324·9 |
| 66 | 66 | 31,029·7 | 197,389·8 |
| 67 | 67 | 27,365·4 | 166,360·1 |
| 68 | 68 | 23,945·8 | 138,994·7 |
| 69 | 69 | 20,774·4 | 115,048·9 |
| 70 | 70 | 17,854·6 | 94,274·5 |
| 71 | 71 | 15,188·8 | 76,419·9 |
| 72 | 72 | 12,777·7 | 61,231·1 |
| 73 | 73 | 10,620·0 | 48,453·4 |
| 74 | 74 | 8,711·74 | 37,833·40 |
| 75 | 75 | 7,045·89 | 29,121·66 |
| 76 | 76 | 5,612·28 | 22,075·77 |
| 77 | 77 | 4,397·61 | 16,463·49 |
| 78 | 78 | 3,385·69 | 12,065·88 |
| 79 | 79 | 2,557·92 | 8,680·19 |
| 80 | 80 | 1,893·99 | 6,122·27 |
| 81 | 81 | 1,372·55 | 4,228·28 |
| 82 | 82 | 972·162 | 2,855·734 |
| 83 | 83 | 672·016 | 1,883·572 |
| 84 | 84 | 452·692 | 1,211·556 |
| 85 | 85 | 296·715 | 758·864 |
| 86 | 86 | 188·929 | 462·149 |
| 87 | 87 | 116·672 | 273·220 |
| 88 | 88 | 69·7611 | 156·5476 |
| 89 | 89 | 40·3164 | 86·7865 |
| 90 | 90 | 22·4801 | 46·4701 |
| 91 | 91 | 12·0715 | 23·9900 |
| 92 | 92 | 6·2310 | 11·9185 |
| 93 | 93 | 3·0857 | 5·6875 |
| 94 | 94 | 1·4631 | 2·6018 |
| 95 | 95 | ·6629 | 1·1387 |
| 96 | 96 | ·2864 | ·4758 |
| 97 | 97 | ·1177 | ·1894 |
| 98 | 98 | ·0460 | ·0717 |
| 99 | 99 | ·0170 | ·0257 |
| 100 | 100 | ·0059 | ·0087 |
| 101 | 101 | ·0020 | ·0028 |
| 102 | 102 | ·0006 | ·0008 |
| 103 | 103 | ·0002 | ·0002 |
| 104 | 104 | ·0000 | ·0000 |
| 105 | 105 | ·0000 | ·0000 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 1 Year older than Female.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ | Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|---|---|---|---|
| *x* | *y* | Male 1 Year older. | | *x* | *y* | Male 1 Year older. | |
| 1 | 0 | 2,059,198 | 31,108,770 | 56 | 55 | 83,843·7 | 802,239·3 |
| 2 | 1 | 1,618,673 | 29,049,572 | 57 | 56 | 77,634·7 | 718,395·6 |
| 3 | 2 | 1,421,897 | 27,430,899 | 58 | 57 | 71,680·7 | 640,760·9 |
| 4 | 3 | 1,299,880 | 26,009,002 | 59 | 58 | 65,978·7 | 569,080·2 |
| 5 | 4 | 1,209,562 | 24,709,122 | 60 | 59 | 60,524·9 | 503,101·5 |
| 6 | 5 | 1,137,891 | 23,499,560 | 61 | 60 | 55,315·3 | 442,576·6 |
| 7 | 6 | 1,078,285 | 22,361,669 | 62 | 61 | 50,346·2 | 387,261·3 |
| 8 | 7 | 1,026,346 | 21,283,384 | 63 | 62 | 45,615·1 | 336,915·1 |
| 9 | 8 | 979,866 | 20,257,038 | 64 | 63 | 41,120·6 | 291,300·0 |
| 10 | 9 | 937,913 | 19,277,172 | 65 | 64 | 36,862·6 | 250,179·4 |
| 11 | 10 | 899,488 | 18,339,259 | 66 | 65 | 32,842·2 | 213,316·8 |
| 12 | 11 | 863,786 | 17,439,771 | 67 | 66 | 29,061·9 | 180,474·6 |
| 13 | 12 | 830,158 | 16,575,985 | 68 | 67 | 25,524·9 | 151,412·7 |
| 14 | 13 | 798,085 | 15,745,827 | 69 | 68 | 22,234·8 | 125,887·8 |
| 15 | 14 | 767,167 | 14,947,742 | 70 | 69 | 19,195·3 | 103,653·0 |
| 16 | 15 | 737,095 | 14,180,575 | 71 | 70 | 16,409·1 | 84,457·7 |
| 17 | 16 | 707,648 | 13,443,480 | 72 | 71 | 13,877·8 | 68,048·6 |
| 18 | 17 | 678,681 | 12,735,832 | 73 | 72 | 11,601·2 | 54,170·8 |
| 19 | 18 | 650,109 | 12,057,151 | 74 | 73 | 9,576·41 | 42,569·62 |
| 20 | 19 | 621,903 | 11,407,042 | 75 | 74 | 7,797·90 | 32,993·21 |
| 21 | 20 | 594,079 | 10,785,139 | 76 | 75 | 6,256·89 | 25,195·31 |
| 22 | 21 | 566,994 | 10,191,060 | 77 | 76 | 4,941·49 | 18,938·42 |
| 23 | 22 | 540,925 | 9,624,066 | 78 | 77 | 3,836·77 | 13,996·93 |
| 24 | 23 | 515,854 | 9,083,141 | 79 | 78 | 2,925·17 | 10,160·16 |
| 25 | 24 | 491,756 | 8,567,287 | 80 | 79 | 2,187·06 | 7,234·99 |
| 26 | 25 | 468,607 | 8,075,531 | 81 | 80 | 1,601·49 | 5,047·93 |
| 27 | 26 | 446,381 | 7,606,924 | 82 | 81 | 1,146·95 | 3,446·44 |
| 28 | 27 | 425,050 | 7,160,543 | 83 | 82 | 802·241 | 2,299·486 |
| 29 | 28 | 404,586 | 6,735,493 | 84 | 83 | 547·230 | 1,497·245 |
| 30 | 29 | 384,960 | 6,330,907 | 85 | 84 | 363·479 | 950·015 |
| 31 | 30 | 366,142 | 5,945,947 | 86 | 85 | 234·723 | 586·536 |
| 32 | 31 | 348,103 | 5,579,805 | 87 | 86 | 147·128 | 351·813 |
| 33 | 32 | 330,815 | 5,231,702 | 88 | 87 | 89·3673 | 204·6850 |
| 34 | 33 | 314,247 | 4,900,887 | 89 | 88 | 52·5121 | 115·3177 |
| 35 | 34 | 298,372 | 4,586,640 | 90 | 89 | 29·7971 | 62·8056 |
| 36 | 35 | 283,163 | 4,288,268 | 91 | 90 | 16·2981 | 33·0085 |
| 37 | 36 | 268,592 | 4,005,105 | 92 | 91 | 8·5771 | 16·7104 |
| 38 | 37 | 254,633 | 3,736,513 | 93 | 92 | 4·3346 | 8·1333 |
| 39 | 38 | 241,261 | 3,481,880 | 94 | 93 | 2·0996 | 3·7987 |
| 40 | 39 | 228,453 | 3,240,619 | 95 | 94 | ·9727 | 1·6991 |
| 41 | 40 | 216,184 | 3,012,166 | 96 | 95 | ·4302 | ·7264 |
| 42 | 41 | 204,433 | 2,795,982 | 97 | 96 | ·1812 | ·2962 |
| 43 | 42 | 193,179 | 2,591,549 | 98 | 97 | ·0726 | ·1150 |
| 44 | 43 | 182,401 | 2,398,370 | 99 | 98 | ·0276 | ·0424 |
| 45 | 44 | 172,081 | 2,215,969 | 100 | 99 | ·0099 | ·0148 |
| 46 | 45 | 162,201 | 2,043,888 | 101 | 100 | ·0034 | ·0049 |
| 47 | 46 | 152,743 | 1,881,687 | 102 | 101 | ·0011 | ·0015 |
| 48 | 47 | 143,692 | 1,728,944 | 103 | 102 | ·0003 | ·0004 |
| 49 | 48 | 135,034 | 1,585,252 | 104 | 103 | ·0001 | ·0001 |
| 50 | 49 | 126,753 | 1,450,218 | 105 | 104 | ·0000 | ·0000 |
| 51 | 50 | 118,836 | 1,323,465 | | | | |
| 52 | 51 | 111,209 | 1,204,629 | | | | |
| 53 | 52 | 103,918 | 1,093,420 | | | | |
| 54 | 53 | 96,954·2 | 989,502·4 | | | | |
| 55 | 54 | 90,308·9 | 892,548·2 | | | | |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 2 Years older than Female.

### Male 105 Years older than Female.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 2 Years older.** | |
| 2 | 0 | 1,898,529 | 30,160,450 |
| 3 | 1 | 1,538,317 | 28,261,921 |
| 4 | 2 | 1,367,623 | 26,723,604 |
| 5 | 3 | 1,257,986 | 25,355,981 |
| 6 | 4 | 1,175,620 | 24,097,995 |
| 7 | 5 | 1,109,065 | 22,922,375 |
| 8 | 6 | 1,052,736 | 21,813,310 |
| 9 | 7 | 1,003,566 | 20,760,574 |
| 10 | 8 | 959,249 | 19,757,008 |
| 11 | 9 | 918,963 | 18,797,759 |
| 12 | 10 | 881,807 | 17,878,796 |
| 13 | 11 | 847,055 | 16,996,989 |
| 14 | 12 | 814,126 | 16,149,934 |
| 15 | 13 | 782,560 | 15,335,808 |
| 16 | 14 | 752,003 | 14,553,248 |
| 17 | 15 | 722,192 | 13,801,245 |
| 18 | 16 | 692,942 | 13,079,053 |
| 19 | 17 | 664,140 | 12,386,111 |
| 20 | 18 | 635,729 | 11,721,971 |
| 21 | 19 | 607,703 | 11,086,242 |
| 22 | 20 | 580,406 | 10,478,539 |
| 23 | 21 | 553,846 | 9,898,133 |
| 24 | 22 | 528,290 | 9,344,287 |
| 25 | 23 | 503,717 | 8,815,997 |
| 26 | 24 | 480,103 | 8,312,280 |
| 27 | 25 | 457,423 | 7,832,177 |
| 28 | 26 | 435,651 | 7,374,754 |
| 29 | 27 | 414,757 | 6,939,103 |
| 30 | 28 | 394,713 | 6,524,346 |
| 31 | 29 | 375,491 | 6,129,633 |
| 32 | 30 | 357,061 | 5,754,142 |
| 33 | 31 | 339,394 | 5,397,081 |
| 34 | 32 | 322,460 | 5,057,687 |
| 35 | 33 | 306,233 | 4,735,227 |
| 36 | 34 | 290,683 | 4,428,994 |
| 37 | 35 | 275,784 | 4,138,311 |
| 38 | 36 | 261,509 | 3,862,527 |
| 39 | 37 | 247,834 | 3,601,018 |
| 40 | 38 | 234,732 | 3,353,184 |
| 41 | 39 | 222,182 | 3,118,452 |
| 42 | 40 | 210,160 | 2,896,270 |
| 43 | 41 | 198,645 | 2,686,110 |
| 44 | 42 | 187,616 | 2,487,465 |
| 45 | 43 | 177,055 | 2,299,849 |
| 46 | 44 | 166,942 | 2,122,794 |
| 47 | 45 | 157,261 | 1,955,852 |
| 48 | 46 | 147,995 | 1,798,591 |
| 49 | 47 | 139,129 | 1,650,596 |
| 50 | 48 | 130,648 | 1,511,467 |
| 51 | 49 | 122,539 | 1,380,819 |
| 52 | 50 | 114,725 | 1,258,280 |
| 53 | 51 | 107,253 | 1,143,555 |
| 54 | 52 | 100,114 | 1,036,302 |
| 55 | 53 | 93,299·8 | 936,188·3 |
| 56 | 54 | 86,799·6 | 842,888·5 |
| 57 | 55 | 80,479·0 | 756,088·9 |
| 58 | 56 | 74,410·5 | 675,609·9 |
| 59 | 57 | 68,592·8 | 601,199·4 |
| 60 | 58 | 63,023·0 | 532,606·6 |
| 61 | 59 | 57,697·7 | 469,583·6 |
| 62 | 60 | 52,613·8 | 411,885·9 |
| 63 | 61 | 47,768·4 | 359,272·1 |
| 64 | 62 | 43,160·1 | 311,503·7 |
| 65 | 63 | 38,788·4 | 268,343·6 |
| 66 | 64 | 34,654·2 | 229,555·2 |
| 67 | 65 | 30,759·5 | 194,901·0 |
| 68 | 66 | 27,107·3 | 164,141·5 |
| 69 | 67 | 23,701·1 | 137,034·2 |
| 70 | 68 | 20,544·7 | 113,333·1 |
| 71 | 69 | 17,641·2 | 92,788·4 |
| 72 | 70 | 14,992·8 | 75,147·2 |
| 73 | 71 | 12,600·0 | 60,154·4 |
| 74 | 72 | 10,461·2 | 47,554·4 |
| 75 | 73 | 8,571·87 | 37,093·21 |
| 76 | 74 | 6,924·68 | 28,521·34 |
| 77 | 75 | 5,509·05 | 21,596·66 |
| 78 | 76 | 4,311·28 | 16,087·61 |
| 79 | 77 | 3,314·89 | 11,776·33 |
| 80 | 78 | 2,501·06 | 8,461·44 |
| 81 | 79 | 1,849·31 | 5,960·38 |
| 82 | 80 | 1,338·25 | 4,111·07 |
| 83 | 81 | 946·476 | 2,772·822 |
| 84 | 82 | 653·273 | 1,826·346 |
| 85 | 83 | 439·387 | 1,173·073 |
| 86 | 84 | 287·539 | 733·686 |
| 87 | 85 | 182·791 | 446·147 |
| 88 | 86 | 112·696 | 263·356 |
| 89 | 87 | 67·2706 | 150·6595 |
| 90 | 88 | 38·8108 | 83·3889 |
| 91 | 89 | 21·6030 | 44·5781 |
| 92 | 90 | 11·5801 | 22·9751 |
| 93 | 91 | 5·9667 | 11·3950 |
| 94 | 92 | 2·9494 | 5·4283 |
| 95 | 93 | 1·3959 | 2·4789 |
| 96 | 94 | ·6313 | 1·0830 |
| 97 | 95 | ·2722 | ·4517 |
| 98 | 96 | ·1117 | ·1795 |
| 99 | 97 | ·0435 | ·0678 |
| 100 | 98 | ·0161 | ·0243 |
| 101 | 99 | ·0056 | ·0082 |
| 102 | 100 | ·0018 | ·0026 |
| 103 | 101 | ·0006 | ·0008 |
| 104 | 102 | ·0002 | ·0002 |
| 105 | 103 | ·0000 | ·0000 |
| **Male 105 Years older.** | | | |
| 105 | 0 | 3·7104 | 3·7104 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 3 Years older than Female.

### Male 104 Years older than Female.

| Ages | | $D_{x,\ y}$ | $N_{x,\ y}$ |
|---|---|---|---|
| $x$ | $y$ | Male 3 Years older. | |
| 3 | 0 | 1,804,280 | 29,334,926 |
| 4 | 1 | 1,479,599 | 27,530,646 |
| 5 | 2 | 1,323,546 | 26,051,047 |
| 6 | 3 | 1,222,685 | 24,727,501 |
| 7 | 4 | 1,145,839 | 23,504,816 |
| 8 | 5 | 1,082,787 | 22,358,977 |
| 9 | 6 | 1,029,371 | 21,276,190 |
| 10 | 7 | 982,451 | 20,246,819 |
| 11 | 8 | 939,868 | 19,264,368 |
| 12 | 9 | 900,899 | 18,324,500 |
| 13 | 10 | 864,727 | 17,423,601 |
| 14 | 11 | 830,698 | 16,558,874 |
| 15 | 12 | 798,288 | 15,728,176 |
| 16 | 13 | 767,092 | 14,929,888 |
| 17 | 14 | 736,798 | 14,162,796 |
| 18 | 15 | 707,183 | 13,425,998 |
| 19 | 16 | 678,096 | 12,718,815 |
| 20 | 17 | 649,451 | 12,040,719 |
| 21 | 18 | 621,214 | 11,391,268 |
| 22 | 19 | 593,717 | 10,770,054 |
| 23 | 20 | 566,948 | 10,176,337 |
| 24 | 21 | 540,908 | 9,609,389 |
| 25 | 22 | 515,860 | 9,068,481 |
| 26 | 23 | 491,781 | 8,552,621 |
| 27 | 24 | 468,645 | 8,060,840 |
| 28 | 25 | 446,427 | 7,592,195 |
| 29 | 26 | 425,100 | 7,145,768 |
| 30 | 27 | 404,635 | 6,720,668 |
| 31 | 28 | 385,004 | 6,316,033 |
| 32 | 29 | 366,178 | 5,931,029 |
| 33 | 30 | 348,127 | 5,564,851 |
| 34 | 31 | 330,823 | 5,216,724 |
| 35 | 32 | 314,237 | 4,885,901 |
| 36 | 33 | 298,341 | 4,571,664 |
| 37 | 34 | 283,108 | 4,273,323 |
| 38 | 35 | 268,512 | 3,990,215 |
| 39 | 36 | 254,526 | 3,721,703 |
| 40 | 37 | 241,127 | 3,467,177 |
| 41 | 38 | 228,289 | 3,226,050 |
| 42 | 39 | 215,991 | 2,997,761 |
| 43 | 40 | 204,210 | 2,781,770 |
| 44 | 41 | 192,925 | 2,577,560 |
| 45 | 42 | 182,117 | 2,384,635 |
| 46 | 43 | 171,767 | 2,202,518 |
| 47 | 44 | 161,858 | 2,030,751 |
| 48 | 45 | 152,372 | 1,868,893 |
| 49 | 46 | 143,295 | 1,716,521 |
| 50 | 47 | 134,610 | 1,573,226 |
| 51 | 48 | 126,306 | 1,438,616 |
| 52 | 49 | 118,300 | 1,312,310 |
| 53 | 50 | 110,643 | 1,194,010 |
| 54 | 51 | 103,326 | 1,083,367 |
| 55 | 52 | 96,340·5 | 980,040·6 |
| 56 | 53 | 89,674·2 | 883,700·1 |
| 57 | 54 | 83,316·2 | 794,025·9 |

| Ages | | $D_{x,\ y}$ | $N_{x,\ y}$ |
|---|---|---|---|
| $x$ | $y$ | Male 3 Years older. | |
| 58 | 55 | 77,136·7 | 710,709·7 |
| 59 | 56 | 71,205·0 | 633,573·0 |
| 60 | 57 | 65,520·0 | 562,368·0 |
| 61 | 58 | 60,079·1 | 496,848·0 |
| 62 | 59 | 54,879·9 | 436,768·9 |
| 63 | 60 | 49,919·9 | 381,889·0 |
| 64 | 61 | 45,197·5 | 331,969·1 |
| 65 | 62 | 40,712·3 | 286,771·6 |
| 66 | 63 | 36,464·7 | 246,059·3 |
| 67 | 64 | 32,456·6 | 209,594·6 |
| 68 | 65 | 28,690·7 | 177,138·0 |
| 69 | 66 | 25,170·4 | 148,447·3 |
| 70 | 67 | 21,899·5 | 123,276·9 |
| 71 | 68 | 18,881·3 | 101,377·4 |
| 72 | 69 | 16,118·5 | 82,496·1 |
| 73 | 70 | 13,612·3 | 66,377·6 |
| 74 | 71 | 11,361·9 | 52,765·3 |
| 75 | 72 | 9,363·82 | 41,403·41 |
| 76 | 73 | 7,611·99 | 32,039·59 |
| 77 | 74 | 6,097·03 | 24,427·60 |
| 78 | 75 | 4,806·46 | 18,330·57 |
| 79 | 76 | 3,724·86 | 13,524·11 |
| 80 | 77 | 2,834·28 | 9,799·25 |
| 81 | 78 | 2,114·81 | 6,964·97 |
| 82 | 79 | 1,545·34 | 4,850·16 |
| 83 | 80 | 1,104·35 | 3,304·82 |
| 84 | 81 | 770·726 | 2,200·470 |
| 85 | 82 | 524·532 | 1,429·744 |
| 86 | 83 | 347·587 | 905·212 |
| 87 | 84 | 223·921 | 557·625 |
| 88 | 85 | 140·012 | 333·704 |
| 89 | 86 | 84·8309 | 193·6924 |
| 90 | 87 | 49·7184 | 108·8615 |
| 91 | 88 | 28·1379 | 59·1431 |
| 92 | 89 | 15·3494 | 31·0052 |
| 93 | 90 | 8·0558 | 15·6558 |
| 94 | 91 | 4·0599 | 7·6000 |
| 95 | 92 | 1·9609 | 3·5401 |
| 96 | 93 | ·9059 | 1·5792 |
| 97 | 94 | ·3995 | ·6733 |
| 98 | 95 | ·1678 | ·2738 |
| 99 | 96 | ·0670 | ·1060 |
| 100 | 97 | ·0254 | ·0390 |
| 101 | 98 | ·0091 | ·0136 |
| 102 | 99 | ·0031 | ·0045 |
| 103 | 100 | ·0010 | ·0014 |
| 104 | 101 | ·0003 | ·0004 |
| 105 | 102 | ·0001 | ·0001 |
| Male 104 Years older. | | | |
| 104 | 0 | 7·4769 | 10·6404 |
| 105 | 1 | 3·1635 | 3·1635 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 4 Years older than Female.

### Male 103 Years older than Female.

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | Male 4 Years older. | |
| 4 | 0 | 1,735,410 | 28,571,295 |
| 5 | 1 | 1,431,913 | 26,835,885 |
| 6 | 2 | 1,286,405 | 25,403,972 |
| 7 | 3 | 1,191,711 | 24,117,567 |
| 8 | 4 | 1,118,689 | 22,925,856 |
| 9 | 5 | 1,058,755 | 21,807,167 |
| 10 | 6 | 1,007,713 | 20,748,412 |
| 11 | 7 | 962,601 | 19,740,699 |
| 12 | 8 | 921,393 | 18,778,098 |
| 13 | 9 | 883,449 | 17,856,705 |
| 14 | 10 | 848,028 | 16,973,256 |
| 15 | 11 | 814,538 | 16,125,228 |
| 16 | 12 | 782,509 | 15,310,690 |
| 17 | 13 | 751,582 | 14,528,181 |
| 18 | 14 | 721,486 | 13,776,599 |
| 19 | 15 | 692,032 | 13,055,113 |
| 20 | 16 | 663,098 | 12,363,081 |
| 21 | 17 | 634,622 | 11,699,983 |
| 22 | 18 | 606,917 | 11,065,361 |
| 23 | 19 | 579,950 | 10,458,444 |
| 24 | 20 | 553,704 | 9,878,494 |
| 25 | 21 | 528,182 | 9,324,790 |
| 26 | 22 | 503,636 | 8,796,608 |
| 27 | 23 | 480,044 | 8,292,972 |
| 28 | 24 | 457,379 | 7,812,928 |
| 29 | 25 | 435,616 | 7,355,549 |
| 30 | 26 | 414,727 | 6,919,933 |
| 31 | 27 | 394,683 | 6,505,206 |
| 32 | 28 | 375,455 | 6,110,523 |
| 33 | 29 | 357,016 | 5,735,068 |
| 34 | 30 | 339,335 | 5,378,052 |
| 35 | 31 | 322,386 | 5,038,717 |
| 36 | 32 | 306,139 | 4,716,331 |
| 37 | 33 | 290,567 | 4,410,192 |
| 38 | 34 | 275,643 | 4,119,625 |
| 39 | 35 | 261,342 | 3,843,982 |
| 40 | 36 | 247,639 | 3,582,640 |
| 41 | 37 | 234,508 | 3,335,001 |
| 42 | 38 | 221,928 | 3,100,493 |
| 43 | 39 | 209,875 | 2,878,565 |
| 44 | 40 | 198,329 | 2,668,690 |
| 45 | 41 | 187,270 | 2,470,361 |
| 46 | 42 | 176,679 | 2,283,091 |
| 47 | 43 | 166,536 | 2,106,412 |
| 48 | 44 | 156,827 | 1,939,876 |
| 49 | 45 | 147,533 | 1,783,049 |
| 50 | 46 | 138,641 | 1,635,516 |
| 51 | 47 | 130,136 | 1,496,875 |
| 52 | 48 | 121,936 | 1,366,739 |
| 53 | 49 | 114,091 | 1,244,803 |
| 54 | 50 | 106,593 | 1,130,712 |
| 55 | 51 | 99,431·9 | 1,024,119·3 |
| 56 | 52 | 92,596·8 | 924,687·4 |
| 57 | 53 | 86,075·5 | 832,090·6 |
| 58 | 54 | 79,856·1 | 746,015·1 |
| 59 | 55 | 73,813·8 | 666,159·0 |
| 60 | 56 | 68,015·2 | 592,345·2 |
| 61 | 57 | 62,459·5 | 524,330·0 |
| 62 | 58 | 57,145·0 | 461,870·5 |
| 63 | 59 | 52,070·0 | 404,725·5 |
| 64 | 60 | 47,233·2 | 352,655·5 |
| 65 | 61 | 42,634·1 | 305,422·3 |
| 66 | 62 | 38,273·3 | 262,788·2 |
| 67 | 63 | 34,152·3 | 224,514·9 |
| 68 | 64 | 30,273·6 | 190,362·6 |
| 69 | 65 | 26,640·7 | 160,089·0 |
| 70 | 66 | 23,257·1 | 133,448·3 |
| 71 | 67 | 20,126·5 | 110,191·2 |
| 72 | 68 | 17,251·7 | 90,064·7 |
| 73 | 69 | 14,634·4 | 72,813·0 |
| 74 | 70 | 12,274·7 | 58,178·6 |
| 75 | 71 | 10,170·0 | 45,903·9 |
| 76 | 72 | 8,315·26 | 35,733·88 |
| 77 | 73 | 6,702·18 | 27,418·62 |
| 78 | 74 | 5,319·45 | 20,716·44 |
| 79 | 75 | 4,152·68 | 15,396·99 |
| 80 | 76 | 3,184·81 | 11,244·31 |
| 81 | 77 | 2,396·57 | 8,059·50 |
| 82 | 78 | 1,767·20 | 5,662·93 |
| 83 | 79 | 1,275·23 | 3,895·73 |
| 84 | 80 | 899·281 | 2,620·502 |
| 85 | 81 | 618·838 | 1,721·221 |
| 86 | 82 | 414·943 | 1,102·383 |
| 87 | 83 | 270·683 | 687·440 |
| 88 | 84 | 171·517 | 416·757 |
| 89 | 85 | 105·393 | 245·240 |
| 90 | 86 | 62·6970 | 139·8473 |
| 91 | 87 | 36·0460 | 77·1503 |
| 92 | 88 | 19·9926 | 41·1043 |
| 93 | 89 | 10·6779 | 21·1117 |
| 94 | 90 | 5·4814 | 10·4338 |
| 95 | 91 | 2·6993 | 4·9524 |
| 96 | 92 | 1·2726 | 2·2531 |
| 97 | 93 | ·5732 | ·9805 |
| 98 | 94 | ·2462 | ·4073 |
| 99 | 95 | ·1006 | ·1611 |
| 100 | 96 | ·0390 | ·0605 |
| 101 | 97 | ·0143 | ·0215 |
| 102 | 98 | ·0050 | ·0072 |
| 103 | 99 | ·0016 | ·0022 |
| 104 | 100 | ·0005 | ·0006 |
| 105 | 101 | ·0001 | ·0001 |
| | | Male 103 Years older. | |
| 103 | 0 | 14·5545 | 23·8534 |
| 104 | 1 | 6·3748 | 9·2989 |
| 105 | 2 | 2·9241 | 2·9241 |

## JOINT LIVES:—Male and Female Life.

**Male 5 Years older than Female.**

**Male 102 Years older than Female.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 5 Years older.** | |
| 5 | 0 | 1,679,480 | 27,847,363 |
| 6 | 1 | 1,391,731 | 26,167,883 |
| 7 | 2 | 1,253,817 | 24,776,152 |
| 8 | 3 | 1,163,475 | 23,522,335 |
| 9 | 4 | 1,093,861 | 22,358,860 |
| 10 | 5 | 1,036,479 | 21,264,999 |
| 11 | 6 | 987,353 | 20,228,520 |
| 12 | 7 | 943,679 | 19,241,167 |
| 13 | 8 | 903,546 | 18,297,488 |
| 14 | 9 | 866,388 | 17,393,942 |
| 15 | 10 | 831,531 | 16,527,554 |
| 16 | 11 | 798,437 | 15,696,023 |
| 17 | 12 | 766,688 | 14,897,586 |
| 18 | 13 | 735,963 | 14,130,898 |
| 19 | 14 | 706,028 | 13,394,935 |
| 20 | 15 | 676,725 | 12,688,907 |
| 21 | 16 | 647,957 | 12,012,182 |
| 22 | 17 | 620,017 | 11,364,225 |
| 23 | 18 | 592,844 | 10,744,208 |
| 24 | 19 | 566,403 | 10,151,364 |
| 25 | 20 | 540,677 | 9,584,961 |
| 26 | 21 | 515,666 | 9,044,284 |
| 27 | 22 | 491,617 | 8,528,618 |
| 28 | 23 | 468,504 | 8,037,001 |
| 29 | 24 | 446,303 | 7,568,497 |
| 30 | 25 | 424,986 | 7,122,194 |
| 31 | 26 | 404,526 | 6,697,208 |
| 32 | 27 | 384,893 | 6,292,682 |
| 33 | 28 | 366,061 | 5,907,789 |
| 34 | 29 | 348,000 | 5,541,728 |
| 35 | 30 | 330.681 | 5,193,728 |
| 36 | 31 | 314,078 | 4,863,047 |
| 37 | 32 | 298,161 | 4,548,969 |
| 38 | 33 | 282,905 | 4,250,808 |
| 39 | 34 | 268,283 | 3,967,903 |
| 40 | 35 | 254,270 | 3,699,620 |
| 41 | 36 | 240,841 | 3,445,350 |
| 42 | 37 | 227,973 | 3,204,509 |
| 43 | 38 | 215,644 | 2,976,536 |
| 44 | 39 | 203,832 | 2,760,892 |
| 45 | 40 | 192,516 | 2,557,060 |
| 46 | 41 | 181,678 | 2,364,544 |
| 47 | 42 | 171,298 | 2,182,866 |
| 48 | 43 | 161,359 | 2,011,568 |
| 49 | 44 | 151,846 | 1,850,209 |
| 50 | 45 | 142,742 | 1,698,363 |
| 51 | 46 | 134,033 | 1,555,621 |
| 52 | 47 | 125,634 | 1,421,588 |
| 53 | 48 | 117,598 | 1,295,954 |
| 54 | 49 | 109,915 | 1,178,356 |
| 55 | 50 | 102,575 | 1,068,441 |
| 56 | 51 | 95,568·1 | 965,865·8 |
| 57 | 52 | 88,880·8 | 870,297·7 |
| 58 | 53 | 82,500·8 | 781,416·9 |
| 59 | 54 | 76,416·0 | 698,916·1 |
| 60 | 55 | 70,507·1 | 622,500·1 |
| 61 | 56 | 64,838·1 | 551,993·0 |
| 62 | 57 | 59,409·1 | 487,154·9 |
| 63 | 58 | 54,219·1 | 427,745·8 |
| 64 | 59 | 49,267·6 | 373,526·7 |
| 65 | 60 | 44,554·4 | 324,259·1 |
| 66 | 61 | 40,080·0 | 279,704·7 |
| 67 | 62 | 35,846·1 | 239,624·7 |
| 68 | 63 | 31,855·3 | 203,778·6 |
| 69 | 64 | 28,110·5 | 171,923·3 |
| 70 | 65 | 24,615·6 | 143,812·8 |
| 71 | 66 | 21,374·2 | 119,197·2 |
| 72 | 67 | 18,389·3 | 97,823·0 |
| 73 | 68 | 15,663·2 | 79,433·7 |
| 74 | 69 | 13,196·4 | 63,770·5 |
| 75 | 70 | 10,987·1 | 50,574·1 |
| 76 | 71 | 9,031·18 | 39,587·01 |
| 77 | 72 | 7,321·40 | 30,555·83 |
| 78 | 73 | 5,847·43 | 23,234·43 |
| 79 | 74 | 4,595·90 | 17,387·00 |
| 80 | 75 | 3,550·61 | 12,791·10 |
| 81 | 76 | 2,692·97 | 9,240·49 |
| 82 | 77 | 2,002·65 | 6,547·52 |
| 83 | 78 | 1,458·32 | 4,544·87 |
| 84 | 79 | 1,038·44 | 3,086·55 |
| 85 | 80 | 722·059 | 2,048·114 |
| 86 | 81 | 489·546 | 1,326·055 |
| 87 | 82 | 323·137 | 836·509 |
| 88 | 83 | 207·335 | 513·372 |
| 89 | 84 | 129·108 | 306·037 |
| 90 | 85 | 77·8941 | 176·9288 |
| 91 | 86 | 45·4555 | 99·0347 |
| 92 | 87 | 25·6114 | 53·5792 |
| 93 | 88 | 13·9079 | 27·9678 |
| 94 | 89 | 7·2655 | 14·0599 |
| 95 | 90 | 3·6443 | 6·7944 |
| 96 | 91 | 1·7517 | 3·1501 |
| 97 | 92 | ·8053 | 1·3984 |
| 98 | 93 | .3533 | ·5931 |
| 99 | 94 | .1476 | ·2398 |
| 100 | 95 | ·0586 | ·0922 |
| 101 | 96 | ·0221 | ·0336 |
| 102 | 97 | ·0079 | ·0115 |
| 103 | 98 | ·0026 | ·0036 |
| 104 | 99 | ·0008 | ·0010 |
| 105 | 100 | ·0002 | ·0002 |

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 102 Years older.** | |
| 102 | 0 | 27·4024 | 48·4829 |
| 103 | 1 | 12·4090 | 21·0805 |
| 104 | 2 | 5·8923 | 8·6715 |
| 105 | 3 | 2·7792 | 2·7792 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

**Male 6 Years older than Female.**

**Male 101 Years older than Female.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 6 Years older.** | |
| 6 | 0 | 1,632,351 | 27,152,419 |
| 7 | 1 | 1,356,475 | 25,520,068 |
| 8 | 2 | 1,224,109 | 24,163,593 |
| 9 | 3 | 1,137,652 | 22,939,484 |
| 10 | 4 | 1,070,845 | 21,801,832 |
| 11 | 5 | 1,015,537 | 20,730,987 |
| 12 | 6 | 967,944 | 19,715,450 |
| 13 | 7 | 925,401 | 18,747,506 |
| 14 | 8 | 886,098 | 17,822,105 |
| 15 | 9 | 849,534 | 16,936,007 |
| 16 | 10 | 815,095 | 16,086,473 |
| 17 | 11 | 782,294 | 15,271,378 |
| 18 | 12 | 750,755 | 14,489,084 |
| 19 | 13 | 720,195 | 13,738,329 |
| 20 | 14 | 690,412 | 13,018,134 |
| 21 | 15 | 661,273 | 12,327,722 |
| 22 | 16 | 633,045 | 11,666,449 |
| 23 | 17 | 605,639 | 11,033,404 |
| 24 | 18 | 578,995 | 10,427,765 |
| 25 | 19 | 553,076 | 9,848,770 |
| 26 | 20 | 527,865 | 9,295,694 |
| 27 | 21 | 503,360 | 8,767,829 |
| 28 | 22 | 479,799 | 8,264,469 |
| 29 | 23 | 457,159 | 7,784,670 |
| 30 | 24 | 435,412 | 7,327,511 |
| 31 | 25 | 414,533 | 6,892,099 |
| 32 | 26 | 394,492 | 6,477,566 |
| 33 | 27 | 375,263 | 6,083,074 |
| 34 | 28 | 356,817 | 5,707,811 |
| 35 | 29 | 339,125 | 5,350,994 |
| 36 | 30 | 322,159 | 5,011,869 |
| 37 | 31 | 305,893 | 4,689,710 |
| 38 | 32 | 290,299 | 4,383,817 |
| 39 | 33 | 275,351 | 4,093,518 |
| 40 | 34 | 261,023 | 3,818,167 |
| 41 | 35 | 247,290 | 3,557,144 |
| 42 | 36 | 234,130 | 3,309,854 |
| 43 | 37 | 221,519 | 3,075,724 |
| 44 | 38 | 209,435 | 2,854,205 |
| 45 | 39 | 197,858 | 2,644,770 |
| 46 | 40 | 186,767 | 2,446,912 |
| 47 | 41 | 176,145 | 2,260,145 |
| 48 | 42 | 165,973 | 2,084,000 |
| 49 | 43 | 156,235 | 1,918,027 |
| 50 | 44 | 146,915 | 1,761,792 |
| 51 | 45 | 137,997 | 1,614,877 |
| 52 | 46 | 129,396 | 1,476,880 |
| 53 | 47 | 121,164 | 1,347,484 |
| 54 | 48 | 113,293 | 1,226,320 |
| 55 | 49 | 105,772 | 1,113,027 |
| 56 | 50 | 98,589·3 | 1,007,255·1 |
| 57 | 51 | 91,732·8 | 908,665·8 |
| 58 | 52 | 85,189·5 | 816,933·0 |
| 59 | 53 | 78,946·8 | 731,743·5 |
| 60 | 54 | 72,992·7 | 652,796·7 |
| 61 | 55 | 67,213·6 | 579,804·0 |
| 62 | 56 | 61,671·6 | 512,590·4 |
| 63 | 57 | 56,367·3 | 450,918·8 |
| 64 | 58 | 51,301·1 | 394,551·5 |
| 65 | 59 | 46,473·4 | 343,250·4 |
| 66 | 60 | 41,885·2 | 296,777·0 |
| 67 | 61 | 37,538·3 | 254,891·8 |
| 68 | 62 | 33,435·2 | 217,353·5 |
| 69 | 63 | 29,579·2 | 183,918·3 |
| 70 | 64 | 25,973·8 | 154,339·1 |
| 71 | 65 | 22,622·7 | 128,365·3 |
| 72 | 66 | 19,529·3 | 105,742·6 |
| 73 | 67 | 16,696·1 | 86,213·3 |
| 74 | 68 | 14,124·1 | 69,517·2 |
| 75 | 69 | 11,812·1 | 55,393·1 |
| 76 | 70 | 9,756·77 | 43,580·98 |
| 77 | 71 | 7,951·75 | 33,824·21 |
| 78 | 72 | 6,387·67 | 25,872·46 |
| 79 | 73 | 5,052·06 | 19,484·79 |
| 80 | 74 | 3,929·56 | 14,432·73 |
| 81 | 75 | 3,002·27 | 10,503·17 |
| 82 | 76 | 2,250·33 | 7,500·90 |
| 83 | 77 | 1,652·61 | 5,250·57 |
| 84 | 78 | 1,187·53 | 3,597·96 |
| 85 | 79 | 833·791 | 2,410·431 |
| 86 | 80 | 571·201 | 1,576·640 |
| 87 | 81 | 381·234 | 1,005·439 |
| 88 | 82 | 247·513 | 624·205 |
| 89 | 83 | 156·070 | 376·692 |
| 90 | 84 | 95·4213 | 220·6215 |
| 91 | 85 | 56·4734 | 125·2002 |
| 92 | 86 | 32·2971 | 68·7268 |
| 93 | 87 | 17·8167 | 36·4297 |
| 94 | 88 | 9·4634 | 18·6130 |
| 95 | 89 | 4·8305 | 9·1496 |
| 96 | 90 | 2·3651 | 4·3191 |
| 97 | 91 | 1·1085 | 1·9540 |
| 98 | 92 | ·4963 | ·8455 |
| 99 | 93 | ·2119 | ·3492 |
| 100 | 94 | ·0860 | ·1373 |
| 101 | 95 | ·0332 | ·0513 |
| 102 | 96 | ·0121 | ·0181 |
| 103 | 97 | ·0042 | ·0060 |
| 104 | 98 | ·0014 | ·0018 |
| 105 | 99 | ·0004 | ·0004 |
| | | **Male 101 Years older.** | |
| 101 | 0 | 49·9610 | 93·0667 |
| 102 | 1 | 23·3631 | 43·1057 |
| 103 | 2 | 11·4699 | 19·7426 |
| 104 | 3 | 5·6005 | 8·2727 |
| 105 | 4 | 2·6722 | 2·6722 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

**Male 7 Years older than Female.**

**Male 100 Years older than Female.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 7 Years older.** | |
| 7 | 0 | 1,591,000 | 26,479,231 |
| 8 | 1 | 1,324,335 | 24,888,231 |
| 9 | 2 | 1,196,941 | 23,563,896 |
| 10 | 3 | 1,113,716 | 22,366,955 |
| 11 | 4 | 1,049,209 | 21,253,239 |
| 12 | 5 | 995,574 | 20,204,030 |
| 13 | 6 | 949,196 | 19,208,456 |
| 14 | 7 | 907,530 | 18,259,260 |
| 15 | 8 | 868,860 | 17,351,730 |
| 16 | 9 | 832,742 | 16,482,870 |
| 17 | 10 | 798,615 | 15,650,128 |
| 18 | 11 | 766,037 | 14,851,513 |
| 19 | 12 | 734,670 | 14,085,476 |
| 20 | 13 | 704,265 | 13,350,806 |
| 21 | 14 | 674,648 | 12,646,541 |
| 22 | 15 | 646,055 | 11,971,893 |
| 23 | 16 | 618,366 | 11,325,838 |
| 24 | 17 | 591,492 | 10,707,472 |
| 25 | 18 | 565,373 | 10,115,980 |
| 26 | 19 | 539,971 | 9,550,607 |
| 27 | 20 | 515,267 | 9,010,636 |
| 28 | 21 | 491,259 | 8,495,369 |
| 29 | 22 | 468,179 | 8,004,110 |
| 30 | 23 | 446,003 | 7,535,931 |
| 31 | 24 | 424,702 | 7,089,928 |
| 32 | 25 | 404,251 | 6,665,226 |
| 33 | 26 | 384,622 | 6,260,975 |
| 34 | 27 | 365,786 | 5,876,353 |
| 35 | 28 | 347,717 | 5,510,567 |
| 36 | 29 | 330,385 | 5,162,850 |
| 37 | 30 | 313,764 | 4,832,465 |
| 38 | 31 | 297,827 | 4,518,701 |
| 39 | 32 | 282,547 | 4,220,874 |
| 40 | 33 | 267,899 | 3,938,327 |
| 41 | 34 | 253,858 | 3,670,428 |
| 42 | 35 | 240,399 | 3,416,570 |
| 43 | 36 | 227,501 | 3,176,171 |
| 44 | 37 | 215,140 | 2,948,670 |
| 45 | 38 | 203,296 | 2,733,530 |
| 46 | 39 | 191,949 | 2,530,234 |
| 47 | 40 | 181,079 | 2,338,285 |
| 48 | 41 | 170,669 | 2,157,206 |
| 49 | 42 | 160,702 | 1,986,537 |
| 50 | 43 | 151,161 | 1,825,835 |
| 51 | 44 | 142,031 | 1,674,674 |
| 52 | 45 | 133,223 | 1,532,643 |
| 53 | 46 | 124,792 | 1,399,420 |
| 54 | 47 | 116,729 | 1,274,628 |
| 55 | 48 | 109,022 | 1,157,899 |
| 56 | 49 | 101,661 | 1,048,877 |
| 57 | 50 | 94,632·8 | 947,215·9 |
| 58 | 51 | 87,923·2 | 852,583·1 |
| 59 | 52 | 81,519·7 | 764,659·9 |
| 60 | 53 | 75,410·2 | 683,140·2 |
| 61 | 54 | 69,583·2 | 607,730·0 |
| 62 | 55 | 63,931·0 | 538,146·8 |
| 63 | 56 | 58,513·9 | 474,215·8 |
| 64 | 57 | 53,333·6 | 415,701·9 |
| 65 | 58 | 48,391·5 | 362,368·3 |
| 66 | 59 | 43,689·2 | 313,976·8 |
| 67 | 60 | 39,229·0 | 270,287·6 |
| 68 | 61 | 35,013·6 | 231,058·6 |
| 69 | 62 | 31,046·2 | 196,045·0 |
| 70 | 63 | 27,330·7 | 164,998·8 |
| 71 | 64 | 23,870·9 | 137,668·1 |
| 72 | 65 | 20,670·1 | 113,797·2 |
| 73 | 66 | 17,731·2 | 93,127·1 |
| 74 | 67 | 15,055·5 | 75,395·9 |
| 75 | 68 | 12,642·5 | 60,340·4 |
| 76 | 69 | 10,489·4 | 47,697·9 |
| 77 | 70 | 8,590·61 | 37,208·47 |
| 78 | 71 | 6,937·63 | 28,617·86 |
| 79 | 72 | 5,518·82 | 21,680·23 |
| 80 | 73 | 4,319·59 | 16,161·41 |
| 81 | 74 | 3,322·70 | 11,841·82 |
| 82 | 75 | 2,508·79 | 8,519·12 |
| 83 | 76 | 1,857·00 | 6,010·33 |
| 84 | 77 | 1,345·74 | 4,153·33 |
| 85 | 78 | 953·499 | 2,807·590 |
| 86 | 79 | 659·590 | 1,854·091 |
| 87 | 80 | 444·823 | 1,194·501 |
| 88 | 81 | 292·014 | 749·678 |
| 89 | 82 | 186·314 | 457·664 |
| 90 | 83 | 115·349 | 271·350 |
| 91 | 84 | 69·1807 | 156·0005 |
| 92 | 85 | 40·1255 | 86·8198 |
| 93 | 86 | 22·4676 | 46·6943 |
| 94 | 87 | 12·1230 | 24·2267 |
| 95 | 88 | 6·2918 | 12·1037 |
| 96 | 89 | 3·1349 | 5·8119 |
| 97 | 90 | 1·4966 | 2·6770 |
| 98 | 91 | ·6832 | 1·1804 |
| 99 | 92 | ·2976 | ·4972 |
| 100 | 93 | ·1235 | ·1996 |
| 101 | 94 | ·0487 | ·0761 |
| 102 | 95 | ·0182 | ·0274 |
| 103 | 96 | ·0064 | ·0092 |
| 104 | 97 | ·0021 | ·0028 |
| 105 | 98 | ·0007 | ·0007 |
| | | **Male 100 Years older.** | |
| 100 | 0 | 88·3178 | 171·3823 |
| 101 | 1 | 42·5964 | 83·0645 |
| 102 | 2 | 21·5949 | 40·4681 |
| 103 | 3 | 10·9018 | 18·8732 |
| 104 | 4 | 5·3849 | 7·9714 |
| 105 | 5 | 2·5865 | 2·5865 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 8 Years older than Female.

### Male 99 Years older than Female.

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | Male 8 Years older. | |
| 8 | 0 | 1,553,302 | 25,823,184 |
| 9 | 1 | 1,294,942 | 24,269,882 |
| 10 | 2 | 1,171,757 | 22,974,940 |
| 11 | 3 | 1,091,214 | 21,803,183 |
| 12 | 4 | 1,028,585 | 20,711,969 |
| 13 | 5 | 976,291 | 19,683,384 |
| 14 | 6 | 930,865 | 18,707,093 |
| 15 | 7 | 889,876 | 17,776,228 |
| 16 | 8 | 851,686 | 16,886,352 |
| 17 | 9 | 815,905 | 16,034,666 |
| 18 | 10 | 782,018 | 15,218,761 |
| 19 | 11 | 749,624 | 14,436,743 |
| 20 | 12 | 718,420 | 13,687,119 |
| 21 | 13 | 688,185 | 12,968,699 |
| 22 | 14 | 659,122 | 12,280,514 |
| 23 | 15 | 631,074 | 11,621,392 |
| 24 | 16 | 603,921 | 10,990,318 |
| 25 | 17 | 577,575 | 10,386,397 |
| 26 | 18 | 551,976 | 9,808,822 |
| 27 | 19 | 527,084 | 9,256,846 |
| 28 | 20 | 502,880 | 8,729,762 |
| 29 | 21 | 479,362 | 8,226,882 |
| 30 | 22 | 456,755 | 7,747,520 |
| 31 | 23 | 435,032 | 7,290,765 |
| 32 | 24 | 414,168 | 6,855,733 |
| 33 | 25 | 394,136 | 6,441,565 |
| 34 | 26 | 374,909 | 6,047,429 |
| 35 | 27 | 356,458 | 5,672,520 |
| 36 | 28 | 338,756 | 5,316,062 |
| 37 | 29 | 321,776 | 4,977,306 |
| 38 | 30 | 305,491 | 4,655,530 |
| 39 | 31 | 289,874 | 4,350,039 |
| 40 | 32 | 274,901 | 4,060,165 |
| 41 | 33 | 260,545 | 3,785,264 |
| 42 | 34 | 246,784 | 3,524,719 |
| 43 | 35 | 233,593 | 3,277,935 |
| 44 | 36 | 220,950 | 3,044,342 |
| 45 | 37 | 208,834 | 2,823,392 |
| 46 | 38 | 197,225 | 2,614,558 |
| 47 | 39 | 186,103 | 2,417,333 |
| 48 | 40 | 175,450 | 2,231,230 |
| 49 | 41 | 165,249 | 2,055,780 |
| 50 | 42 | 155,483 | 1,890,531 |
| 51 | 43 | 146,136 | 1,735,048 |
| 52 | 44 | 137,118 | 1,588,912 |
| 53 | 45 | 128,483 | 1,451,794 |
| 54 | 46 | 120,224 | 1,323,311 |
| 55 | 47 | 112,329 | 1,203,087 |
| 56 | 48 | 104,786 | 1,090,758 |
| 57 | 49 | 97,581·7 | 985,971·9 |
| 58 | 50 | 90,702·7 | 888,390·2 |
| 59 | 51 | 84,135·6 | 797,687·5 |
| 60 | 52 | 77,867·8 | 713,551·9 |
| 61 | 53 | 71,887·7 | 635,684·1 |
| 62 | 54 | 66,184·9 | 563,796·4 |
| 63 | 55 | 60,657·7 | 497,611·5 |
| 64 | 56 | 55,364·7 | 436,953·8 |
| 65 | 57 | 50,308·8 | 381,589·1 |
| 66 | 58 | 45,492·5 | 331,280·3 |
| 67 | 59 | 40,918·6 | 285,787·8 |
| 68 | 60 | 36,590·6 | 244,869·2 |
| 69 | 61 | 32,511·8 | 208,278·6 |
| 70 | 62 | 28,686·3 | 175,766·8 |
| 71 | 63 | 25,118·0 | 147,080·5 |
| 72 | 64 | 21,810·5 | 121,962·5 |
| 73 | 65 | 18,766·9 | 100,152·0 |
| 74 | 66 | 15,988·8 | 81,385·1 |
| 75 | 67 | 13,476·2 | 65,396·3 |
| 76 | 68 | 11,226·8 | 51,920·1 |
| 77 | 69 | 9,235·66 | 40,693·29 |
| 78 | 70 | 7,495·02 | 31,457·63 |
| 79 | 71 | 5,993·98 | 23,962·61 |
| 80 | 72 | 4,718·67 | 17,968·63 |
| 81 | 73 | 3,652·50 | 13,249·96 |
| 82 | 74 | 2,776·56 | 9,597·46 |
| 83 | 75 | 2,070·29 | 6,820·90 |
| 84 | 76 | 1,512·18 | 4,750·61 |
| 85 | 77 | 1,080·53 | 3,238·43 |
| 86 | 78 | 754·287 | 2,157·903 |
| 87 | 79 | 513·656 | 1,403·616 |
| 88 | 80 | 340·721 | 889·960 |
| 89 | 81 | 219·811 | 549·239 |
| 90 | 82 | 137·701 | 329·428 |
| 91 | 83 | 83·6280 | 191·7266 |
| 92 | 84 | 49·1543 | 108·0986 |
| 93 | 85 | 27·9136 | 58·9443 |
| 94 | 86 | 15·2876 | 31·0307 |
| 95 | 87 | 8·0601 | 15·7431 |
| 96 | 88 | 4·0832 | 7 6830 |
| 97 | 89 | 1·9837 | 3·5998 |
| 98 | 90 | ·9224 | 1·6161 |
| 99 | 91 | ·4097 | ·6937 |
| 100 | 92 | ·1734 | ·2840 |
| 101 | 93 | ·0698 | ·1106 |
| 102 | 94 | ·0267 | ·0408 |
| 103 | 95 | ·0097 | ·0141 |
| 104 | 96 | ·0033 | ·0044 |
| 105 | 97 | ·0011 | ·0011 |
| | | Male 99 Years older. | |
| 99 | 0 | 151·549 | 304·955 |
| 100 | 1 | 75·2992 | 153·4061 |
| 101 | 2 | 39·3727 | 78·1069 |
| 102 | 3 | 20·5253 | 38·7342 |
| 103 | 4 | 10·4821 | 18·2089 |
| 104 | 5 | 5·2121 | 7·7268 |
| 105 | 6 | 2·5147 | 2·5147 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 9 Years older than Female.

### Male 98 Years older than Female.

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 9 Years older.** | |
| 9 | 0 | 1,518,828 | 25,181,603 |
| 10 | 1 | 1,267,696 | 23,662,775 |
| 11 | 2 | 1,148,082 | 22,395,079 |
| 12 | 3 | 1,069,763 | 21,246,997 |
| 13 | 4 | 1,008,662 | 20,177,234 |
| 14 | 5 | 957,437 | 19,168,572 |
| 15 | 6 | 912,757 | 18,211,135 |
| 16 | 7 | 872,286 | 17,298,378 |
| 17 | 8 | 834,466 | 16,426,092 |
| 18 | 9 | 798,949 | 15,591,626 |
| 19 | 10 | 765,263 | 14,792,677 |
| 20 | 11 | 733,044 | 14,027,414 |
| 21 | 12 | 702,017 | 13,294,370 |
| 22 | 13 | 672,347 | 12,592,353 |
| 23 | 14 | 643,838 | 11,920,006 |
| 24 | 15 | 616,332 | 11,276,168 |
| 25 | 16 | 589,712 | 10,659,836 |
| 26 | 17 | 563,889 | 10,070,124 |
| 27 | 18 | 538,803 | 9,506,235 |
| 28 | 19 | 514,413 | 8,967,432 |
| 29 | 20 | 490,702 | 8,453,019 |
| 30 | 21 | 467,665 | 7,962,317 |
| 31 | 22 | 445,520 | 7,494,652 |
| 32 | 23 | 424,242 | 7,049,132 |
| 33 | 24 | 403,805 | 6,624,890 |
| 34 | 25 | 384,183 | 6,221,085 |
| 35 | 26 | 365,347 | 5,836,902 |
| 36 | 27 | 347,271 | 5,471,555 |
| 37 | 28 | 329,928 | 5,124,284 |
| 38 | 29 | 313,291 | 4,794,356 |
| 39 | 30 | 297,333 | 4,481,065 |
| 40 | 31 | 282,030 | 4,183,732 |
| 41 | 32 | 267,355 | 3,901,702 |
| 42 | 33 | 253,285 | 3,634,347 |
| 43 | 34 | 239,796 | 3,381,062 |
| 44 | 35 | 226,866 | 3,141,266 |
| 45 | 36 | 214,474 | 2,914,400 |
| 46 | 37 | 202,598 | 2,699,926 |
| 47 | 38 | 191,219 | 2,497,328 |
| 48 | 39 | 180,318 | 2,306,109 |
| 49 | 40 | 169,878 | 2,125,791 |
| 50 | 41 | 159,882 | 1,955,913 |
| 51 | 42 | 150,315 | 1,796,031 |
| 52 | 43 | 141,081 | 1,645,716 |
| 53 | 44 | 132,239 | 1,504,635 |
| 54 | 45 | 123,780 | 1,372,396 |
| 55 | 46 | 115,692 | 1,248,616 |
| 56 | 47 | 107,964 | 1,132,924 |
| 57 | 48 | 100,581 | 1,024,960 |
| 58 | 49 | 93,529·1 | 924,379·3 |
| 59 | 50 | 86,795·4 | 830,850·2 |
| 60 | 51 | 80,366·5 | 744,054·8 |
| 61 | 52 | 74,230·5 | 663,688·3 |
| 62 | 53 | 68,376·8 | 589,457·8 |
| 63 | 54 | 62,796·2 | 521,081·0 |
| 64 | 55 | 57,393·1 | 458,284·8 |
| 65 | 56 | 52,224·7 | 400,891·7 |
| 66 | 57 | 47,294·9 | 348,667·0 |
| 67 | 58 | 42,607·5 | 301,372·1 |
| 68 | 59 | 38,166·6 | 258,764·6 |
| 69 | 60 | 33,976·1 | 220,598·0 |
| 70 | 61 | 30,040·5 | 186,621·9 |
| 71 | 62 | 26,363·8 | 156,581·4 |
| 72 | 63 | 22,950·0 | 130,217·6 |
| 73 | 64 | 19,802·4 | 107,267·6 |
| 74 | 65 | 16,922·8 | 87,465·2 |
| 75 | 66 | 14,311·6 | 70,542·4 |
| 76 | 67 | 11,967·1 | 56,230·8 |
| 77 | 68 | 9,884·92 | 44,263·73 |
| 78 | 69 | 8,057·80 | 34,378·81 |
| 79 | 70 | 6,475·55 | 26,321·01 |
| 80 | 71 | 5,124·94 | 19,845·46 |
| 81 | 72 | 3,989·95 | 14,720·52 |
| 82 | 73 | 3,052·14 | 10,730·57 |
| 83 | 74 | 2,291·25 | 7,678·43 |
| 84 | 75 | 1,685·86 | 5,387·18 |
| 85 | 76 | 1,214·17 | 3,701·32 |
| 86 | 77 | 854·782 | 2,487·153 |
| 87 | 78 | 587·401 | 1,632·371 |
| 88 | 79 | 393·445 | 1,044·970 |
| 89 | 80 | 256·475 | 651·525 |
| 90 | 81 | 162·459 | 395·050 |
| 91 | 82 | 99·8337 | 232·5914 |
| 92 | 83 | 59·4195 | 132·7577 |
| 93 | 84 | 34·1945 | 73·3382 |
| 94 | 85 | 18·9932 | 39·1437 |
| 95 | 86 | 10·1641 | 20·1505 |
| 96 | 87 | 5·2308 | 9·9864 |
| 97 | 88 | 2·5838 | 4·7556 |
| 98 | 89 | 1·2227 | 2·1718 |
| 99 | 90 | ·5531 | ·9491 |
| 100 | 91 | ·2388 | ·3960 |
| 101 | 92 | ·0981 | ·1572 |
| 102 | 93 | ·0383 | ·0591 |
| 103 | 94 | ·0142 | ·0208 |
| 104 | 95 | ·0050 | ·0066 |
| 105 | 96 | ·0016 | ·0016 |
| | | **Male 98 Years older.** | |
| 98 | 0 | 252·725 | 526·358 |
| 99 | 1 | 129·210 | 273·633 |
| 100 | 2 | 69·6005 | 144·4229 |
| 101 | 3 | 37·4224 | 74·8224 |
| 102 | 4 | 19·7352 | 37·4000 |
| 103 | 5 | 10·1457 | 17·6648 |
| 104 | 6 | 5·0674 | 7·5191 |
| 105 | 7 | 2·4517 | 2·4517 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

**Male 10 Years older than Female.**

**Male 97 Years older than Female.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 10 Years older.** | |
| 10 | 0 | 1,486,871 | 24,552,068 |
| 11 | 1 | 1,242,083 | 23,065,197 |
| 12 | 2 | 1,125,514 | 21,823,114 |
| 13 | 3 | 1,049,043 | 20,697,600 |
| 14 | 4 | 989,183 | 19,648,557 |
| 15 | 5 | 938,812 | 18,659,374 |
| 16 | 6 | 894,715 | 17,720,562 |
| 17 | 7 | 854,650 | 16,825,847 |
| 18 | 8 | 817,124 | 15,971,197 |
| 19 | 9 | 781,832 | 15,154,073 |
| 20 | 10 | 748,337 | 14,372,241 |
| 21 | 11 | 716,306 | 13,623,904 |
| 22 | 12 | 685,860 | 12,907,598 |
| 23 | 13 | 656,756 | 12,221,738 |
| 24 | 14 | 628,798 | 11,564,982 |
| 25 | 15 | 601,832 | 10,936,184 |
| 26 | 16 | 575,738 | 10,334,352 |
| 27 | 17 | 550,432 | 9,758,614 |
| 28 | 18 | 525,850 | 9,208,182 |
| 29 | 19 | 501,956 | 8,682,332 |
| 30 | 20 | 478,728 | 8,180,376 |
| 31 | 21 | 456,161 | 7,701,648 |
| 32 | 22 | 434,470 | 7,245,487 |
| 33 | 23 | 413,627 | 6,811,017 |
| 34 | 24 | 393,608 | 6,397,390 |
| 35 | 25 | 374,385 | 6,003,782 |
| 36 | 26 | 355,932 | 5,629,397 |
| 37 | 27 | 338,222 | 5,273,465 |
| 38 | 28 | 321,229 | 4,935,243 |
| 39 | 29 | 304,925 | 4,614,014 |
| 40 | 30 | 289,287 | 4,309,089 |
| 41 | 31 | 274,288 | 4,019,802 |
| 42 | 32 | 259,905 | 3,745,514 |
| 43 | 33 | 246,114 | 3,485,609 |
| 44 | 34 | 232,892 | 3,239,495 |
| 45 | 35 | 220,217 | 3,006,603 |
| 46 | 36 | 208,069 | 2,786,386 |
| 47 | 37 | 196,428 | 2,578,317 |
| 48 | 38 | 185,275 | 2,381,889 |
| 49 | 39 | 174,591 | 2,196,614 |
| 50 | 40 | 164,361 | 2,022,023 |
| 51 | 41 | 154,568 | 1,857,662 |
| 52 | 42 | 145,115 | 1,703,094 |
| 53 | 43 | 136,061 | 1,557,979 |
| 54 | 44 | 127,398 | 1,421,918 |
| 55 | 45 | 119,114 | 1,294,520 |
| 56 | 46 | 111,197 | 1,175,406 |
| 57 | 47 | 103,631 | 1,064,209 |
| 58 | 48 | 96,403·6 | 960,577·9 |
| 59 | 49 | 89,500·1 | 864,174·3 |
| 60 | 50 | 82,907·1 | 774,674·2 |
| 61 | 51 | 76,612·5 | 691,767·1 |
| 62 | 52 | 70,605·3 | 615,154·6 |
| 63 | 53 | 64,875·9 | 544,549·3 |
| 64 | 54 | 59,416·5 | 479,673·4 |
| 65 | 55 | 54,138·0 | 420,256·9 |
| 66 | 56 | 49,096·0 | 366,118·9 |
| 67 | 57 | 44,295·6 | 317,022·9 |
| 68 | 58 | 39,741·9 | 272,727·3 |
| 69 | 59 | 35,439·5 | 232,985·4 |
| 70 | 60 | 31,393·5 | 197,545·9 |
| 71 | 61 | 27,608·3 | 166,152·4 |
| 72 | 62 | 24,088·3 | 138,544·1 |
| 73 | 63 | 20,836·9 | 114,455·8 |
| 74 | 64 | 17,856·5 | 93,618·9 |
| 75 | 65 | 15,147·6 | 75,762·4 |
| 76 | 66 | 12,709·0 | 60,614·8 |
| 77 | 67 | 10,536·8 | 47,905·8 |
| 78 | 68 | 8,624·26 | 37,368·96 |
| 79 | 69 | 6,961·78 | 28,744·70 |
| 80 | 70 | 5,536·69 | 21,782·92 |
| 81 | 71 | 4,333·48 | 16,246·23 |
| 82 | 72 | 3,334·13 | 11,912·75 |
| 83 | 73 | 2,518·67 | 8,578·62 |
| 84 | 74 | 1,865·79 | 6,059·95 |
| 85 | 75 | 1,353·63 | 4,194·16 |
| 86 | 76 | 960·497 | 2,840·529 |
| 87 | 77 | 665·661 | 1,880·032 |
| 88 | 78 | 449·932 | 1,214·371 |
| 89 | 79 | 296·163 | 764·439 |
| 90 | 80 | 189·556 | 468·276 |
| 91 | 81 | 117·783 | 278·720 |
| 92 | 82 | 70·9339 | 160·9374 |
| 93 | 83 | 41·3355 | 90·0035 |
| 94 | 84 | 23·2669 | 48·6680 |
| 95 | 85 | 12·6278 | 25·4011 |
| 96 | 86 | 6·5962 | 12·7733 |
| 97 | 87 | 3·3100 | 6·1771 |
| 98 | 88 | 1·5925 | 2·8671 |
| 99 | 89 | ·7332 | 1·2746 |
| 100 | 90 | ·3224 | ·5414 |
| 101 | 91 | ·1351 | ·2190 |
| 102 | 92 | ·0538 | ·0839 |
| 103 | 93 | ·0203 | ·0301 |
| 104 | 94 | ·0073 | ·0098 |
| 105 | 95 | ·0025 | ·0025 |

**Male 97 Years older.**

| $x$ | $y$ | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 97 | 0 | 410·038 | 883·375 |
| 98 | 1 | 215·471 | 473·337 |
| 99 | 2 | 119·431 | 257·866 |
| 100 | 3 | 66·1530 | 138·4351 |
| 101 | 4 | 35·9819 | 72·2821 |
| 102 | 5 | 19·1018 | 36·3002 |
| 103 | 6 | 9·8642 | 17·1984 |
| 104 | 7 | 4·9404 | 7·3342 |
| 105 | 8 | 2·3938 | 2·3938 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

**Male 11 Years older than Female.**

**Male 96 Years older than Female.**

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| | | **Male 11 Years older.** | |
| 11 | 0 | 1,456,830 | 23,932,687 |
| 12 | 1 | 1,217,667 | 22,475,857 |
| 13 | 2 | 1,103,714 | 21,258,190 |
| 14 | 3 | 1,028,784 | 20,154,476 |
| 15 | 4 | 969,940 | 19,125,692 |
| 16 | 5 | 920,255 | 18,155,752 |
| 17 | 6 | 876,625 | 17,235,497 |
| 18 | 7 | 836,889 | 16,358,872 |
| 19 | 8 | 799,618 | 15,521,983 |
| 20 | 9 | 764,539 | 14,722,365 |
| 21 | 10 | 731,250 | 13,957,826 |
| 22 | 11 | 699,821 | 13,226,576 |
| 23 | 12 | 669,956 | 12,526,755 |
| 24 | 13 | 641,415 | 11,856,799 |
| 25 | 14 | 614,004 | 11,215,384 |
| 26 | 15 | 587,571 | 10,601,380 |
| 27 | 16 | 561,998 | 10,013,809 |
| 28 | 17 | 537,200 | 9,451,811 |
| 29 | 18 | 513,116 | 8,914,611 |
| 30 | 19 | 489,707 | 8,401,495 |
| 31 | 20 | 466,952 | 7,911,788 |
| 32 | 21 | 444,847 | 7,444,836 |
| 33 | 22 | 423,599 | 6,999,989 |
| 34 | 23 | 403,182 | 6,576,390 |
| 35 | 24 | 383,570 | 6,173,208 |
| 36 | 25 | 364,737 | 5,789,638 |
| 37 | 26 | 346,657 | 5,424,901 |
| 38 | 27 | 329,304 | 5,078,244 |
| 39 | 28 | 312,651 | 4,748,940 |
| 40 | 29 | 296,674 | 4,436,289 |
| 41 | 30 | 281,346 | 4,139,615 |
| 42 | 31 | 266,645 | 3,858,269 |
| 43 | 32 | 252,546 | 3,591,624 |
| 44 | 33 | 239,027 | 3,339,078 |
| 45 | 34 | 226,065 | 3,100,051 |
| 46 | 35 | 213,640 | 2,873,986 |
| 47 | 36 | 201,732 | 2,660,346 |
| 48 | 37 | 190,322 | 2,458,614 |
| 49 | 38 | 179,390 | 2,268,292 |
| 50 | 39 | 168,921 | 2,088,902 |
| 51 | 40 | 158,898 | 1,919,981 |
| 52 | 41 | 149,221 | 1,761,083 |
| 53 | 42 | 139,951 | 1,611,862 |
| 54 | 43 | 131,080 | 1,471,911 |
| 55 | 44 | 122,596 | 1,340,831 |
| 56 | 45 | 114,486 | 1,218,235 |
| 57 | 46 | 106,734 | 1,103,749 |
| 58 | 47 | 99,327·3 | 997,014·7 |
| 59 | 48 | 92,250·7 | 897,687·4 |
| 60 | 49 | 85,490·6 | 805,436·7 |
| 61 | 50 | 79,034·5 | 719,946·1 |
| 62 | 51 | 72,870·9 | 640,911·6 |
| 63 | 52 | 66,990·2 | 568,040·7 |
| 64 | 53 | 61,384·3 | 501,050·5 |
| 65 | 54 | 56,046·6 | 439,666·2 |
| 66 | 55 | 50,894·7 | 383,619·6 |
| 67 | 56 | 45,982·6 | 332,724·9 |
| 68 | 57 | 41,316·4 | 286,742·3 |
| 69 | 58 | 36,902·2 | 245,425·9 |
| 70 | 59 | 32,745·6 | 208,523·7 |
| 71 | 60 | 28,851·8 | 175,778·1 |
| 72 | 61 | 25,225·4 | 146,926·3 |
| 73 | 62 | 21,870·4 | 121,700·9 |
| 74 | 63 | 18,789·4 | 99,830·5 |
| 75 | 64 | 15,983·4 | 81,041·1 |
| 76 | 65 | 13,451·4 | 65,057·7 |
| 77 | 66 | 11,190·0 | 51,606·3 |
| 78 | 67 | 9,192·99 | 40,416·28 |
| 79 | 68 | 7,451·19 | 31,223·29 |
| 80 | 69 | 5,952·42 | 23,772·10 |
| 81 | 70 | 4,681·64 | 17,819·68 |
| 82 | 71 | 3,621·19 | 13,138·04 |
| 83 | 72 | 2,751·37 | 9,516·85 |
| 84 | 73 | 2,050·98 | 6,765·48 |
| 85 | 74 | 1,498·10 | 4,714·50 |
| 86 | 75 | 1,070·82 | 3,216·40 |
| 87 | 76 | 747·987 | 2,145·582 |
| 88 | 77 | 509·877 | 1,397·595 |
| 89 | 78 | 338·683 | 887·718 |
| 90 | 79 | 218·888 | 549·035 |
| 91 | 80 | 137·429 | 330·147 |
| 92 | 81 | 83·6872 | 192·7184 |
| 93 | 82 | 49·3456 | 109·0312 |
| 94 | 83 | 28·1258 | 59·6856 |
| 95 | 84 | 15·4692 | 31·5598 |
| 96 | 85 | 8·1950 | 16·0906 |
| 97 | 86 | 4·1740 | 7·8956 |
| 98 | 87 | 2·0401 | 3·7216 |
| 99 | 88 | ·9550 | 1·6815 |
| 100 | 89 | ·4273 | ·7265 |
| 101 | 90 | ·1824 | ·2992 |
| 102 | 91 | ·0741 | ·1168 |
| 103 | 92 | ·0286 | ·0427 |
| 104 | 93 | ·0105 | ·0141 |
| 105 | 94 | ·0036 | ·0036 |
| | | **Male 96 Years older.** | |
| 96 | 0 | 647·983 | 1,444·043 |
| 97 | 1 | 349·595 | 796·060 |
| 98 | 2 | 199·164 | 446·465 |
| 99 | 3 | 113·515 | 247·301 |
| 100 | 4 | 63·6065 | 133·7864 |
| 101 | 5 | 34·8271 | 70·1799 |
| 102 | 6 | 18·5717 | 35·3528 |
| 103 | 7 | 9·6169 | 16·7811 |
| 104 | 8 | 4·8237 | 7·1642 |
| 105 | 9 | 2·3405 | 2·3405 |

## JOINT LIVES:—Male and Female Life.

### Male 12 Years older than Female.

### Male 95 Years older than Female.

| Ages x | Ages y | $D_{x,\ y}$ | $N_{x,\ y}$ |
|---|---|---|---|
| | | **Male 12 Years older.** | |
| 12 | 0 | 1,428,193 | 23,322,048 |
| 13 | 1 | 1,194,082 | 21,893,855 |
| 14 | 2 | 1,082,399 | 20,699,773 |
| 15 | 3 | 1,008,771 | 19,617,374 |
| 16 | 4 | 950,768 | 18,608,603 |
| 17 | 5 | 901,649 | 17,657,835 |
| 18 | 6 | 858,407 | 16,756,186 |
| 19 | 7 | 818,959 | 15,897,779 |
| 20 | 8 | 781,931 | 15,078,820 |
| 21 | 9 | 747,082 | 14,296,889 |
| 22 | 10 | 714,421 | 13,549,807 |
| 23 | 11 | 683,593 | 12,835,386 |
| 24 | 12 | 654,307 | 12,151,793 |
| 25 | 13 | 626,324 | 11,497,486 |
| 26 | 14 | 599,454 | 10,871,162 |
| 27 | 15 | 573,548 | 10,271,708 |
| 28 | 16 | 548,488 | 9,698,160 |
| 29 | 17 | 524,190 | 9,149,672 |
| 30 | 18 | 500,594 | 8,625,482 |
| 31 | 19 | 477,661 | 8,124,888 |
| 32 | 20 | 455,371 | 7,647,227 |
| 33 | 21 | 433,717 | 7,191,856 |
| 34 | 22 | 412,901 | 6,758,139 |
| 35 | 23 | 392,899 | 6,345,238 |
| 36 | 24 | 373,685 | 5,952,339 |
| 37 | 25 | 355,233 | 5,578,654 |
| 38 | 26 | 337,516 | 5,223,421 |
| 39 | 27 | 320,510 | 4,885,905 |
| 40 | 28 | 304,190 | 4,565,395 |
| 41 | 29 | 288,530 | 4,261,205 |
| 42 | 30 | 273,506 | 3,972,675 |
| 43 | 31 | 259,095 | 3,699,169 |
| 44 | 32 | 245,274 | 3,440,074 |
| 45 | 33 | 232,021 | 3,194,800 |
| 46 | 34 | 219,314 | 2,962,779 |
| 47 | 35 | 207,134 | 2,743,465 |
| 48 | 36 | 195,461 | 2,536,331 |
| 49 | 37 | 184,277 | 2,340,870 |
| 50 | 38 | 173,564 | 2,156,593 |
| 51 | 39 | 163,306 | 1,983,029 |
| 52 | 40 | 153,401 | 1,819,723 |
| 53 | 41 | 143,911 | 1,666,322 |
| 54 | 42 | 134,828 | 1,522,411 |
| 55 | 43 | 126,140 | 1,387,583 |
| 56 | 44 | 117,832 | 1,261,443 |
| 57 | 45 | 109,891 | 1,143,611 |
| 58 | 46 | 102,301 | 1,033,720 |
| 59 | 47 | 95,048·5 | 931,419·3 |
| 60 | 48 | 88,118·1 | 836,370·8 |
| 61 | 49 | 81,497·3 | 748,252·7 |
| 62 | 50 | 75,174·6 | 666,755·4 |
| 63 | 51 | 69,139·9 | 591,580·8 |
| 64 | 52 | 63,384·8 | 522,440·9 |
| 65 | 53 | 57,902·8 | 459,056·1 |
| 66 | 54 | 52,689·0 | 401,153·3 |
| 67 | 55 | 47,667·2 | 348,464·3 |
| 68 | 56 | 42,889·9 | 300,797·1 |
| 69 | 57 | 38,364·3 | 257,907·2 |
| 70 | 58 | 34,097·2 | 219,542·9 |
| 71 | 59 | 30,094·5 | 185,445·7 |
| 72 | 60 | 26,361·6 | 155,351·2 |
| 73 | 61 | 22,902·8 | 128,989·6 |
| 74 | 62 | 19,721·3 | 106,086·8 |
| 75 | 63 | 16,818·4 | 86,365·5 |
| 76 | 64 | 14,193·5 | 69,547·1 |
| 77 | 65 | 11,843·6 | 55,353·6 |
| 78 | 66 | 9,762·89 | 43,510·00 |
| 79 | 67 | 7,942·56 | 33,747·11 |
| 80 | 68 | 6,370·88 | 25,804·55 |
| 81 | 69 | 5,033·17 | 19,433·67 |
| 82 | 70 | 3,912·12 | 14,400·50 |
| 83 | 71 | 2,988·25 | 10,488·38 |
| 84 | 72 | 2,240·47 | 7,500·13 |
| 85 | 73 | 1,646·79 | 5,259·66 |
| 86 | 74 | 1,185·10 | 3,612·87 |
| 87 | 75 | 833·898 | 2,427·766 |
| 88 | 76 | 572·936 | 1,593·868 |
| 89 | 77 | 383·806 | 1,020·932 |
| 90 | 78 | 250·314 | 637·126 |
| 91 | 79 | 158·695 | 386·812 |
| 92 | 80 | 97·6459 | 228·1173 |
| 93 | 81 | 58·2175 | 130·4714 |
| 94 | 82 | 33·5761 | 72·2539 |
| 95 | 83 | 18·6997 | 38·6778 |
| 96 | 84 | 10·0390 | 19·9781 |
| 97 | 85 | 5·1857 | 9·9391 |
| 98 | 86 | 2·5726 | 4·7534 |
| 99 | 87 | 1·2234 | 2·1808 |
| 100 | 88 | ·5565 | ·9574 |
| 101 | 89 | ·2417 | ·4009 |
| 102 | 90 | ·1000 | ·1592 |
| 103 | 91 | ·0393 | ·0592 |
| 104 | 92 | ·0147 | ·0199 |
| 105 | 93 | ·0052 | ·0052 |
| | | **Male 95 Years older.** | |
| 95 | 0 | 998·478 | 2,302·456 |
| 96 | 1 | 552·466 | 1,303·978 |
| 97 | 2 | 323·138 | 751·512 |
| 98 | 3 | 189·299 | 428·374 |
| 99 | 4 | 109·146 | 239·075 |
| 100 | 5 | 61·5652 | 129·9290 |
| 101 | 6 | 33·8606 | 68·3638 |
| 102 | 7 | 18·1061 | 34·5032 |
| 103 | 8 | 9·3898 | 16·3971 |
| 104 | 9 | 4·7164 | 7·0073 |
| 105 | 10 | 2·2909 | 2·2909 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 13 Years older than Female.

### Male 94 Years older than Female.

**Male 13 Years older.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 13 | 0 | 1,400,530 | 22,719,165 |
| 14 | 1 | 1,171,022 | 21,318,635 |
| 15 | 2 | 1,061,343 | 20,147,613 |
| 16 | 3 | 988,832 | 19,086,270 |
| 17 | 4 | 931,545 | 18,097,438 |
| 18 | 5 | 882,911 | 17,165,893 |
| 19 | 6 | 840,016 | 16,282,982 |
| 20 | 7 | 800,844 | 15,442,966 |
| 21 | 8 | 764,078 | 14,642,122 |
| 22 | 9 | 729,889 | 13,878,044 |
| 23 | 10 | 697,855 | 13,148,155 |
| 24 | 11 | 667,625 | 12,450,300 |
| 25 | 12 | 638,912 | 11,782,675 |
| 26 | 13 | 611,483 | 11,143,763 |
| 27 | 14 | 585,148 | 10,532,280 |
| 28 | 15 | 559,760 | 9,947,132 |
| 29 | 16 | 535,205 | 9,387,372 |
| 30 | 17 | 511,399 | 8,852,167 |
| 31 | 18 | 488,281 | 8,340,768 |
| 32 | 19 | 465,814 | 7,852,487 |
| 33 | 20 | 443,977 | 7,386,673 |
| 34 | 21 | 422,764 | 6,942,696 |
| 35 | 22 | 402,371 | 6,519,932 |
| 36 | 23 | 382,774 | 6,117,561 |
| 37 | 24 | 363,947 | 5,734,787 |
| 38 | 25 | 345,865 | 5,370,840 |
| 39 | 26 | 328,504 | 5,024,975 |
| 40 | 27 | 311,837 | 4,696,471 |
| 41 | 28 | 295,840 | 4,384,634 |
| 42 | 29 | 280,490 | 4,088,794 |
| 43 | 30 | 265,762 | 3,808,304 |
| 44 | 31 | 251,635 | 3,542,542 |
| 45 | 32 | 238,085 | 3,290,907 |
| 46 | 33 | 225,092 | 3,052,822 |
| 47 | 34 | 212,635 | 2,827,730 |
| 48 | 35 | 200,695 | 2,615,095 |
| 49 | 36 | 189,254 | 2,414,400 |
| 50 | 37 | 178,293 | 2,225,146 |
| 51 | 38 | 167,795 | 2,046,853 |
| 52 | 39 | 157,657 | 1,879,058 |
| 53 | 40 | 147,943 | 1,721,401 |
| 54 | 41 | 138,643 | 1,573,458 |
| 55 | 42 | 129,746 | 1,434,815 |
| 56 | 43 | 121,238 | 1,305,069 |
| 57 | 44 | 113,104 | 1,183,831 |
| 58 | 45 | 105,327 | 1,070,727 |
| 59 | 46 | 97,894·5 | 965,400·3 |
| 60 | 47 | 90,790·5 | 867,505·8 |
| 61 | 48 | 84,002·0 | 776,715·3 |
| 62 | 49 | 77,517·1 | 692,713·3 |
| 63 | 50 | 71,325·6 | 615,196·2 |
| 64 | 51 | 65,418·8 | 543,870·6 |
| 65 | 52 | 59,789·9 | 478,451·8 |
| 66 | 53 | 54,434·0 | 418,661·9 |
| 67 | 54 | 49,347·7 | 364,227·9 |
| 68 | 55 | 44,461·3 | 314,880·2 |
| 69 | 56 | 39,825·4 | 270,418·9 |
| 70 | 57 | 35,448·1 | 230,593·5 |
| 71 | 58 | 31,336·6 | 195,145·4 |
| 72 | 59 | 27,497·0 | 163,808·8 |
| 73 | 60 | 23,934·3 | 136,311·8 |
| 74 | 61 | 20,652·2 | 112,377·5 |
| 75 | 62 | 17,652·6 | 91,725·3 |
| 76 | 63 | 14,935·1 | 74,072·7 |
| 77 | 64 | 12,497·1 | 59,137·6 |
| 78 | 65 | 10,333·2 | 46,640·5 |
| 79 | 66 | 8,434·95 | 36,307·34 |
| 80 | 67 | 6,791·01 | 27,872·39 |
| 81 | 68 | 5,386·99 | 21,081·38 |
| 82 | 69 | 4,205·87 | 15,694·39 |
| 83 | 70 | 3,228·34 | 11,488·52 |
| 84 | 71 | 2,433·37 | 8,260·18 |
| 85 | 72 | 1,798·94 | 5,826·81 |
| 86 | 73 | 1,302·73 | 4,027·87 |
| 87 | 74 | 922·900 | 2,725·144 |
| 88 | 75 | 638·741 | 1,802·244 |
| 89 | 76 | 431·273 | 1,163·503 |
| 90 | 77 | 283·664 | 732·230 |
| 91 | 78 | 181·478 | 448·566 |
| 92 | 79 | 112·756 | 267·088 |
| 93 | 80 | 67·9280 | 154·3320 |
| 94 | 81 | 39·6128 | 86·4040 |
| 95 | 82 | 22·3233 | 46·7912 |
| 96 | 83 | 12·1355 | 24·4679 |
| 97 | 84 | 6·3526 | 12·3324 |
| 98 | 85 | 3·1962 | 5·9798 |
| 99 | 86 | 1·5427 | 2·7836 |
| 100 | 87 | ·7129 | 1·2409 |
| 101 | 88 | ·3148 | ·5280 |
| 102 | 89 | ·1326 | ·2132 |
| 103 | 90 | ·0531 | ·0806 |
| 104 | 91 | ·0202 | ·0275 |
| 105 | 92 | ·0073 | ·0073 |

**Male 94 Years older.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 94 | 0 | 1,501·79 | 3,585·12 |
| 95 | 1 | 851·296 | 2,083·326 |
| 96 | 2 | 510·655 | 1,232·030 |
| 97 | 3 | 307·132 | 721·375 |
| 98 | 4 | 182·012 | 414·243 |
| 99 | 5 | 105·643 | 232·231 |
| 100 | 6 | 59·8566 | 126·5883 |
| 101 | 7 | 33·0117 | 66·7317 |
| 102 | 8 | 17·6785 | 33·7200 |
| 103 | 9 | 9·1809 | 16·0415 |
| 104 | 10 | 4·6165 | 6·8606 |
| 105 | 11 | 2·2441 | 2·2441 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

**Male 14 Years older than Female.**

**Male 93 Years older than Female.**

| Ages *x* | Ages *y* | $D_{x,\ y}$ | $N_{x,\ y}$ |
|---|---|---|---|
| | | **Male 14 Years older.** | |
| 14 | 0 | 1,373,483 | 22,123,366 |
| 15 | 1 | 1,148,242 | 20,749,883 |
| 16 | 2 | 1,040,365 | 19,601,641 |
| 17 | 3 | 968,839 | 18,561,276 |
| 18 | 4 | 912,186 | 17,592,437 |
| 19 | 5 | 863,995 | 16,680,251 |
| 20 | 6 | 821,436 | 15,816,256 |
| 21 | 7 | 782,559 | 14,994,820 |
| 22 | 8 | 746,493 | 14,212,261 |
| 23 | 9 | 712,964 | 13,465,768 |
| 24 | 10 | 681,553 | 12,752,804 |
| 25 | 11 | 651,917 | 12,071,251 |
| 26 | 12 | 623,773 | 11,419,334 |
| 27 | 13 | 596,889 | 10,795,561 |
| 28 | 14 | 571,082 | 10,198,672 |
| 29 | 15 | 546,205 | 9,627,590 |
| 30 | 16 | 522,145 | 9,081,385 |
| 31 | 17 | 498,820 | 8,559,240 |
| 32 | 18 | 476,170 | 8,060,420 |
| 33 | 19 | 454,159 | 7,584,250 |
| 34 | 20 | 432,765 | 7,130,091 |
| 35 | 21 | 411,982 | 6,697,326 |
| 36 | 22 | 392,002 | 6,285,344 |
| 37 | 23 | 372,800 | 5,893,342 |
| 38 | 24 | 354,350 | 5,520,542 |
| 39 | 25 | 336,630 | 5,166,192 |
| 40 | 26 | 319,614 | 4,829,562 |
| 41 | 27 | 303,277 | 4,509,948 |
| 42 | 28 | 287,596 | 4,206,671 |
| 43 | 29 | 272,548 | 3,919,075 |
| 44 | 30 | 258,110 | 3,646,527 |
| 45 | 31 | 244,259 | 3,388,417 |
| 46 | 32 | 230,975 | 3,144,158 |
| 47 | 33 | 218,237 | 2,913,183 |
| 48 | 34 | 206,025 | 2,694,946 |
| 49 | 35 | 194,321 | 2,488,921 |
| 50 | 36 | 183,107 | 2,294,600 |
| 51 | 37 | 172,366 | 2,111,493 |
| 52 | 38 | 161,991 | 1,939,127 |
| 53 | 39 | 152,047 | 1,777,136 |
| 54 | 40 | 142,527 | 1,625,089 |
| 55 | 41 | 133,417 | 1,482,562 |
| 56 | 42 | 124,704 | 1,349,145 |
| 57 | 43 | 116,373 | 1,224,441 |
| 58 | 44 | 108,406 | 1,108,068 |
| 59 | 45 | 100,790 | 999,662 |
| 60 | 46 | 93,509·0 | 898,871·5 |
| 61 | 47 | 86,549·6 | 805,362·5 |
| 62 | 48 | 79,899·5 | 718,812·9 |
| 63 | 49 | 73,548·2 | 638,913·4 |
| 64 | 50 | 67,486·8 | 565,365·2 |
| 65 | 51 | 61,708·5 | 497,878·4 |
| 66 | 52 | 56,208·0 | 436,169·9 |
| 67 | 53 | 50,982·0 | 379,961·9 |
| 68 | 54 | 46,028·7 | 328,979·9 |
| 69 | 55 | 41,284·4 | 282,951·2 |
| 70 | 56 | 36,798·1 | 241,666·8 |
| 71 | 57 | 32,578·1 | 204,868·7 |
| 72 | 58 | 28,631·9 | 172,290·6 |
| 73 | 59 | 24,965·2 | 143,658·7 |
| 74 | 60 | 21,582·4 | 118,693·5 |
| 75 | 61 | 18,485·9 | 97,111·1 |
| 76 | 62 | 15,675·8 | 78,625·2 |
| 77 | 63 | 13,150·0 | 62,949·4 |
| 78 | 64 | 10,903·3 | 49,799·4 |
| 79 | 65 | 8,927·66 | 38,896·12 |
| 80 | 66 | 7,212·01 | 29,968·46 |
| 81 | 67 | 5,742·24 | 22,756·45 |
| 82 | 68 | 4,501·54 | 17,014·21 |
| 83 | 69 | 3,470·74 | 12,512·67 |
| 84 | 70 | 2,628·87 | 9,041·93 |
| 85 | 71 | 1,953·82 | 6,413·06 |
| 86 | 72 | 1,423·09 | 4,459·24 |
| 87 | 73 | 1,014·50 | 3,036·15 |
| 88 | 74 | 706·914 | 2,021·647 |
| 89 | 75 | 480·808 | 1,314·733 |
| 90 | 76 | 318·746 | 833·925 |
| 91 | 77 | 205·657 | 515·179 |
| 92 | 78 | 128·944 | 309·522 |
| 93 | 79 | 78·4393 | 180·5775 |
| 94 | 80 | 46·2201 | 102·1382 |
| 95 | 81 | 26·3369 | 55·9181 |
| 96 | 82 | 14·4872 | 29·5812 |
| 97 | 83 | 7·6793 | 15·0940 |
| 98 | 84 | 3·9154 | 7·4147 |
| 99 | 85 | 1·9166 | 3·4993 |
| 100 | 86 | ·8990 | 1·5827 |
| 101 | 87 | ·4033 | ·6837 |
| 102 | 88 | ·1727 | ·2804 |
| 103 | 89 | ·0704 | ·1077 |
| 104 | 90 | ·0273 | ·0373 |
| 105 | 91 | ·0100 | ·0100 |
| | | **Male 93 Years older.** | |
| 93 | 0 | 2,207·13 | 5,457·55 |
| 94 | 1 | 1,280·42 | 3,250·42 |
| 95 | 2 | 786·870 | 1,970·003 |
| 96 | 3 | 485·361 | 1,183·133 |
| 97 | 4 | 295·309 | 697·772 |
| 98 | 5 | 176·171 | 402·463 |
| 99 | 6 | 102·711 | 226·292 |
| 100 | 7 | 58·3561 | 123·5812 |
| 101 | 8 | 32·2321 | 65·2251 |
| 102 | 9 | 17·2853 | 32·9930 |
| 103 | 10 | 8·9863 | 15·7077 |
| 104 | 11 | 4·5221 | 6·7214 |
| 105 | 12 | 2·1993 | 2·1993 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

**Male 15 Years older than Female.**

**Male 92 Years older than Female.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 15 Years older.** | |
| 15 | 0 | 1,346,764 | 21,534,304 |
| 16 | 1 | 1,125,545 | 20,187,540 |
| 17 | 2 | 1,019,330 | 19,061,995 |
| 18 | 3 | 948,705 | 18,042,665 |
| 19 | 4 | 892,643 | 17,093,960 |
| 20 | 5 | 844,885 | 16,201,317 |
| 21 | 6 | 802,681 | 15,356,432 |
| 22 | 7 | 764,549 | 14,553,751 |
| 23 | 8 | 729,183 | 13,789,202 |
| 24 | 9 | 696,309 | 13,060,019 |
| 25 | 10 | 665,518 | 12,363,710 |
| 26 | 11 | 636,470 | 11,698,192 |
| 27 | 12 | 608,886 | 11,061,722 |
| 28 | 13 | 582,541 | 10,452,836 |
| 29 | 14 | 557,252 | 9,870,295 |
| 30 | 15 | 532,876 | 9,313,043 |
| 31 | 16 | 509,302 | 8,780,167 |
| 32 | 17 | 486,448 | 8,270,865 |
| 33 | 18 | 464,256 | 7,784,417 |
| 34 | 19 | 442,690 | 7,320,161 |
| 35 | 20 | 421,728 | 6,877,471 |
| 36 | 21 | 401,365 | 6,455,743 |
| 37 | 22 | 381,787 | 6,054,378 |
| 38 | 23 | 362,969 | 5,672,591 |
| 39 | 24 | 344,888 | 5,309,622 |
| 40 | 25 | 327,520 | 4,964,734 |
| 41 | 26 | 310,841 | 4,637,214 |
| 42 | 27 | 294,826 | 4,326,373 |
| 43 | 28 | 279,453 | 4,031,547 |
| 44 | 29 | 264,700 | 3,752,094 |
| 45 | 30 | 250,545 | 3,487,394 |
| 46 | 31 | 236,965 | 3,236,849 |
| 47 | 32 | 223,941 | 2,999,884 |
| 48 | 33 | 211,453 | 2,775,943 |
| 49 | 34 | 199,482 | 2,564,490 |
| 50 | 35 | 188,011 | 2,365,008 |
| 51 | 36 | 177,021 | 2,176,997 |
| 52 | 37 | 166,404 | 1,999,976 |
| 53 | 38 | 156,227 | 1,833,572 |
| 54 | 39 | 146,481 | 1,677,345 |
| 55 | 40 | 137,155 | 1,530,864 |
| 56 | 41 | 128,233 | 1,393,709 |
| 57 | 42 | 119,700 | 1,265,476 |
| 58 | 43 | 111,540 | 1,145,776 |
| 59 | 44 | 103,736 | 1,034,236 |
| 60 | 45 | 96,274·9 | 930,499·7 |
| 61 | 46 | 89,141·2 | 834,224·8 |
| 62 | 47 | 82,322·7 | 745,083·6 |
| 63 | 48 | 75,808·6 | 662,760·9 |
| 64 | 49 | 69,589·8 | 586,952·3 |
| 65 | 50 | 63,659·3 | 517,362·5 |
| 66 | 51 | 58,011·7 | 453,703·2 |
| 67 | 52 | 52,643·5 | 395,691·5 |
| 68 | 53 | 47,553·1 | 343,048·0 |
| 69 | 54 | 42,739·9 | 295,494·9 |
| 70 | 55 | 38,146·2 | 252,755·0 |
| 71 | 56 | 33,818·8 | 214,608·8 |
| 72 | 57 | 29,766·3 | 180,790·0 |
| 73 | 58 | 25,995·6 | 151,023·7 |
| 74 | 59 | 22,512·0 | 125,028·1 |
| 75 | 60 | 19,318·5 | 102,516·1 |
| 76 | 61 | 16,415·8 | 83,197·6 |
| 77 | 62 | 13,802·2 | 66,781·8 |
| 78 | 63 | 11,472·9 | 52,979·6 |
| 79 | 64 | 9,420·22 | 41,506·65 |
| 80 | 65 | 7,633·28 | 32,086·43 |
| 81 | 66 | 6,098·22 | 24,453·15 |
| 82 | 67 | 4,798·40 | 18,354·93 |
| 83 | 68 | 3,714·73 | 13,556·53 |
| 84 | 69 | 2,826·26 | 9,841·80 |
| 85 | 70 | 2,110·79 | 7,015·54 |
| 86 | 71 | 1,545·61 | 4,904·75 |
| 87 | 72 | 1,108·23 | 3,359·14 |
| 88 | 73 | 777·078 | 2,250·905 |
| 89 | 74 | 532·124 | 1,473·827 |
| 90 | 75 | 355·356 | 941·703 |
| 91 | 76 | 231·092 | 586·347 |
| 92 | 77 | 146·124 | 355·255 |
| 93 | 78 | 89·7008 | 209·1313 |
| 94 | 79 | 53·3722 | 119·4305 |
| 95 | 80 | 30·7298 | 66·0583 |
| 96 | 81 | 17·0919 | 35·3285 |
| 97 | 82 | 9·1674 | 18·2366 |
| 98 | 83 | 4·7331 | 9·0692 |
| 99 | 84 | 2·3479 | 4·3361 |
| 100 | 85 | 1·1170 | 1·9882 |
| 101 | 86 | ·5086 | ·8712 |
| 102 | 87 | ·2212 | ·3626 |
| 103 | 88 | ·0917 | ·1414 |
| 104 | 89 | ·0362 | ·0497 |
| 105 | 90 | ·0135 | ·0135 |
| | | **Male 92 Years older.** | |
| 92 | 0 | 3,172·73 | 8,130·65 |
| 93 | 1 | 1,881·78 | 4,957·92 |
| 94 | 2 | 1,183·52 | 3,076·14 |
| 95 | 3 | 747·893 | 1,892·624 |
| 96 | 4 | 466·678 | 1,144·731 |
| 97 | 5 | 285·832 | 678·053 |
| 98 | 6 | 171·282 | 392·221 |
| 99 | 7 | 100·136 | 220·939 |
| 100 | 8 | 56·9779 | 120·8027 |
| 101 | 9 | 31·5152 | 63·8248 |
| 102 | 10 | 16·9190 | 32·3096 |
| 103 | 11 | 8·8027 | 15·3906 |
| 104 | 12 | 4·4319 | 6·5879 |
| 105 | 13 | 2·1560 | 2·1560 |

## JOINT LIVES:—Male and Female Life.

**Male 16 Years older than Female.**

**Male 91 Years older than Female.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 16 Years older.** | |
| 16 | 0 | 1,320,144 | 20,951,854 |
| 17 | 1 | 1,102,788 | 19,631,710 |
| 18 | 2 | 998,146 | 18,528,922 |
| 19 | 3 | 928,379 | 17,530,776 |
| 20 | 4 | 872,899 | 16,602,397 |
| 21 | 5 | 825,593 | 15,729,498 |
| 22 | 6 | 784,208 | 14,903,905 |
| 23 | 7 | 746,820 | 14,119,697 |
| 24 | 8 | 712,150 | 13,372,877 |
| 25 | 9 | 679,927 | 12,660,727 |
| 26 | 10 | 649,748 | 11,980,800 |
| 27 | 11 | 621,280 | 11,331,052 |
| 28 | 12 | 594,249 | 10,709,772 |
| 29 | 13 | 568,433 | 10,115,523 |
| 30 | 14 | 543,653 | 9,547,090 |
| 31 | 15 | 519,768 | 9,003,437 |
| 32 | 16 | 496,670 | 8,483,669 |
| 33 | 17 | 474,276 | 7,986,999 |
| 34 | 18 | 452,532 | 7,512,723 |
| 35 | 19 | 431,400 | 7,060,191 |
| 36 | 20 | 410,860 | 6,628,791 |
| 37 | 21 | 390,906 | 6,217,931 |
| 38 | 22 | 371,720 | 5,827,025 |
| 39 | 23 | 353,277 | 5,455,305 |
| 40 | 24 | 335,555 | 5,102,028 |
| 41 | 25 | 318,530 | 4,766,473 |
| 42 | 26 | 302,179 | 4,447,943 |
| 43 | 27 | 286,478 | 4,145,764 |
| 44 | 28 | 271,407 | 3,859,286 |
| 45 | 29 | 256,942 | 3,587,879 |
| 46 | 30 | 243,062 | 3,330,937 |
| 47 | 31 | 229,748 | 3,087,875 |
| 48 | 32 | 216,980 | 2,858,127 |
| 49 | 33 | 204,737 | 2,641,147 |
| 50 | 34 | 193,004 | 2,436,410 |
| 51 | 35 | 181,761 | 2,243,406 |
| 52 | 36 | 170,897 | 2,061,645 |
| 53 | 37 | 160,483 | 1,890,748 |
| 54 | 38 | 150,508 | 1,730,265 |
| 55 | 39 | 140,960 | 1,579,757 |
| 56 | 40 | 131,825 | 1,438,797 |
| 57 | 41 | 123,087 | 1,306,972 |
| 58 | 42 | 114,729 | 1,183,885 |
| 59 | 43 | 106,735 | 1,069,156 |
| 60 | 44 | 99,089·2 | 962,420·9 |
| 61 | 45 | 91,777·8 | 863,331·7 |
| 62 | 46 | 84,787·7 | 771,553·9 |
| 63 | 47 | 78,107·7 | 686,766·2 |
| 64 | 48 | 71,728·6 | 608,658·5 |
| 65 | 49 | 65,643·0 | 536,929·9 |
| 66 | 50 | 59,845·6 | 471,286·9 |
| 67 | 51 | 54,332·8 | 411,441·3 |
| 68 | 52 | 49,102·9 | 357,108·5 |
| 69 | 53 | 44,155·4 | 308,005·6 |
| 70 | 54 | 39,491·1 | 263,850·2 |
| 71 | 55 | 35,057·8 | 224,359·1 |
| 72 | 56 | 30,899·9 | 189,301·3 |
| 73 | 57 | 27,025·6 | 158,401·4 |
| 74 | 58 | 23,441·1 | 131,375·8 |
| 75 | 59 | 20,150·5 | 107,934·7 |
| 76 | 60 | 17,155·2 | 87,784·2 |
| 77 | 61 | 14,453·7 | 70,629·0 |
| 78 | 62 | 12,042·0 | 56,175·3 |
| 79 | 63 | 9,912·38 | 44,133·31 |
| 80 | 64 | 8,054·43 | 34,220·93 |
| 81 | 65 | 6,454·44 | 26,166·50 |
| 82 | 66 | 5,095·87 | 19,712·06 |
| 83 | 67 | 3,959·70 | 14,616·19 |
| 84 | 68 | 3,024·95 | 10,656·49 |
| 85 | 69 | 2,269·29 | 7,631·54 |
| 86 | 70 | 1,669·79 | 5,362·25 |
| 87 | 71 | 1,203·65 | 3,692·46 |
| 88 | 72 | 848·872 | 2,488·805 |
| 89 | 73 | 584·940 | 1,639·933 |
| 90 | 74 | 393·283 | 1,054·993 |
| 91 | 75 | 257·634 | 661·710 |
| 92 | 76 | 164·196 | 404·076 |
| 93 | 77 | 101·652 | 239·880 |
| 94 | 78 | 61·0349 | 138·2284 |
| 95 | 79 | 35·4850 | 77·1935 |
| 96 | 80 | 19·9427 | 41·7085 |
| 97 | 81 | 10·8156 | 21·7658 |
| 98 | 82 | 5·6503 | 10·9502 |
| 99 | 83 | 2·8382 | 5·2999 |
| 100 | 84 | 1·3683 | 2·4617 |
| 101 | 85 | ·6319 | 1·0934 |
| 102 | 86 | ·2789 | ·4615 |
| 103 | 87 | ·1175 | ·1826 |
| 104 | 88 | ·0471 | ·0651 |
| 105 | 89 | ·0180 | ·0180 |
| | | **Male 91 Years older.** | |
| 91 | 0 | 4,465·36 | 11,866·35 |
| 92 | 1 | 2,705·05 | 7,400·99 |
| 93 | 2 | 1,739·37 | 4,695·94 |
| 94 | 3 | 1,124·89 | 2,956·57 |
| 95 | 4 | 719·105 | 1,831·681 |
| 96 | 5 | 451·701 | 1,112·576 |
| 97 | 6 | 277·899 | 660·875 |
| 98 | 7 | 166·988 | 382·976 |
| 99 | 8 | 97·7713 | 215·9876 |
| 100 | 9 | 55·7105 | 118·2163 |
| 101 | 10 | 30·8473 | 62·5058 |
| 102 | 11 | 16·5732 | 31·6585 |
| 103 | 12 | 8·6271 | 15·0853 |
| 104 | 13 | 4·3446 | 6·4582 |
| 105 | 14 | 2·1136 | 2·1136 |

## JOINT LIVES:—Male and Female Life.

**Male 17 Years older than Female.**

**Male 90 Years older than Female.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 17 Years older.** | |
| 17 | 0 | 1,293,452 | 20,376,116 |
| 18 | 1 | 1,079,871 | 19,082,664 |
| 19 | 2 | 976,761 | 18,002,793 |
| 20 | 3 | 907,844 | 17,026,032 |
| 21 | 4 | 852,968 | 16,118,188 |
| 22 | 5 | 806,593 | 15,265,220 |
| 23 | 6 | 766,023 | 14,458,627 |
| 24 | 7 | 729,375 | 13,692,604 |
| 25 | 8 | 695,394 | 12,963,229 |
| 26 | 9 | 663,815 | 12,267,835 |
| 27 | 10 | 634,241 | 11,604,020 |
| 28 | 11 | 606,345 | 10,969,779 |
| 29 | 12 | 579,858 | 10,363,434 |
| 30 | 13 | 554,562 | 9,783,576 |
| 31 | 14 | 530,281 | 9,229,014 |
| 32 | 15 | 506,877 | 8,698,733 |
| 33 | 16 | 484,242 | 8,191,856 |
| 34 | 17 | 462,299 | 7,707,614 |
| 35 | 18 | 440,991 | 7,245,315 |
| 36 | 19 | 420,282 | 6,804,324 |
| 37 | 20 | 400,153 | 6,384,042 |
| 38 | 21 | 380,599 | 5,983,889 |
| 39 | 22 | 361,794 | 5,603,290 |
| 40 | 23 | 343,717 | 5,241,496 |
| 41 | 24 | 326,344 | 4,897,779 |
| 42 | 25 | 309,654 | 4,571,435 |
| 43 | 26 | 293,623 | 4,261,781 |
| 44 | 27 | 278,229 | 3,968,158 |
| 45 | 28 | 263,452 | 3,689,929 |
| 46 | 29 | 249,269 | 3,426,477 |
| 47 | 30 | 235,660 | 3,177,208 |
| 48 | 31 | 222,606 | 2,941,548 |
| 49 | 32 | 210,088 | 2,718,942 |
| 50 | 33 | 198,088 | 2,508,854 |
| 51 | 34 | 186,588 | 2,310,766 |
| 52 | 35 | 175,474 | 2,124,178 |
| 53 | 36 | 164,816 | 1,948,704 |
| 54 | 37 | 154,608 | 1,783,888 |
| 55 | 38 | 144,835 | 1,629,280 |
| 56 | 39 | 135,483 | 1,484,445 |
| 57 | 40 | 126,535 | 1,348,962 |
| 58 | 41 | 117,975 | 1,222,427 |
| 59 | 42 | 109,786 | 1,104,452 |
| 60 | 43 | 101,953 | 994,666 |
| 61 | 44 | 94,460·7 | 892,713·2 |
| 62 | 45 | 87,295·5 | 798,252·5 |
| 63 | 46 | 80,446·5 | 710,957·0 |
| 64 | 47 | 73,904·0 | 630,510·5 |
| 65 | 48 | 67,660·4 | 556,606·5 |
| 66 | 49 | 61,710·5 | 488,946·1 |
| 67 | 50 | 56,050·4 | 427,235·6 |
| 68 | 51 | 50,678·5 | 371,185·2 |
| 69 | 52 | 45,594·4 | 320,506·7 |
| 70 | 53 | 40,799·0 | 274,912·3 |
| 71 | 54 | 36,293·8 | 234,113·3 |
| 72 | 55 | 32,032·0 | 197,819·5 |
| 73 | 56 | 28,054·8 | 165,787·5 |
| 74 | 57 | 24,369·9 | 137,732·7 |
| 75 | 58 | 20,982·2 | 113,362·8 |
| 76 | 59 | 17,894·1 | 92,380·6 |
| 77 | 60 | 15,104·7 | 74,486·5 |
| 78 | 61 | 12,610·4 | 59,381·8 |
| 79 | 62 | 10,404·0 | 46,771·4 |
| 80 | 63 | 8,475·23 | 36,367·38 |
| 81 | 64 | 6,810·55 | 27,892·15 |
| 82 | 65 | 5,393·53 | 21,081·60 |
| 83 | 66 | 4,205·18 | 15,688·07 |
| 84 | 67 | 3,224·43 | 11,482·89 |
| 85 | 68 | 2,428·82 | 8,258·46 |
| 86 | 69 | 1,795·17 | 5,829·64 |
| 87 | 70 | 1,300·35 | 4,034·47 |
| 88 | 71 | 921·958 | 2,734·123 |
| 89 | 72 | 638·982 | 1,812·165 |
| 90 | 73 | 432·318 | 1,173·183 |
| 91 | 74 | 285·131 | 740·865 |
| 92 | 75 | 183·054 | 455·734 |
| 93 | 76 | 114·224 | 272·680 |
| 94 | 77 | 69·1667 | 158·4555 |
| 95 | 78 | 40·5796 | 89·2888 |
| 96 | 79 | 23·0287 | 48·7092 |
| 97 | 80 | 12·6196 | 25·6805 |
| 98 | 81 | 6·6661 | 13·0609 |
| 99 | 82 | 3·3882 | 6·3948 |
| 100 | 83 | 1·6540 | 3·0066 |
| 101 | 84 | ·7740 | 1·3526 |
| 102 | 85 | ·3466 | ·5786 |
| 103 | 86 | ·1482 | ·2320 |
| 104 | 87 | ·0604 | ·0838 |
| 105 | 88 | ·0234 | ·0234 |

**Male 90 Years older.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 90 | 0 | 6,159·09 | 16,981·89 |
| 91 | 1 | 3,807·13 | 10,822·80 |
| 92 | 2 | 2,500·33 | 7,015·67 |
| 93 | 3 | 1,653·21 | 4,515·34 |
| 94 | 4 | 1,081·59 | 2,862·13 |
| 95 | 5 | 696·026 | 1,780·541 |
| 96 | 6 | 439·164 | 1,084·515 |
| 97 | 7 | 270·933 | 645·351 |
| 98 | 8 | 163·044 | 374·418 |
| 99 | 9 | 95·5965 | 211·3738 |
| 100 | 10 | 54·5299 | 115·7773 |
| 101 | 11 | 30·2169 | 61·2474 |
| 102 | 12 | 16·2426 | 31·0305 |
| 103 | 13 | 8·4571 | 14·7879 |
| 104 | 14 | 4·2591 | 6·3308 |
| 105 | 15 | 2·0717 | 2·0717 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 18 Years older than Female.

### Male 89 Years Older than Female.

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Male 18 Years older.** | |
| 18 | 0 | 1,266,572 | 19,807,349 |
| 19 | 1 | 1,056,735 | 18,540,777 |
| 20 | 2 | 955,157 | 17,484,042 |
| 21 | 3 | 887,115 | 16,528,885 |
| 22 | 4 | 833,338 | 15,641,770 |
| 23 | 5 | 787,889 | 14,808,432 |
| 24 | 6 | 748,129 | 14,020,543 |
| 25 | 7 | 712,214 | 13,272,414 |
| 26 | 8 | 678,916 | 12,560,200 |
| 27 | 9 | 647,973 | 11,881,284 |
| 28 | 10 | 618,995 | 11,233,311 |
| 29 | 11 | 591,661 | 10,614,316 |
| 30 | 12 | 565,708 | 10,022,655 |
| 31 | 13 | 540,921 | 9,456,947 |
| 32 | 14 | 517,129 | 8,916,026 |
| 33 | 15 | 494,194 | 8,398,897 |
| 34 | 16 | 472,014 | 7,904,703 |
| 35 | 17 | 450,509 | 7,432,689 |
| 36 | 18 | 429,626 | 6,982,180 |
| 37 | 19 | 409,330 | 6,552,554 |
| 38 | 20 | 389,602 | 6,143,224 |
| 39 | 21 | 370,436 | 5,753,622 |
| 40 | 22 | 352,003 | 5,383,186 |
| 41 | 23 | 334,282 | 5,031,183 |
| 42 | 24 | 317,250 | 4,696,901 |
| 43 | 25 | 300,886 | 4,379,651 |
| 44 | 26 | 285,168 | 4,078,765 |
| 45 | 27 | 270,074 | 3,793,597 |
| 46 | 28 | 255,584 | 3,523,523 |
| 47 | 29 | 241,677 | 3,267,939 |
| 48 | 30 | 228,335 | 3,026,262 |
| 49 | 31 | 215,537 | 2,797,927 |
| 50 | 32 | 203,266 | 2,582,390 |
| 51 | 33 | 191,504 | 2,379,124 |
| 52 | 34 | 180,134 | 2,187,620 |
| 53 | 35 | 169,230 | 2,007,486 |
| 54 | 36 | 158,783 | 1,838,256 |
| 55 | 37 | 148,780 | 1,679,473 |
| 56 | 38 | 139,207 | 1,530,693 |
| 57 | 39 | 130,046 | 1,391,486 |
| 58 | 40 | 121,280 | 1,261,440 |
| 59 | 41 | 112,893 | 1,140,160 |
| 60 | 42 | 104,868 | 1,027,267 |
| 61 | 43 | 97,190·9 | 922,399·2 |
| 62 | 44 | 89,847·4 | 825,208·3 |
| 63 | 45 | 82,826·0 | 735,360·9 |
| 64 | 46 | 76,116·9 | 652,534·9 |
| 65 | 47 | 69,712·4 | 576,418·0 |
| 66 | 48 | 63,607·1 | 506,705·6 |
| 67 | 49 | 57,797·1 | 443,098·5 |
| 68 | 50 | 52,280·6 | 385,301·4 |
| 69 | 51 | 47,057·5 | 333,020·8 |
| 70 | 52 | 42,128·6 | 285,963·3 |
| 71 | 53 | 37,495·8 | 243,834·7 |
| 72 | 54 | 33,161·2 | 206,338·9 |
| 73 | 55 | 29,082·6 | 173,177·7 |
| 74 | 56 | 25,298·0 | 144,095·1 |
| 75 | 57 | 21,813·5 | 118,797·1 |
| 76 | 58 | 18,632·6 | 96,983·6 |
| 77 | 59 | 15,755·3 | 78,351·0 |
| 78 | 60 | 13,178·4 | 62,595·7 |
| 79 | 61 | 10,895·1 | 49,417·3 |
| 80 | 62 | 8,895·59 | 38,522·21 |
| 81 | 63 | 7,166·36 | 29,626·62 |
| 82 | 64 | 5,691·11 | 22,460·26 |
| 83 | 65 | 4,450·81 | 16,769·15 |
| 84 | 66 | 3,424·32 | 12,318·34 |
| 85 | 67 | 2,588·99 | 8,894·02 |
| 86 | 68 | 1,921·37 | 6,305·03 |
| 87 | 69 | 1,397·99 | 4,383·66 |
| 88 | 70 | 996·030 | 2,985·669 |
| 89 | 71 | 693·997 | 1,989·639 |
| 90 | 72 | 472·260 | 1,295·642 |
| 91 | 73 | 313·432 | 823·382 |
| 92 | 74 | 202·592 | 509·950 |
| 93 | 75 | 127·343 | 307·358 |
| 94 | 76 | 77·7209 | 180·0146 |
| 95 | 77 | 45·9860 | 102·2937 |
| 96 | 78 | 26·3349 | 56·3077 |
| 97 | 79 | 14·5724 | 29·9728 |
| 98 | 80 | 7·7780 | 15·4004 |
| 99 | 81 | 3·9974 | 7·6224 |
| 100 | 82 | 1·9746 | 3·6250 |
| 101 | 83 | ·9357 | 1·6504 |
| 102 | 84 | ·4245 | ·7147 |
| 103 | 85 | ·1841 | ·2902 |
| 104 | 86 | ·0761 | ·1061 |
| 105 | 87 | ·0300 | ·0300 |

**Male 89 Years older.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 89 | 0 | 8,333·44 | 23,852·42 |
| 90 | 1 | 5,251·20 | 15,518·98 |
| 91 | 2 | 3,519·01 | 10,267·78 |
| 92 | 3 | 2,376·48 | 6,748·77 |
| 93 | 4 | 1,589·58 | 4,372·29 |
| 94 | 5 | 1,046·88 | 2,782·71 |
| 95 | 6 | 676·709 | 1,735·834 |
| 96 | 7 | 428·155 | 1,059·125 |
| 97 | 8 | 264·534 | 630·970 |
| 98 | 9 | 159·418 | 366·436 |
| 99 | 10 | 93·5707 | 207·0184 |
| 100 | 11 | 53·4156 | 113·4477 |
| 101 | 12 | 29·6141 | 60·0321 |
| 102 | 13 | 15·9226 | 30·4180 |
| 103 | 14 | 8·2907 | 14·4954 |
| 104 | 15 | 4·1747 | 6·2047 |
| 105 | 16 | 2·0300 | 2·0300 |

## JOINT LIVES:—Male and Female Life.

**Male 19 Years older than Female.**

**Male 88 Years older than Female.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Male 19 Years older.** | |
| 19 | 0 | 1,239,436 | 19,245,924 |
| 20 | 1 | 1,033,361 | 18,006,488 |
| 21 | 2 | 933,348 | 16,973,127 |
| 22 | 3 | 866,700 | 16,039,779 |
| 23 | 4 | 814,014 | 15,173,079 |
| 24 | 5 | 769,485 | 14.359,065 |
| 25 | 6 | 730,527 | 13,589,580 |
| 26 | 7 | 695,338 | 12,859,053 |
| 27 | 8 | 662,714 | 12,163,715 |
| 28 | 9 | 632,396 | 11,501,001 |
| 29 | 10 | 604,004 | 10,868,605 |
| 30 | 11 | 577,223 | 10,264,601 |
| 31 | 12 | 551,793 | 9,687,378 |
| 32 | 13 | 527,505 | 9,135,585 |
| 33 | 14 | 504,190 | 8,608,080 |
| 34 | 15 | 481,714 | 8,103,890 |
| 35 | 16 | 459,976 | 7,622,176 |
| 36 | 17 | 438,899 | 7,162,200 |
| 37 | 18 | 418,431 | 6.723.301 |
| 38 | 19 | 398,537 | 6,304,870 |
| 39 | 20 | 379,199 | 5,906,333 |
| 40 | 21 | 360,411 | 5,527,134 |
| 41 | 22 | 342,341 | 5,166,723 |
| 42 | 23 | 324,967 | 4,824,382 |
| 43 | 24 | 308,268 | 4,499,415 |
| 44 | 25 | 292.222 | 4,191,147 |
| 45 | 26 | 276,810 | 3,898,925 |
| 46 | 27 | 262,009 | 3,622,115 |
| 47 | 28 | 247,801 | 3,360,106 |
| 48 | 29 | 234,165 | 3,112,305 |
| 49 | 30 | 221,083 | 2,878,140 |
| 50 | 31 | 208,537 | 2,657,057 |
| 51 | 32 | 196,509 | 2,448,520 |
| 52 | 33 | 184,879 | 2,252,011 |
| 53 | 34 | 173,724 | 2,067,132 |
| 54 | 35 | 163,035 | 1,893,408 |
| 55 | 36 | 152,798 | 1,730,373 |
| 56 | 37 | 142,999 | 1,577,575 |
| 57 | 38 | 133,620 | 1,434,576 |
| 58 | 39 | 124,645 | 1,300,956 |
| 59 | 40 | 116,055 | 1,176,311 |
| 60 | 41 | 107,836 | 1,060,256 |
| 61 | 42 | 99,969·8 | 952,419·6 |
| 62 | 43 | 92,444·3 | 852,449·8 |
| 63 | 44 | 85,247·1 | 760,005·5 |
| 64 | 45 | 78,368·3 | 674,758·4 |
| 65 | 46 | 71,799·9 | 596,390·1 |
| 66 | 47 | 65,536·1 | 524,590·2 |
| 67 | 48 | 59,573·4 | 459,054·1 |
| 68 | 49 | 53,909·8 | 399,480·7 |
| 69 | 50 | 48,545·1 | 345,570·9 |
| 70 | 51 | 43,480·5 | 297,025·8 |
| 71 | 52 | 38,717·8 | 253,545·3 |
| 72 | 53 | 34,259·5 | 214,827·5 |
| 73 | 54 | 30,107·9 | 180,568·0 |
| 74 | 55 | 26,224·8 | 150,460·1 |
| 75 | 56 | 22,644·3 | 124,235·3 |
| 76 | 57 | 19,370·9 | 101,591·0 |
| 77 | 58 | 16,405·6 | 82,220·1 |
| 78 | 59 | 13,746·0 | 65,814·5 |
| 79 | 60 | 11,385·9 | 52,068·5 |
| 80 | 61 | 9,315·51 | 40,682·63 |
| 81 | 62 | 7,521·80 | 31,367·12 |
| 82 | 63 | 5,988·44 | 23,845·32 |
| 83 | 64 | 4,696·38 | 17,856·88 |
| 84 | 65 | 3,624·35 | 13,160·50 |
| 85 | 66 | 2,749·49 | 9,536·15 |
| 86 | 67 | 2,048·08 | 6,786·66 |
| 87 | 68 | 1,496·27 | 4,738·58 |
| 88 | 69 | 1,070·82 | 3,242·31 |
| 89 | 70 | 749·754 | 2,171·492 |
| 90 | 71 | 512·921 | 1,421·738 |
| 91 | 72 | 342·390 | 908·817 |
| 92 | 73 | 222·700 | 566·427 |
| 93 | 74 | 140·934 | 343·727 |
| 94 | 75 | 86·6476 | 202·7926 |
| 95 | 76 | 51·6734 | 116·1450 |
| 96 | 77 | 29·8436 | 64·4716 |
| 97 | 78 | 16·6645 | 34·6280 |
| 98 | 79 | 8·9816 | 17·9635 |
| 99 | 80 | 4·6642 | 8·9819 |
| 100 | 81 | 2·3296 | 4·3177 |
| 101 | 82 | 1·1170 | 1·9881 |
| 102 | 83 | ·5132 | ·8711 |
| 103 | 84 | ·2255 | ·3579 |
| 104 | 85 | ·0946 | ·1324 |
| 105 | 86 | ·0378 | ·0378 |
| | | **Male 88 Years older.** | |
| 88 | 0 | 11,070·8 | 32,911·0 |
| 89 | 1 | 7,105·03 | 21,840·24 |
| 90 | 2 | 4,853·79 | 14,735·21 |
| 91 | 3 | 3,344·70 | 9,881·42 |
| 92 | 4 | 2,285·00 | 6,536·72 |
| 93 | 5 | 1,538.56 | 4,251·72 |
| 94 | 6 | 1,017·83 | 2,713·16 |
| 95 | 7 | 659·745 | 1,695·332 |
| 96 | 8 | 418·044 | 1,035·587 |
| 97 | 9 | 258·650 | 617·543 |
| 98 | 10 | 156·039 | 358·893 |
| 99 | 11 | 91·6585 | 202·8538 |
| 100 | 12 | 52·3500 | 111·1953 |
| 101 | 13 | 29·0307 | 58·8453 |
| 102 | 14 | 15·6094 | 29·8146 |
| 103 | 15 | 8·1264 | 14·2052 |
| 104 | 16 | 4·0906 | 6·0788 |
| 105 | 17 | 1·9882 | 1·9882 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 20 Years older than Female.

### Male 87 Years older than Female.

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Male 20 Years older.** | |
| 20 | 0 | 1,212,022 | 18,692,296 |
| 21 | 1 | 1,009,766 | 17,480,274 |
| 22 | 2 | 911,868 | 16,470,508 |
| 23 | 3 | 846,602 | 15,558,640 |
| 24 | 4 | 794,999 | 14,712,038 |
| 25 | 5 | 751,381 | 13,917,039 |
| 26 | 6 | 713,217 | 13,165,658 |
| 27 | 7 | 678,743 | 12,452,441 |
| 28 | 8 | 646,783 | 11,773,698 |
| 29 | 9 | 617,081 | 11,126,915 |
| 30 | 10 | 589,265 | 10,509,834 |
| 31 | 11 | 563,025 | 9,920,569 |
| 32 | 12 | 538,107 | 9,357,544 |
| 33 | 13 | 514,306 | 8,819,437 |
| 34 | 14 | 491,457 | 8,305,131 |
| 35 | 15 | 469,429 | 7,813,674 |
| 36 | 16 | 448,122 | 7,344,245 |
| 37 | 17 | 427,462 | 6,896,123 |
| 38 | 18 | 407,398 | 6,468,661 |
| 39 | 19 | 387,895 | 6,061,263 |
| 40 | 20 | 368,937 | 5,673,368 |
| 41 | 21 | 350,518 | 5,304,431 |
| 42 | 22 | 332,801 | 4,953,913 |
| 43 | 23 | 315,766 | 4,621,112 |
| 44 | 24 | 299,391 | 4,305,346 |
| 45 | 25 | 283,657 | 4,005,955 |
| 46 | 26 | 268,543 | 3,722,298 |
| 47 | 27 | 254,030 | 3,453,755 |
| 48 | 28 | 240,097 | 3,199,725 |
| 49 | 29 | 226,728 | 2,959,628 |
| 50 | 30 | 213,903 | 2,732,900 |
| 51 | 31 | 201,605 | 2,518,997 |
| 52 | 32 | 189,711 | 2,317,392 |
| 53 | 33 | 178,301 | 2,127,681 |
| 54 | 34 | 167,365 | 1,949,380 |
| 55 | 35 | 156,890 | 1,782,015 |
| 56 | 36 | 146,861 | 1,625,125 |
| 57 | 37 | 137,260 | 1,478,264 |
| 58 | 38 | 128,071 | 1,341,004 |
| 59 | 39 | 119,275 | 1,212,933 |
| 60 | 40 | 110,856 | 1,093,658 |
| 61 | 41 | 102,798 | 982,802 |
| 62 | 42 | 95,087·5 | 880,004·4 |
| 63 | 43 | 87,711·1 | 784,916·9 |
| 64 | 44 | 80,659·2 | 697,205·8 |
| 65 | 45 | 73,923·5 | 616,546·6 |
| 66 | 46 | 67,498·5 | 542,623·1 |
| 67 | 47 | 61,380·1 | 475,124·6 |
| 68 | 48 | 55,566·6 | 413,744·5 |
| 69 | 49 | 50,057·9 | 358,177·9 |
| 70 | 50 | 44,855·0 | 308,120·0 |
| 71 | 51 | 39,960·2 | 263,265·0 |
| 72 | 52 | 35,376·0 | 223,304·8 |
| 73 | 53 | 31,105·1 | 187,928·8 |
| 74 | 54 | 27,149·4 | 156,823·7 |
| 75 | 55 | 23,473·9 | 129,674·3 |
| 76 | 56 | 20,108·6 | 106,200·4 |
| 77 | 57 | 17,055·6 | 86,091·8 |
| 78 | 58 | 14,313·3 | 69,036·2 |
| 79 | 59 | 11,876·3 | 54,722·9 |
| 80 | 60 | 9,735·08 | 42,846·56 |
| 81 | 61 | 7,876·88 | 33,111·48 |
| 82 | 62 | 6,285·46 | 25,234·60 |
| 83 | 63 | 4,941·74 | 18,949·14 |
| 84 | 64 | 3,824·31 | 14,007·40 |
| 85 | 65 | 2,910·09 | 10,183·09 |
| 86 | 66 | 2,175·05 | 7,273·00 |
| 87 | 67 | 1,594·94 | 5,097·95 |
| 88 | 68 | 1,146·10 | 3,503·01 |
| 89 | 69 | 806·051 | 2,356·912 |
| 90 | 70 | 554·130 | 1,550·861 |
| 91 | 71 | 371·869 | 996·731 |
| 92 | 72 | 243·275 | 624·862 |
| 93 | 73 | 154·923 | 381·587 |
| 94 | 74 | 95·8955 | 226·6639 |
| 95 | 75 | 57·6084 | 130·7684 |
| 96 | 76 | 33·5345 | 73·1600 |
| 97 | 77 | 18·8847 | 39·6255 |
| 98 | 78 | 10·2711 | 20·7408 |
| 99 | 79 | 5·3859 | 10·4697 |
| 100 | 80 | 2·7181 | 5·0838 |
| 101 | 81 | 1·3178 | 2·3657 |
| 102 | 82 | ·6126 | 1·0479 |
| 103 | 83 | ·2726 | ·4353 |
| 104 | 84 | ·1158 | ·1627 |
| 105 | 85 | ·0469 | ·0469 |
| | | **Male 87 Years older.** | |
| 87 | 0 | 14,453·3 | 44,646·4 |
| 88 | 1 | 9,438·86 | 30,193·10 |
| 89 | 2 | 6,567·33 | 20,754·24 |
| 90 | 3 | 4,613·37 | 14,186·91 |
| 91 | 4 | 3,215·95 | 9,573·54 |
| 92 | 5 | 2,211·67 | 6,357·59 |
| 93 | 6 | 1,495·86 | 4,145·92 |
| 94 | 7 | 992·310 | 2,650·062 |
| 95 | 8 | 644·164 | 1,657·752 |
| 96 | 9 | 408·745 | 1,013·588 |
| 97 | 10 | 253·169 | 604·843 |
| 98 | 11 | 152·851 | 351·674 |
| 99 | 12 | 89·8300 | 198·8234 |
| 100 | 13 | 51·3185 | 108·9934 |
| 101 | 14 | 28·4596 | 57·6749 |
| 102 | 15 | 15·2999 | 29·2153 |
| 103 | 16 | 7·9628 | 13·9154 |
| 104 | 17 | 4·0064 | 5·9526 |
| 105 | 18 | 1·9462 | 1·9462 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 21 Years older than Female.
### Male 86 Years older than Female.

**Male 21 Years older.**

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 21 | 0 | 1,184,348 | 18,147,004 |
| 22 | 1 | 986,528 | 16,962,656 |
| 23 | 2 | 890,723 | 15,976,128 |
| 24 | 3 | 826,826 | 15,085,405 |
| 25 | 4 | 776,294 | 14,258,579 |
| 26 | 5 | 733,576 | 13,482,285 |
| 27 | 6 | 696,195 | 12,748,709 |
| 28 | 7 | 662,427 | 12,052,514 |
| 29 | 8 | 631,119 | 11,390,087 |
| 30 | 9 | 602,023 | 10,758,968 |
| 31 | 10 | 574,771 | 10,156,945 |
| 32 | 11 | 549,060 | 9,582,174 |
| 33 | 12 | 524,643 | 9,033,114 |
| 34 | 13 | 501,318 | 8,508,471 |
| 35 | 14 | 478,923 | 8,007,153 |
| 36 | 15 | 457,331 | 7,528,230 |
| 37 | 16 | 436,445 | 7,070,899 |
| 38 | 17 | 416,191 | 6,634,454 |
| 39 | 18 | 396,519 | 6,218,263 |
| 40 | 19 | 377,398 | 5,821,744 |
| 41 | 20 | 358,810 | 5,444,346 |
| 42 | 21 | 340,750 | 5,085,536 |
| 43 | 22 | 323,378 | 4,744,786 |
| 44 | 23 | 306,673 | 4,421,408 |
| 45 | 24 | 290,616 | 4,114,735 |
| 46 | 25 | 275,186 | 3,824,119 |
| 47 | 26 | 260,365 | 3,548,933 |
| 48 | 27 | 246,133 | 3,288,568 |
| 49 | 28 | 232,472 | 3,042,435 |
| 50 | 29 | 219,365 | 2,809,963 |
| 51 | 30 | 206,793 | 2,590,598 |
| 52 | 31 | 194,631 | 2,383,805 |
| 53 | 32 | 182,961 | 2,189,174 |
| 54 | 33 | 171,774 | 2,006,213 |
| 55 | 34 | 161,056 | 1,834,439 |
| 56 | 35 | 150,793 | 1,673,383 |
| 57 | 36 | 140,967 | 1,522,590 |
| 58 | 37 | 131,560 | 1,381,623 |
| 59 | 38 | 122,554 | 1,250,063 |
| 60 | 39 | 113,932 | 1,127,509 |
| 61 | 40 | 105,678 | 1,013,577 |
| 62 | 41 | 97,778·0 | 907,898·9 |
| 63 | 42 | 90,218·9 | 810,120·9 |
| 64 | 43 | 82,990·5 | 719,902·0 |
| 65 | 44 | 76,084·5 | 636,911·5 |
| 66 | 45 | 69,494·9 | 560,827·0 |
| 67 | 46 | 63,218·0 | 491,332·1 |
| 68 | 47 | 57,251·8 | 428,114·1 |
| 69 | 48 | 51,596·3 | 370,862·3 |
| 70 | 49 | 46,252·8 | 319,266·0 |
| 71 | 50 | 41,223·5 | 273,013·2 |
| 72 | 51 | 36,511·2 | 231,789·7 |
| 73 | 52 | 32,118·8 | 195,278·5 |
| 74 | 53 | 28,048·5 | 163,159·7 |
| 75 | 54 | 24,301·4 | 135,111·2 |
| 76 | 55 | 20,845·3 | 110,809·8 |
| 77 | 56 | 17,705·1 | 89,964·5 |
| 78 | 57 | 14,880·4 | 72,259·4 |
| 79 | 58 | 12,366·4 | 57,379·0 |
| 80 | 59 | 10,154·4 | 45,012·6 |
| 81 | 60 | 8,231·65 | 34,858·17 |
| 82 | 61 | 6,582·17 | 26,626·52 |
| 83 | 62 | 5,186·84 | 20,044·35 |
| 84 | 63 | 4,024·11 | 14,857·51 |
| 85 | 64 | 3,070·65 | 10,833·40 |
| 86 | 65 | 2,302·10 | 7,762·75 |
| 87 | 66 | 1,693·82 | 5,460·65 |
| 88 | 67 | 1,221·68 | 3,766·83 |
| 89 | 68 | 862·716 | 2,545·154 |
| 90 | 69 | 595·738 | 1,682·438 |
| 91 | 70 | 401·745 | 1,086·700 |
| 92 | 71 | 264·221 | 684·955 |
| 93 | 72 | 169·236 | 420·734 |
| 94 | 73 | 105·414 | 251·498 |
| 95 | 74 | 63·7569 | 146·0840 |
| 96 | 75 | 37·3861 | 82·3271 |
| 97 | 76 | 21·2203 | 44·9410 |
| 98 | 77 | 11·6395 | 23·7207 |
| 99 | 78 | 6·1592 | 12·0812 |
| 100 | 79 | 3·1387 | 5·9220 |
| 101 | 80 | 1·5376 | 2·7833 |
| 102 | 81 | ·7228 | 1·2457 |
| 103 | 82 | ·3254 | ·5229 |
| 104 | 83 | ·1400 | ·1975 |
| 105 | 84 | ·0575 | ·0575 |

**Male 86 Years older.**

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 86 | 0 | 18,559·6 | 59,597·6 |
| 87 | 1 | 12,322·8 | 41,038·0 |
| 88 | 2 | 8,724·53 | 28,715·19 |
| 89 | 3 | 6,242·02 | 19,990·66 |
| 90 | 4 | 4,435·78 | 13,748·64 |
| 91 | 5 | 3,112·74 | 9,312·86 |
| 92 | 6 | 2,150·29 | 6,200·12 |
| 93 | 7 | 1,458·36 | 4,049·83 |
| 94 | 8 | 968·875 | 2,591·471 |
| 95 | 9 | 629·836 | 1,622·596 |
| 96 | 10 | 400·083 | 992·760 |
| 97 | 11 | 247·995 | 592·677 |
| 98 | 12 | 149·801 | 344·682 |
| 99 | 13 | 88·0601 | 194·8810 |
| 100 | 14 | 50·3091 | 106·8209 |
| 101 | 15 | 27·8954 | 56·5118 |
| 102 | 16 | 14·9918 | 28·6164 |
| 103 | 17 | 7·7989 | 13·6246 |
| 104 | 18 | 3·9218 | 5·8257 |
| 105 | 19 | 1·9039 | 1·9039 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

**Male 22 Years older than Female.**

**Male 85 Years older than Female.**

| Ages |  | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 22 Years older.** |  |
| 22 | 0 | 1,157,091 | 17,610,653 |
| 23 | 1 | 963,652 | 16,453,562 |
| 24 | 2 | 869,916 | 15,489,910 |
| 25 | 3 | 807,373 | 14,619,994 |
| 26 | 4 | 757,899 | 13,812,621 |
| 27 | 5 | 716,069 | 13,054,722 |
| 28 | 6 | 679,460 | 12,338,653 |
| 29 | 7 | 646,385 | 11,659,193 |
| 30 | 8 | 615,718 | 11,012,808 |
| 31 | 9 | 587,215 | 10,397,090 |
| 32 | 10 | 560,515 | 9,809,875 |
| 33 | 11 | 535,322 | 9,249,360 |
| 34 | 12 | 511,394 | 8,714,038 |
| 35 | 13 | 488,533 | 8,202,644 |
| 36 | 14 | 466,581 | 7,714,111 |
| 37 | 15 | 445,414 | 7,247,530 |
| 38 | 16 | 424,936 | 6,802,116 |
| 39 | 17 | 405,077 | 6,377,180 |
| 40 | 18 | 385,788 | 5,972,103 |
| 41 | 19 | 367,039 | 5,586,315 |
| 42 | 20 | 348,811 | 5,219,276 |
| 43 | 21 | 331,102 | 4,870,465 |
| 44 | 22 | 314,067 | 4,539,363 |
| 45 | 23 | 297,685 | 4,225,296 |
| 46 | 24 | 281,937 | 3,927,611 |
| 47 | 25 | 266,806 | 3,645,674 |
| 48 | 26 | 252,271 | 3,378,868 |
| 49 | 27 | 238,316 | 3,126,597 |
| 50 | 28 | 224,922 | 2,888,281 |
| 51 | 29 | 212,073 | 2,663,359 |
| 52 | 30 | 199,639 | 2,451,286 |
| 53 | 31 | 187,706 | 2,251,647 |
| 54 | 32 | 176,263 | 2,063,941 |
| 55 | 33 | 165,299 | 1,887,678 |
| 56 | 34 | 154,798 | 1,722,379 |
| 57 | 35 | 144,742 | 1,567,581 |
| 58 | 36 | 135,113 | 1,422,839 |
| 59 | 37 | 125,892 | 1,287,726 |
| 60 | 38 | 117,064 | 1,161,834 |
| 61 | 39 | 108,610 | 1,044,770 |
| 62 | 40 | 100,517 | 936,160 |
| 63 | 41 | 92,771·7 | 835,643·3 |
| 64 | 42 | 85,363·3 | 742,871·6 |
| 65 | 43 | 78,283·6 | 657,508·3 |
| 66 | 44 | 71,526·4 | 579,224·7 |
| 67 | 45 | 65,087·9 | 507,698·3 |
| 68 | 46 | 58,966·1 | 442,610·4 |
| 69 | 47 | 53,161·1 | 383,644·3 |
| 70 | 48 | 47,674·3 | 330,483·2 |
| 71 | 49 | 42,508·0 | 282,808·9 |
| 72 | 50 | 37,665·4 | 240,300·9 |
| 73 | 51 | 33,149·5 | 202,635·5 |
| 74 | 52 | 28,962·6 | 169,486·0 |
| 75 | 53 | 25,106·3 | 140,523·4 |
| 76 | 54 | 21,580·2 | 115,417·1 |
| 77 | 55 | 18,353·8 | 93,836·9 |
| 78 | 56 | 15,447·1 | 75,483·1 |
| 79 | 57 | 12,856·4 | 60,036·0 |
| 80 | 58 | 10,573·5 | 47,179·6 |
| 81 | 59 | 8,586·19 | 36,606·11 |
| 82 | 60 | 6,878·62 | 28,019·92 |
| 83 | 61 | 5,431·69 | 21,141·30 |
| 84 | 62 | 4,223·70 | 15,709·61 |
| 85 | 63 | 3,231·08 | 11,485·91 |
| 86 | 64 | 2,429·11 | 8,254·83 |
| 87 | 65 | 1,792·76 | 5,825·72 |
| 88 | 66 | 1,297·41 | 4,032·96 |
| 89 | 67 | 919·608 | 2,735·553 |
| 90 | 68 | 637·618 | 1,815·945 |
| 91 | 69 | 431·911 | 1,178·327 |
| 92 | 70 | 285·449 | 746·416 |
| 93 | 71 | 183·807 | 460·967 |
| 94 | 72 | 115·153 | 277·160 |
| 95 | 73 | 70·0850 | 162·0067 |
| 96 | 74 | 41·3764 | 91·9217 |
| 97 | 75 | 23·6576 | 50·5453 |
| 98 | 76 | 13·0790 | 26·8877 |
| 99 | 77 | 6·9798 | 13·8087 |
| 100 | 78 | 3·5893 | 6·8289 |
| 101 | 79 | 1·7756 | 3·2396 |
| 102 | 80 | ·8434 | 1·4640 |
| 103 | 81 | ·3839 | ·6206 |
| 104 | 82 | ·1672 | ·2367 |
| 105 | 83 | ·0695 | ·0695 |

| Ages |  | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 85 Years older.** |  |
| 85 | 0 | 23,461·3 | 78,346·1 |
| 86 | 1 | 15,823·8 | 54,884·8 |
| 87 | 2 | 11,390·2 | 39,061·0 |
| 88 | 3 | 8,292·37 | 27,670·80 |
| 89 | 4 | 6,001·75 | 19,378·43 |
| 90 | 5 | 4,293·42 | 13,376·68 |
| 91 | 6 | 3,026·35 | 9,083·26 |
| 92 | 7 | 2,096·38 | 6,056·91 |
| 93 | 8 | 1,423·92 | 3,960·53 |
| 94 | 9 | 947·325 | 2,536·607 |
| 95 | 10 | 616·489 | 1,589·282 |
| 96 | 11 | 391·907 | 972·793 |
| 97 | 12 | 243·048 | 580·886 |
| 98 | 13 | 146·850 | 337·838 |
| 99 | 14 | 86·3279 | 190·9884 |
| 100 | 15 | 49·3117 | 104·6605 |
| 101 | 16 | 27·3337 | 55·3488 |
| 102 | 17 | 14·6833 | 28·0151 |
| 103 | 18 | 7·6341 | 13·3318 |
| 104 | 19 | 3·8365 | 5·6977 |
| 105 | 20 | 1·8612 | 1·8612 |

## JOINT LIVES:—Male and Female Life.

**Male 23 Years older than Female.**

**Male 84 Years older than Female.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Male 23 Years older.** | |
| 23 | 0 | 1,130,260 | 17,083,171 |
| 24 | 1 | 941,141 | 15,952,911 |
| 25 | 2 | 849,449 | 15,011,770 |
| 26 | 3 | 788,241 | 14,162,321 |
| 27 | 4 | 739,812 | 13,374,080 |
| 28 | 5 | 698,855 | 12,634,268 |
| 29 | 6 | 663,005 | 11,935,413 |
| 30 | 7 | 630,611 | 11,272,408 |
| 31 | 8 | 600,574 | 10,641,797 |
| 32 | 9 | 572,650 | 10,041,223 |
| 33 | 10 | 546,490 | 9,468,573 |
| 34 | 11 | 521,803 | 8,922,083 |
| 35 | 12 | 498,352 | 8,400,280 |
| 36 | 13 | 475,943 | 7,901,928 |
| 37 | 14 | 454,423 | 7,425,985 |
| 38 | 15 | 433,669 | 6,971,562 |
| 39 | 16 | 413,589 | 6,537,893 |
| 40 | 17 | 394,115 | 6,124,304 |
| 41 | 18 | 375,199 | 5,730,189 |
| 42 | 19 | 356,811 | 5,354,990 |
| 43 | 20 | 338,935 | 4,998,179 |
| 44 | 21 | 321,569 | 4,659,244 |
| 45 | 22 | 304,861 | 4,337,675 |
| 46 | 23 | 288,795 | 4,032,814 |
| 47 | 24 | 273,351 | 3,744,019 |
| 48 | 25 | 258,512 | 3,470,668 |
| 49 | 26 | 244,259 | 3,212,156 |
| 50 | 27 | 230,576 | 2,967,897 |
| 51 | 28 | 217,446 | 2,737,321 |
| 52 | 29 | 204,737 | 2,519,875 |
| 53 | 30 | 192,536 | 2,315,138 |
| 54 | 31 | 180,834 | 2,122,602 |
| 55 | 32 | 169,620 | 1,941,768 |
| 56 | 33 | 158,876 | 1,772,148 |
| 57 | 34 | 148,586 | 1,613,272 |
| 58 | 35 | 138,731 | 1,464,686 |
| 59 | 36 | 129,292 | 1,325,955 |
| 60 | 37 | 120,253 | 1,196,663 |
| 61 | 38 | 111,596 | 1,076,410 |
| 62 | 39 | 103,306 | 964,814 |
| 63 | 40 | 95,370·5 | 861,508·0 |
| 64 | 41 | 87,778·7 | 766,137·5 |
| 65 | 42 | 80,521·9 | 678,358·8 |
| 66 | 43 | 73,593·8 | 597,836·9 |
| 67 | 44 | 66,990·5 | 524,243·1 |
| 68 | 45 | 60,710·3 | 457,252·6 |
| 69 | 46 | 54,752·9 | 396,542·3 |
| 70 | 47 | 49,120·1 | 341,789·4 |
| 71 | 48 | 43,814·5 | 292,669·3 |
| 72 | 49 | 38,839·1 | 248,854·8 |
| 73 | 50 | 34,197·4 | 210,015·7 |
| 74 | 51 | 29,892·0 | 175,818·3 |
| 75 | 52 | 25,924·5 | 145,926·3 |
| 76 | 53 | 22,294·9 | 120,001·8 |
| 77 | 54 | 19,000·8 | 97,706·9 |
| 78 | 55 | 16,013·1 | 78,706·1 |
| 79 | 56 | 13,346·0 | 62,693·0 |
| 80 | 57 | 10,992·4 | 49,347·0 |
| 81 | 58 | 8,940·58 | 38,354·63 |
| 82 | 59 | 7,174·89 | 29,414·05 |
| 83 | 60 | 5,676·33 | 22,239·16 |
| 84 | 61 | 4,423·08 | 16,562·83 |
| 85 | 62 | 3,391·33 | 12,139·75 |
| 86 | 63 | 2,556·02 | 8,748·42 |
| 87 | 64 | 1,891·67 | 6,192·40 |
| 88 | 65 | 1,373·20 | 4,300·73 |
| 89 | 66 | 976·618 | 2,927·532 |
| 90 | 67 | 679·666 | 1,950·914 |
| 91 | 68 | 462·275 | 1,271·248 |
| 92 | 69 | 306·882 | 808·973 |
| 93 | 70 | 198·574 | 502·091 |
| 94 | 71 | 125·067 | 303·517 |
| 95 | 72 | 76·5602 | 178·4502 |
| 96 | 73 | 45·4831 | 101·8900 |
| 97 | 74 | 26·1826 | 56·4069 |
| 98 | 75 | 14·5812 | 30·2243 |
| 99 | 76 | 7·8430 | 15·6431 |
| 100 | 77 | 4·0676 | 7·8001 |
| 101 | 78 | 2·0305 | 3·7325 |
| 102 | 79 | ·9739 | 1·7020 |
| 103 | 80 | ·4479 | ·7281 |
| 104 | 81 | ·1972 | ·2802 |
| 105 | 82 | ·0830 | ·0830 |
| | | **Male 84 Years older.** | |
| 84 | 0 | 29,219·6 | 101,505·5 |
| 85 | 1 | 20,002·9 | 72,285·9 |
| 86 | 2 | 14,626·2 | 52,283·0 |
| 87 | 3 | 10,826·0 | 37,656·8 |
| 88 | 4 | 7,973·17 | 26,830·75 |
| 89 | 5 | 5,809·13 | 18,857·58 |
| 90 | 6 | 4,174·27 | 13,048·45 |
| 91 | 7 | 2,950·49 | 8,874·18 |
| 92 | 8 | 2,046·88 | 5,923·69 |
| 93 | 9 | 1,392·25 | 3,876·81 |
| 94 | 10 | 927·249 | 2,484·564 |
| 95 | 11 | 603·890 | 1,557·315 |
| 96 | 12 | 384·089 | 953·425 |
| 97 | 13 | 238·259 | 569·336 |
| 98 | 14 | 143·961 | 331·077 |
| 99 | 15 | 84·6165 | 187·1162 |
| 100 | 16 | 48·3187 | 102·4997 |
| 101 | 17 | 26·7711 | 54·1810 |
| 102 | 18 | 14·3731 | 27·4099 |
| 103 | 19 | 7·4681 | 13·0368 |
| 104 | 20 | 3·7505 | 5·5687 |
| 105 | 21 | 1·8182 | 1·8182 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

**Male 24 Years older than Female.**

**Male 83 Years older than Female.**

| Ages |  | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 24 Years older.** |  |
| 24 | 0 | 1,103,858 | 16,564,468 |
| 25 | 1 | 918,998 | 15,460,610 |
| 26 | 2 | 829,320 | 14,541,612 |
| 27 | 3 | 769,429 | 13,712,292 |
| 28 | 4 | 722,027 | 12,942,863 |
| 29 | 5 | 681,931 | 12,220,836 |
| 30 | 6 | 646,826 | 11,538,905 |
| 31 | 7 | 615,100 | 10,892,079 |
| 32 | 8 | 585,678 | 10,276,979 |
| 33 | 9 | 558,322 | 9,691,301 |
| 34 | 10 | 532,689 | 9,132,979 |
| 35 | 11 | 508,496 | 8,600,290 |
| 36 | 12 | 485,509 | 8,091,794 |
| 37 | 13 | 463,541 | 7,606,285 |
| 38 | 14 | 442,440 | 7,142,744 |
| 39 | 15 | 422,089 | 6,700,304 |
| 40 | 16 | 402,397 | 6,278,215 |
| 41 | 17 | 383,297 | 5,875,818 |
| 42 | 18 | 364,744 | 5,492,521 |
| 43 | 19 | 346,708 | 5,127,777 |
| 44 | 20 | 329,176 | 4,781,069 |
| 45 | 21 | 312,143 | 4,451,893 |
| 46 | 22 | 295,757 | 4,139,750 |
| 47 | 23 | 280,000 | 3,843,993 |
| 48 | 24 | 264,854 | 3,563,993 |
| 49 | 25 | 250,302 | 3,299,139 |
| 50 | 26 | 236,327 | 3,048,837 |
| 51 | 27 | 222,912 | 2,812,510 |
| 52 | 28 | 209,924 | 2,589,598 |
| 53 | 29 | 197,452 | 2,379,674 |
| 54 | 30 | 185,488 | 2,182,222 |
| 55 | 31 | 174,018 | 1,996,734 |
| 56 | 32 | 163,028 | 1,822,716 |
| 57 | 33 | 152,500 | 1,659,688 |
| 58 | 34 | 142,415 | 1,507,188 |
| 59 | 35 | 132,754 | 1,364,773 |
| 60 | 36 | 123,500 | 1,232,019 |
| 61 | 37 | 114,636 | 1,108,519 |
| 62 | 38 | 106,145 | 993,883 |
| 63 | 39 | 98,016·5 | 887,738·4 |
| 64 | 40 | 90,237·7 | 789,721·9 |
| 65 | 41 | 82,800·3 | 699,484·2 |
| 66 | 42 | 75,698·0 | 616,683·9 |
| 67 | 43 | 68,926·8 | 540,985·9 |
| 68 | 44 | 62,484·9 | 472,059·1 |
| 69 | 45 | 56,372·4 | 409,574·2 |
| 70 | 46 | 50,590·9 | 353,201·8 |
| 71 | 47 | 45,143·3 | 302,610·9 |
| 72 | 48 | 40,032·8 | 257,467·6 |
| 73 | 49 | 35,263·0 | 217,434·8 |
| 74 | 50 | 30,837·0 | 182,171·8 |
| 75 | 51 | 26,756·4 | 151,334·8 |
| 76 | 52 | 23,021·5 | 124,578·4 |
| 77 | 53 | 19,630·1 | 101,556·9 |
| 78 | 54 | 16,577·6 | 81,926·8 |
| 79 | 55 | 13,835·0 | 65,349·2 |
| 80 | 56 | 11,411·0 | 51,514·2 |
| 81 | 57 | 9,294·81 | 40,103·24 |
| 82 | 58 | 7,471·03 | 30,808·43 |
| 83 | 59 | 5,920·82 | 23,337·40 |
| 84 | 60 | 4,622·30 | 17,416·58 |
| 85 | 61 | 3,551·42 | 12,794·28 |
| 86 | 62 | 2,682·79 | 9,242·86 |
| 87 | 63 | 1,990·50 | 6,560·07 |
| 88 | 64 | 1,448·96 | 4,569·57 |
| 89 | 65 | 1,033·66 | 3,120·61 |
| 90 | 66 | 721·801 | 2,086·945 |
| 91 | 67 | 492·759 | 1,365·144 |
| 92 | 68 | 328·456 | 872·385 |
| 93 | 69 | 213·484 | 543·929 |
| 94 | 70 | 135·115 | 330·445 |
| 95 | 71 | 83·1518 | 195·3303 |
| 96 | 72 | 49·6853 | 112·1785 |
| 97 | 73 | 28·7813 | 62·4932 |
| 98 | 74 | 16·1375 | 33·7119 |
| 99 | 75 | 8·7438 | 17·5744 |
| 100 | 76 | 4·5706 | 8·8306 |
| 101 | 77 | 2·3010 | 4·2600 |
| 102 | 78 | 1·1137 | 1·9590 |
| 103 | 79 | ·5173 | ·8453 |
| 104 | 80 | ·2301 | ·3280 |
| 105 | 81 | ·0979 | ·0979 |

| Ages |  | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 83 Years older.** |  |
| 83 | 0 | 35,882·6 | 129,709·4 |
| 84 | 1 | 24,912·4 | 93,826·8 |
| 85 | 2 | 18,489·1 | 68,914·4 |
| 86 | 3 | 13,901·7 | 50,425·3 |
| 87 | 4 | 10,409·3 | 36,523·6 |
| 88 | 5 | 7,717·29 | 26,114·32 |
| 89 | 6 | 5,647·91 | 18,397·03 |
| 90 | 7 | 4,069·63 | 12,749·12 |
| 91 | 8 | 2,880·81 | 8,679·49 |
| 92 | 9 | 2,001·35 | 5,798·68 |
| 93 | 10 | 1,362·74 | 3,797·33 |
| 94 | 11 | 908·300 | 2,434·587 |
| 95 | 12 | 591·843 | 1,526·287 |
| 96 | 13 | 376·521 | 934·444 |
| 97 | 14 | 233·573 | 557·923 |
| 98 | 15 | 141·107 | 324·350 |
| 99 | 16 | 82·9125 | 183·2430 |
| 100 | 17 | 47·3243 | 100·3305 |
| 101 | 18 | 26·2055 | 53·0062 |
| 102 | 19 | 14·0605 | 26·8007 |
| 103 | 20 | 7·3006 | 12·7402 |
| 104 | 21 | 3·6638 | 5·4396 |
| 105 | 22 | 1·7758 | 1·7758 |

## JOINT LIVES:—Male and Female Life.

### Male 25 Years older than Female.

### Male 82 Years older than Female.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 25 Years older.** | |
| 25 | 0 | 1,077,886 | 16,054,456 |
| 26 | 1 | 897,222 | 14,976,570 |
| 27 | 2 | 809,528 | 14,079,348 |
| 28 | 3 | 750,933 | 13,269,820 |
| 29 | 4 | 704,542 | 12,518,887 |
| 30 | 5 | 665,290 | 11,814,345 |
| 31 | 6 | 630,916 | 11,149,055 |
| 32 | 7 | 599,844 | 10,518,139 |
| 33 | 8 | 571,024 | 9,918,295 |
| 34 | 9 | 544,223 | 9,347,271 |
| 35 | 10 | 519,104 | 8,803,048 |
| 36 | 11 | 495,392 | 8,283,944 |
| 37 | 12 | 472,857 | 7,788,552 |
| 38 | 13 | 451,318 | 7,315,695 |
| 39 | 14 | 430,626 | 6,864,377 |
| 40 | 15 | 410,666 | 6,433,751 |
| 41 | 16 | 391,351 | 6,023,085 |
| 42 | 17 | 372,616 | 5,631,734 |
| 43 | 18 | 354,416 | 5,259,118 |
| 44 | 19 | 336,725 | 4,904,702 |
| 45 | 20 | 319,527 | 4,567,977 |
| 46 | 21 | 302,822 | 4,248,450 |
| 47 | 22 | 286,750 | 3,945,628 |
| 48 | 23 | 271,296 | 3,658,878 |
| 49 | 24 | 256,442 | 3,387,582 |
| 50 | 25 | 242,173 | 3,131,140 |
| 51 | 26 | 228,471 | 2,888,967 |
| 52 | 27 | 215,201 | 2,660,496 |
| 53 | 28 | 202,454 | 2,445,295 |
| 54 | 29 | 190,224 | 2,242,841 |
| 55 | 30 | 178,496 | 2,052,617 |
| 56 | 31 | 167,256 | 1,874,121 |
| 57 | 32 | 156,486 | 1,706,865 |
| 58 | 33 | 146,167 | 1,550,379 |
| 59 | 34 | 136,280 | 1,404,212 |
| 60 | 35 | 126,807 | 1,267,932 |
| 61 | 36 | 117,731 | 1,141,125 |
| 62 | 37 | 109,037 | 1,023,394 |
| 63 | 38 | 100,711 | 914,357 |
| 64 | 39 | 92,741·3 | 813,645·9 |
| 65 | 40 | 85,119·8 | 720,904·6 |
| 66 | 41 | 77,839·9 | 635,784·8 |
| 67 | 42 | 70,897·5 | 557,944·9 |
| 68 | 43 | 64,291·0 | 487,047·4 |
| 69 | 44 | 58,020·3 | 422,756·4 |
| 70 | 45 | 52,087·3 | 364,736·1 |
| 71 | 46 | 46,495·0 | 312,648·8 |
| 72 | 47 | 41,246·9 | 266,153·8 |
| 73 | 48 | 36,346·8 | 224,906·9 |
| 74 | 49 | 31,797·9 | 188,560·1 |
| 75 | 50 | 27,602·2 | 156,762·2 |
| 76 | 51 | 23,760·2 | 129,160·0 |
| 77 | 52 | 20,269·9 | 105,399·8 |
| 78 | 53 | 17,126·6 | 85,129·9 |
| 79 | 54 | 14,322·7 | 68,003·3 |
| 80 | 55 | 11,829·1 | 53,680·6 |
| 81 | 56 | 9,648·78 | 41,851·50 |
| 82 | 57 | 7,767·03 | 32,202·72 |
| 83 | 58 | 6,165·19 | 24,435·69 |
| 84 | 59 | 4,821·39 | 18,270·50 |
| 85 | 60 | 3,711·38 | 13,449·11 |
| 86 | 61 | 2,809·44 | 9,737·73 |
| 87 | 62 | 2,089·22 | 6,928·29 |
| 88 | 63 | 1,524·66 | 4,839·07 |
| 89 | 64 | 1,090·70 | 3,314·41 |
| 90 | 65 | 763·963 | 2,223·706 |
| 91 | 66 | 523·307 | 1,459·743 |
| 92 | 67 | 350·116 | 936·436 |
| 93 | 68 | 228·492 | 586·320 |
| 94 | 69 | 145·261 | 357·828 |
| 95 | 70 | 89·8324 | 212·5667 |
| 96 | 71 | 53·9631 | 122·7343 |
| 97 | 72 | 31·4404 | 68·7712 |
| 98 | 73 | 17·7392 | 37·3308 |
| 99 | 74 | 9·6770 | 19·5916 |
| 100 | 75 | 5·0956 | 9·9146 |
| 101 | 76 | 2·5856 | 4·8190 |
| 102 | 77 | 1·2620 | 2·2334 |
| 103 | 78 | ·5915 | ·9714 |
| 104 | 79 | ·2657 | ·3799 |
| 105 | 80 | ·1142 | ·1142 |

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 82 Years older.** | |
| 82 | 0 | 43,482·8 | 163,597·9 |
| 83 | 1 | 30,593·3 | 120,115·1 |
| 84 | 2 | 23,027·1 | 89,521·8 |
| 85 | 3 | 17,573·3 | 66,494·7 |
| 86 | 4 | 13,366·6 | 48,921·4 |
| 87 | 5 | 10,075·2 | 35,554·8 |
| 88 | 6 | 7,503·11 | 25,479·55 |
| 89 | 7 | 5,506·33 | 17,976·44 |
| 90 | 8 | 3,973·52 | 12,470·11 |
| 91 | 9 | 2,816·73 | 8,496·59 |
| 92 | 10 | 1,958·93 | 5,679·86 |
| 93 | 11 | 1,334·89 | 3,720·93 |
| 94 | 12 | 890·180 | 2,386·041 |
| 95 | 13 | 580·182 | 1,495·861 |
| 96 | 14 | 369·115 | 915·679 |
| 97 | 15 | 228·942 | 546·564 |
| 98 | 16 | 138·266 | 317·622 |
| 99 | 17 | 81·2061 | 179·3555 |
| 100 | 18 | 46·3244 | 98·1494 |
| 101 | 19 | 25·6356 | 51·8250 |
| 102 | 20 | 13·7452 | 26·1894 |
| 103 | 21 | 7·1319 | 12·4442 |
| 104 | 22 | 3·5783 | 5·3123 |
| 105 | 23 | 1·7340 | 1·7340 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 26 Years older than Female.

### Male 81 Years older than Female.

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 26 Years older.** | |
| 26 | 0 | 1,052,345 | 15,553,035 |
| 27 | 1 | 875,809 | 14,500,690 |
| 28 | 2 | 790,068 | 13,624,881 |
| 29 | 3 | 732,748 | 12,834,813 |
| 30 | 4 | 687,349 | 12,102,065 |
| 31 | 5 | 648,926 | 11,414,716 |
| 32 | 6 | 615,268 | 10,765,790 |
| 33 | 7 | 584,835 | 10,150,522 |
| 34 | 8 | 556,603 | 9,565,687 |
| 35 | 9 | 530,343 | 9,009,084 |
| 36 | 10 | 505,727 | 8,478,741 |
| 37 | 11 | 482,482 | 7,973,014 |
| 38 | 12 | 460,389 | 7,490,532 |
| 39 | 13 | 439,267 | 7,030,143 |
| 40 | 14 | 418,972 | 6,590,876 |
| 41 | 15 | 399,394 | 6,171,904 |
| 42 | 16 | 380,446 | 5,772,510 |
| 43 | 17 | 362,066 | 5,392,064 |
| 44 | 18 | 344,211 | 5,029,998 |
| 45 | 19 | 326,855 | 4,685,787 |
| 46 | 20 | 309,985 | 4,358,932 |
| 47 | 21 | 293,599 | 4,048,947 |
| 48 | 22 | 277,836 | 3,755,348 |
| 49 | 23 | 262,680 | 3,477,512 |
| 50 | 24 | 248,114 | 3,214,832 |
| 51 | 25 | 234,123 | 2,966,718 |
| 52 | 26 | 220,568 | 2,732,595 |
| 53 | 27 | 207,544 | 2,512,027 |
| 54 | 28 | 195,043 | 2,304,483 |
| 55 | 29 | 183,054 | 2,109,440 |
| 56 | 30 | 171,560 | 1,926,386 |
| 57 | 31 | 160,544 | 1,754,826 |
| 58 | 32 | 149,987 | 1,594,282 |
| 59 | 33 | 139,870 | 1,444,295 |
| 60 | 34 | 130,175 | 1,304,425 |
| 61 | 35 | 120,884 | 1,174,250 |
| 62 | 36 | 111,982 | 1,053,366 |
| 63 | 37 | 103,454 | 941,384 |
| 64 | 38 | 95,290·5 | 837,929·9 |
| 65 | 39 | 87,481·4 | 742,639·4 |
| 66 | 40 | 80,020·5 | 655,158·0 |
| 67 | 41 | 72,903·6 | 575,137·5 |
| 68 | 42 | 66,129·2 | 502,233·9 |
| 69 | 43 | 59,697·3 | 436,104·7 |
| 70 | 44 | 53,610·0 | 376,407·4 |
| 71 | 45 | 47,870·2 | 322,797·4 |
| 72 | 46 | 42,482·0 | 274,927·2 |
| 73 | 47 | 37,449·1 | 232,445·2 |
| 74 | 48 | 32,775·2 | 194,996·1 |
| 75 | 49 | 28,462·4 | 162,220·9 |
| 76 | 50 | 24,511·3 | 133,758·5 |
| 77 | 51 | 20,920·3 | 109,247·2 |
| 78 | 52 | 17,684·8 | 88,326·9 |
| 79 | 53 | 14,797·1 | 70,642·1 |
| 80 | 54 | 12,246·1 | 55,845·0 |
| 81 | 55 | 10,002·3 | 43,598·9 |
| 82 | 56 | 8,062·83 | 33,596·61 |
| 83 | 57 | 6,409·46 | 25,533·78 |
| 84 | 58 | 5,020·38 | 19,124·32 |
| 85 | 59 | 3,871·23 | 14,103·94 |
| 86 | 60 | 2,935·97 | 10,232·71 |
| 87 | 61 | 2,187·85 | 7,296·74 |
| 88 | 62 | 1,600·28 | 5,108·89 |
| 89 | 63 | 1,147·68 | 3,508·61 |
| 90 | 64 | 806·113 | 2,360·927 |
| 91 | 65 | 553·875 | 1,554·814 |
| 92 | 66 | 371·821 | 1,000·939 |
| 93 | 67 | 243·560 | 629·118 |
| 94 | 68 | 155·472 | 385·558 |
| 95 | 69 | 96·5777 | 230·0856 |
| 96 | 70 | 58·2986 | 133·5079 |
| 97 | 71 | 34·1474 | 75·2093 |
| 98 | 72 | 19·3781 | 41·0619 |
| 99 | 73 | 10·6375 | 21·6838 |
| 100 | 74 | 5·6395 | 11·0463 |
| 101 | 75 | 2·8826 | 5·4068 |
| 102 | 76 | 1·4181 | 2·5242 |
| 103 | 77 | ·6703 | 1·1061 |
| 104 | 78 | ·3039 | ·4358 |
| 105 | 79 | ·1319 | ·1319 |

**Male 81 Years older.**

| $x$ | $y$ | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 81 | 0 | 52,035·9 | 203,802·5 |
| 82 | 1 | 37,073·2 | 151,766·6 |
| 83 | 2 | 28,278·0 | 114,693·4 |
| 84 | 3 | 21,886·4 | 86,415·4 |
| 85 | 4 | 16,896·8 | 64,529·0 |
| 86 | 5 | 12,937·6 | 47,632·2 |
| 87 | 6 | 9,795·57 | 34,694·63 |
| 88 | 7 | 7,315·02 | 24,899·06 |
| 89 | 8 | 5,376·29 | 17,584·04 |
| 90 | 9 | 3,885·13 | 12,207·75 |
| 91 | 10 | 2,757·04 | 8,322·62 |
| 92 | 11 | 1,918·90 | 5,565·58 |
| 93 | 12 | 1,308·27 | 3,646·68 |
| 94 | 13 | 872·641 | 2,338·409 |
| 95 | 14 | 568·770 | 1,465·768 |
| 96 | 15 | 361·798 | 896·998 |
| 97 | 16 | 224·332 | 535·200 |
| 98 | 17 | 135·420 | 310·868 |
| 99 | 18 | 79·4905 | 175·4482 |
| 100 | 19 | 45·3169 | 95·9577 |
| 101 | 20 | 25·0608 | 50·6408 |
| 102 | 21 | 13·4276 | 25·5800 |
| 103 | 22 | 6·9655 | 12·1524 |
| 104 | 23 | 3·4941 | 5·1869 |
| 105 | 24 | 1·6928 | 1·6928 |

## JOINT LIVES:—Male and Female Life.

**Male 27 Years older than Female.**

**Male 80 Years older than Female.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Male 27 Years older.** | |
| 27 | 0 | 1,027,230 | 15,060,097 |
| 28 | 1 | 854,756 | 14,032,867 |
| 29 | 2 | 770,935 | 13,178,111 |
| 30 | 3 | 714,866 | 12,407,176 |
| 31 | 4 | 670,442 | 11,692,310 |
| 32 | 5 | 632,831 | 11,021,868 |
| 33 | 6 | 599,873 | 10,389,037 |
| 34 | 7 | 570,066 | 9,789,164 |
| 35 | 8 | 542,408 | 9,219,098 |
| 36 | 9 | 516,676 | 8,676,690 |
| 37 | 10 | 492,548 | 8,160,014 |
| 38 | 11 | 469,760 | 7,667,466 |
| 39 | 12 | 448,095 | 7,197,706 |
| 40 | 13 | 427,379 | 6,749,611 |
| 41 | 14 | 407,472 | 6,322,232 |
| 42 | 15 | 388,265 | 5,914,760 |
| 43 | 16 | 369,674 | 5,526,495 |
| 44 | 17 | 351,640 | 5,156,821 |
| 45 | 18 | 334,122 | 4,805,181 |
| 46 | 19 | 317,094 | 4,471,059 |
| 47 | 20 | 300,545 | 4,153,965 |
| 48 | 21 | 284,473 | 3,853,420 |
| 49 | 22 | 269,012 | 3,568,947 |
| 50 | 23 | 254,149 | 3,299,935 |
| 51 | 24 | 239,867 | 3,045,786 |
| 52 | 25 | 226,024 | 2,805,919 |
| 53 | 26 | 212,720 | 2,579,895 |
| 54 | 27 | 199,946 | 2,367,175 |
| 55 | 28 | 187,692 | 2,167,229 |
| 56 | 29 | 175,941 | 1,979,537 |
| 57 | 30 | 164,675 | 1,803,596 |
| 58 | 31 | 153,877 | 1,638,921 |
| 59 | 32 | 143,526 | 1,485,044 |
| 60 | 33 | 133,604 | 1,341,518 |
| 61 | 34 | 124,094 | 1,207,914 |
| 62 | 35 | 114,980 | 1,083,820 |
| 63 | 36 | 106,248 | 968,840 |
| 64 | 37 | 97,886·3 | 862,592·2 |
| 65 | 38 | 89,886·0 | 764,705·9 |
| 66 | 39 | 82,240·5 | 674,819·9 |
| 67 | 40 | 74,945·9 | 592,579·4 |
| 68 | 41 | 68,000·3 | 517,633·5 |
| 69 | 42 | 61,404·2 | 449,633·2 |
| 70 | 43 | 55,159·5 | 388,229·0 |
| 71 | 44 | 49,269·6 | 333,069·5 |
| 72 | 45 | 43,738·5 | 283,799·9 |
| 73 | 46 | 38,570·5 | 240,061·4 |
| 74 | 47 | 33,769·1 | 201,490·9 |
| 75 | 48 | 29,337·1 | 167,721·8 |
| 76 | 49 | 25,275·1 | 138,384·7 |
| 77 | 50 | 21,581·7 | 113,109·6 |
| 78 | 51 | 18,252·3 | 91,527·9 |
| 79 | 52 | 15,279·3 | 73,275·6 |
| 80 | 53 | 12,651·7 | 57,996·3 |
| 81 | 54 | 10,354·9 | 45,344·6 |
| 82 | 55 | 8,358·23 | 34,989·74 |
| 83 | 56 | 6,653·55 | 26,631·51 |
| 84 | 57 | 5,219·29 | 19,977·96 |
| 85 | 58 | 4,031·01 | 14,758·67 |
| 86 | 59 | 3,062·43 | 10,727·66 |
| 87 | 60 | 2,286·39 | 7,665·23 |
| 88 | 61 | 1,675·83 | 5,378·84 |
| 89 | 62 | 1,204·60 | 3,703·01 |
| 90 | 63 | 848·228 | 2,498·406 |
| 91 | 64 | 584·434 | 1,650·178 |
| 92 | 65 | 393·540 | 1,065·744 |
| 93 | 66 | 258·659 | 672·204 |
| 94 | 67 | 165·725 | 413·545 |
| 95 | 68 | 103·367 | 247·820 |
| 96 | 69 | 62·6761 | 144·4525 |
| 97 | 70 | 36·8908 | 81·7764 |
| 98 | 71 | 21·0465 | 44·8856 |
| 99 | 72 | 11·6203 | 23·8391 |
| 100 | 73 | 6·1992 | 12·2188 |
| 101 | 74 | 3·1902 | 6·0196 |
| 102 | 75 | 1·5810 | 2·8294 |
| 103 | 76 | ·7532 | 1·2484 |
| 104 | 77 | ·3444 | ·4952 |
| 105 | 78 | ·1508 | ·1508 |

**Male 80 Years older.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 80 | 0 | 61,539·7 | 250,933·9 |
| 81 | 1 | 44,365·4 | 189,394·2 |
| 82 | 2 | 34,267·5 | 145,028·8 |
| 83 | 3 | 26,877·3 | 110,761·3 |
| 84 | 4 | 21,044·0 | 83,884·0 |
| 85 | 5 | 16,354·5 | 62,840·0 |
| 86 | 6 | 12,578·6 | 46,485·5 |
| 87 | 7 | 9,550·01 | 33,906·86 |
| 88 | 8 | 7,142·26 | 24,356·85 |
| 89 | 9 | 5,256·70 | 17,214·59 |
| 90 | 10 | 3,802·80 | 11,957·89 |
| 91 | 11 | 2,700·70 | 8,155·09 |
| 92 | 12 | 1,880·62 | 5,454·39 |
| 93 | 13 | 1,282·49 | 3,573·77 |
| 94 | 14 | 855·476 | 2,291·280 |
| 95 | 15 | 557·494 | 1,435·804 |
| 96 | 16 | 354·512 | 878·310 |
| 97 | 17 | 219·715 | 523·798 |
| 98 | 18 | 132·559 | 304·083 |
| 99 | 19 | 77·7616 | 171·5235 |
| 100 | 20 | 44·3009 | 93·7619 |
| 101 | 21 | 24·4817 | 49·4610 |
| 102 | 22 | 13·1144 | 24·9793 |
| 103 | 23 | 6·8016 | 11·8649 |
| 104 | 24 | 3·4111 | 5·0633 |
| 105 | 25 | 1·6522 | 1·6522 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 28 Years older than Female.

### Male 79 Years older than Female.

**Male 28 Years older.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 28 | 0 | 1,002,536 | 14,575,537 |
| 29 | 1 | 834,056 | 13,573,001 |
| 30 | 2 | 752,122 | 12,738,945 |
| 31 | 3 | 697,283 | 11,986,823 |
| 32 | 4 | 653,813 | 11,289,540 |
| 33 | 5 | 616,997 | 10,635,727 |
| 34 | 6 | 584,724 | 10,018,730 |
| 35 | 7 | 555,528 | 9,434,006 |
| 36 | 8 | 528,430 | 8,878,478 |
| 37 | 9 | 503,212 | 8,350,048 |
| 38 | 10 | 479,560 | 7,846,836 |
| 39 | 11 | 457,216 | 7,367,276 |
| 40 | 12 | 435,969 | 6,910,060 |
| 41 | 13 | 415,648 | 6,474,091 |
| 42 | 14 | 396,117 | 6,058,443 |
| 43 | 15 | 377,271 | 5,662,326 |
| 44 | 16 | 359,029 | 5,285,055 |
| 45 | 17 | 341,333 | 4,926,026 |
| 46 | 18 | 324,144 | 4,584,693 |
| 47 | 19 | 307,437 | 4,260,549 |
| 48 | 20 | 291,202 | 3,953,112 |
| 49 | 21 | 275,438 | 3,661,910 |
| 50 | 22 | 260,276 | 3,386,472 |
| 51 | 23 | 245,701 | 3,126,196 |
| 52 | 24 | 231,569 | 2,880,495 |
| 53 | 25 | 217,982 | 2,648,926 |
| 54 | 26 | 204,933 | 2,430,944 |
| 55 | 27 | 192,410 | 2,226,011 |
| 56 | 28 | 180,398 | 2,033,601 |
| 57 | 29 | 168,880 | 1,853,203 |
| 58 | 30 | 157,836 | 1,684,323 |
| 59 | 31 | 147,248 | 1,526,487 |
| 60 | 32 | 137,096 | 1,379,239 |
| 61 | 33 | 127,364 | 1,242,143 |
| 62 | 34 | 118,034 | 1,114,779 |
| 63 | 35 | 109,093 | 996,745 |
| 64 | 36 | 100,530 | 887,652 |
| 65 | 37 | 92,334·6 | 787,121·7 |
| 66 | 38 | 84,501·1 | 694,787·1 |
| 67 | 39 | 77,025·2 | 610,286·0 |
| 68 | 40 | 69,905·2 | 533,260·8 |
| 69 | 41 | 63,141·6 | 463,355·6 |
| 70 | 42 | 56,736·6 | 400,214·0 |
| 71 | 43 | 50,693·6 | 343,477·4 |
| 72 | 44 | 45,017·1 | 292,783·8 |
| 73 | 45 | 39,711·3 | 247,766·7 |
| 74 | 46 | 34,780·3 | 208,055·4 |
| 75 | 47 | 30,226·8 | 173,275·1 |
| 76 | 48 | 26,051·9 | 143,048·3 |
| 77 | 49 | 22,254·2 | 116,996·4 |
| 78 | 50 | 18,829·3 | 94,742·2 |
| 79 | 51 | 15,769·6 | 75,912·9 |
| 80 | 52 | 13,064·0 | 60,143·3 |
| 81 | 53 | 10,697·8 | 47,079·3 |
| 82 | 54 | 8,652·89 | 36,381·45 |
| 83 | 55 | 6,897·32 | 27,728·56 |
| 84 | 56 | 5,418·06 | 20,831·24 |
| 85 | 57 | 4,190·72 | 15,413·18 |
| 86 | 58 | 3,188·82 | 11,222·46 |
| 87 | 59 | 2,384·87 | 8,033·64 |
| 88 | 60 | 1,751·30 | 5,648·77 |
| 89 | 61 | 1,261·47 | 3,897·47 |
| 90 | 62 | 890·299 | 2,635·998 |
| 91 | 63 | 614·967 | 1,745·699 |
| 92 | 64 | 415·253 | 1,130·732 |
| 93 | 65 | 273·768 | 715·479 |
| 94 | 66 | 175·999 | 441·711 |
| 95 | 67 | 110·184 | 265·712 |
| 96 | 68 | 67·0822 | 155·5275 |
| 97 | 69 | 39·6609 | 88·4453 |
| 98 | 70 | 22·7375 | 48·7844 |
| 99 | 71 | 12·6208 | 26·0469 |
| 100 | 72 | 6·7719 | 13·4261 |
| 101 | 73 | 3·5069 | 6·6542 |
| 102 | 74 | 1·7498 | 3·1473 |
| 103 | 75 | ·8397 | 1·3975 |
| 104 | 76 | ·3869 | ·5578 |
| 105 | 77 | ·1709 | ·1709 |

**Male 79 Years older.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 79 | 0 | 71,975·1 | 305,567·0 |
| 80 | 1 | 52,468·3 | 233,591·9 |
| 81 | 2 | 41,007·9 | 181,123·6 |
| 82 | 3 | 32,570·1 | 140,115·7 |
| 83 | 4 | 25,842·7 | 107,545·6 |
| 84 | 5 | 20,368·6 | 81,702·9 |
| 85 | 6 | 15,900·7 | 61,334·3 |
| 86 | 7 | 12,263·3 | 45,433·6 |
| 87 | 8 | 9,324·47 | 33,170·25 |
| 88 | 9 | 6,983·40 | 23,845·78 |
| 89 | 10 | 5,145·30 | 16,862·38 |
| 90 | 11 | 3,725·09 | 11,717·08 |
| 91 | 12 | 2,646·82 | 7,991·99 |
| 92 | 13 | 1,843·57 | 5,345·17 |
| 93 | 14 | 1,257·26 | 3,501·60 |
| 94 | 15 | 838·517 | 2,244·344 |
| 95 | 16 | 546·268 | 1,405·827 |
| 96 | 17 | 347·216 | 859·559 |
| 97 | 18 | 215·073 | 512·343 |
| 98 | 19 | 129·676 | 297·270 |
| 99 | 20 | 76·0182 | 167·5936 |
| 100 | 21 | 43·2772 | 91·5754 |
| 101 | 22 | 23·9106 | 48·2982 |
| 102 | 23 | 12·8056 | 24·3876 |
| 103 | 24 | 6·6401 | 11·5820 |
| 104 | 25 | 3·3295 | 4·9419 |
| 105 | 26 | 1·6124 | 1·6124 |

## JOINT LIVES:—Male and Female Life.

### Male 29 Years older than Female.

### Male 78 Years older than Female.

**Male 29 Years older.**

| Ages $x$ | Ages $y$ | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| 29 | 0 | 978,258 | 14,099,249 |
| 30 | 1 | 813,703 | 13,120,991 |
| 31 | 2 | 733,622 | 12,307,288 |
| 32 | 3 | 679,988 | 11,573,666 |
| 33 | 4 | 637,455 | 10,893,678 |
| 34 | 5 | 601,415 | 10,256,223 |
| 35 | 6 | 569,812 | 9,654,808 |
| 36 | 7 | 541,211 | 9,084,996 |
| 37 | 8 | 514,660 | 8,543,785 |
| 38 | 9 | 489,943 | 8,029,125 |
| 39 | 10 | 466,755 | 7,539,182 |
| 40 | 11 | 444,843 | 7,072,427 |
| 41 | 12 | 424,002 | 6,627,584 |
| 42 | 13 | 404,065 | 6,203,582 |
| 43 | 14 | 384,902 | 5,799,517 |
| 44 | 15 | 366,408 | 5,414,615 |
| 45 | 16 | 348,506 | 5,048,207 |
| 46 | 17 | 331,140 | 4,699,701 |
| 47 | 18 | 314,273 | 4,368,561 |
| 48 | 19 | 297,880 | 4,054,288 |
| 49 | 20 | 281,954 | 3,756,408 |
| 50 | 21 | 266,493 | 3,474,454 |
| 51 | 22 | 251,624 | 3,207,961 |
| 52 | 23 | 237,202 | 2,956,337 |
| 53 | 24 | 223,329 | 2,719,135 |
| 54 | 25 | 210,002 | 2,495,806 |
| 55 | 26 | 197,208 | 2,285,804 |
| 56 | 27 | 184,933 | 2,088,596 |
| 57 | 28 | 173,159 | 1,903,663 |
| 58 | 29 | 161,866 | 1,730,504 |
| 59 | 30 | 151,037 | 1,568,638 |
| 60 | 31 | 140,651 | 1,417,601 |
| 61 | 32 | 130,692 | 1,276,950 |
| 62 | 33 | 121,143 | 1,146,258 |
| 63 | 34 | 111,990 | 1,025,115 |
| 64 | 35 | 103,222 | 913,125 |
| 65 | 36 | 94,828·1 | 809,902·9 |
| 66 | 37 | 86,803·1 | 715,074·8 |
| 67 | 38 | 79,142·4 | 628,271·7 |
| 68 | 39 | 71,844·7 | 549,129·3 |
| 69 | 40 | 64,910·4 | 477,284·6 |
| 70 | 41 | 58,342·0 | 412,374·2 |
| 71 | 42 | 52,143·1 | 354,032·2 |
| 72 | 43 | 46,318·2 | 301,889·1 |
| 73 | 44 | 40,872·2 | 255,570·9 |
| 74 | 45 | 35,809·0 | 214,698·7 |
| 75 | 46 | 31,131·9 | 178,889·7 |
| 76 | 47 | 26,842·0 | 147,757·8 |
| 77 | 48 | 22,938·1 | 120,915·8 |
| 78 | 49 | 19,416·0 | 97,977·7 |
| 79 | 50 | 16,268·1 | 78,561·7 |
| 80 | 51 | 13,483·2 | 62,293·6 |
| 81 | 52 | 11,046·5 | 48,810·4 |
| 82 | 53 | 8,939·46 | 37,763·92 |
| 83 | 54 | 7,140·48 | 28,824·46 |
| 84 | 55 | 5,616·56 | 21,683·98 |
| 85 | 56 | 4,350·32 | 16,067·42 |
| 86 | 57 | 3,315·17 | 11,717·10 |
| 87 | 58 | 2,483·30 | 8,401·93 |
| 88 | 59 | 1,826·74 | 5,918·63 |
| 89 | 60 | 1,318·28 | 4,091·89 |
| 90 | 61 | 932·326 | 2,773·606 |
| 91 | 62 | 645·469 | 1,841·280 |
| 92 | 63 | 436·947 | 1,195·811 |
| 93 | 64 | 288·873 | 758·864 |
| 94 | 65 | 186·280 | 469·991 |
| 95 | 66 | 117·014 | 283·711 |
| 96 | 67 | 71·5059 | 166·6965 |
| 97 | 68 | 42·4490 | 95·1906 |
| 98 | 69 | 24·4448 | 52·7416 |
| 99 | 70 | 13·6348 | 28·2968 |
| 100 | 71 | 7·3550 | 14·6620 |
| 101 | 72 | 3·8308 | 7·3070 |
| 102 | 73 | 1·9234 | 3·4762 |
| 103 | 74 | ·9294 | 1·5528 |
| 104 | 75 | ·4314 | ·6234 |
| 105 | 76 | ·1920 | ·1920 |

**Male 78 Years older.**

| Ages $x$ | Ages $y$ | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| 78 | 0 | 83,306·3 | 368,229·6 |
| 79 | 1 | 61,365·4 | 284,923·3 |
| 80 | 2 | 48,497·5 | 223,557·9 |
| 81 | 3 | 38,976·6 | 175,060·4 |
| 82 | 4 | 31,316·4 | 136,083·8 |
| 83 | 5 | 25,013·3 | 104,767·4 |
| 84 | 6 | 19,803·3 | 79,754·1 |
| 85 | 7 | 15,502·1 | 59,950·8 |
| 86 | 8 | 11,973·6 | 44,448·7 |
| 87 | 9 | 9,117·07 | 32,475·10 |
| 88 | 10 | 6,835·41 | 23,358·03 |
| 89 | 11 | 5,040·15 | 16,522·62 |
| 90 | 12 | 3,650·78 | 11,482·47 |
| 91 | 13 | 2,594·67 | 7,831·69 |
| 92 | 14 | 1,807·30 | 5,237·02 |
| 93 | 15 | 1,232·34 | 3,429·72 |
| 94 | 16 | 821·631 | 2,197·382 |
| 95 | 17 | 535·025 | 1,375·751 |
| 96 | 18 | 339·880 | 840·726 |
| 97 | 19 | 210·395 | 500·846 |
| 98 | 20 | 126·769 | 290·451 |
| 99 | 21 | 74·2615 | 163·6817 |
| 100 | 22 | 42·2676 | 89·4202 |
| 101 | 23 | 23·3477 | 47·1526 |
| 102 | 24 | 12·5016 | 23·8049 |
| 103 | 25 | 6·4811 | 11·3033 |
| 104 | 26 | 3·2491 | 4·8222 |
| 105 | 27 | 1·5731 | 1·5731 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 30 Years older than Female.

### Male 77 Years older than Female.

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 30 Years older.** | |
| 30 | 0 | 954,386 | 13,631,127 |
| 31 | 1 | 793,688 | 12,676,741 |
| 32 | 2 | 715,426 | 11,883,053 |
| 33 | 3 | 662,974 | 11,167,627 |
| 34 | 4 | 621,356 | 10,504,653 |
| 35 | 5 | 586,077 | 9,883,297 |
| 36 | 6 | 555,127 | 9,297,220 |
| 37 | 7 | 527,108 | 8,742,093 |
| 38 | 8 | 501,089 | 8,214,985 |
| 39 | 9 | 476,860 | 7,713,896 |
| 40 | 10 | 454,124 | 7,237,036 |
| 41 | 11 | 432,632 | 6,782,912 |
| 42 | 12 | 412,187 | 6,350,280 |
| 43 | 13 | 392,625 | 5,938,093 |
| 44 | 14 | 373,819 | 5,545,468 |
| 45 | 15 | 355,668 | 5,171,649 |
| 46 | 16 | 338,099 | 4,815,981 |
| 47 | 17 | 321,056 | 4,477,882 |
| 48 | 18 | 304,503 | 4,156,826 |
| 49 | 19 | 288,420 | 3,852,323 |
| 50 | 20 | 272,797 | 3,563,903 |
| 51 | 21 | 257,635 | 3,291,106 |
| 52 | 22 | 242,920 | 3,033,471 |
| 53 | 23 | 228,762 | 2,790,551 |
| 54 | 24 | 215,154 | 2,561,789 |
| 55 | 25 | 202,087 | 2,346,635 |
| 56 | 26 | 189,545 | 2,144,548 |
| 57 | 27 | 177,511 | 1,955,003 |
| 58 | 28 | 165,967 | 1,777,492 |
| 59 | 29 | 154,893 | 1,611,525 |
| 60 | 30 | 144,271 | 1,456,632 |
| 61 | 31 | 134,082 | 1,312,361 |
| 62 | 32 | 124,310 | 1,178,279 |
| 63 | 33 | 114,941 | 1,053,969 |
| 64 | 34 | 105,963 | 939,028 |
| 65 | 35 | 97,367·4 | 833,064·7 |
| 66 | 36 | 89,147·2 | 735,697·3 |
| 67 | 37 | 81,298·4 | 646,550·1 |
| 68 | 38 | 73,819·5 | 565,251·7 |
| 69 | 39 | 66,711·3 | 491,432·2 |
| 70 | 40 | 59,976·3 | 424,720·9 |
| 71 | 41 | 53,618·5 | 364,744·6 |
| 72 | 42 | 47,642·6 | 311,126·1 |
| 73 | 43 | 42,053·5 | 263,483·5 |
| 74 | 44 | 36,855·8 | 221,430·0 |
| 75 | 45 | 32,052·8 | 184,574·2 |
| 76 | 46 | 27,645·8 | 152,521·4 |
| 77 | 47 | 23,633·8 | 124,875·6 |
| 78 | 48 | 20,012·7 | 101,241·8 |
| 79 | 49 | 16,775·1 | 81,229·1 |
| 80 | 50 | 13,909·5 | 64,454·0 |
| 81 | 51 | 11,401·0 | 505,44·5 |
| 82 | 52 | 9,230·80 | 391,43·51 |
| 83 | 53 | 7,376·96 | 29,912·71 |
| 84 | 54 | 5,814·57 | 22,535·75 |
| 85 | 55 | 4,509·70 | 16,721·18 |
| 86 | 56 | 3,441·42 | 12,211·48 |
| 87 | 57 | 2,581·69 | 8,770·06 |
| 88 | 58 | 1,902·13 | 6,188·37 |
| 89 | 59 | 1,375·06 | 4,286·24 |
| 90 | 60 | 974·318 | 2,911·177 |
| 91 | 61 | 675·939 | 1,936·859 |
| 92 | 62 | 458·619 | 1,260·920 |
| 93 | 63 | 303·965 | 802·301 |
| 94 | 64 | 196·557 | 498·336 |
| 95 | 65 | 123·849 | 301·779 |
| 96 | 66 | 75·9389 | 177·9298 |
| 97 | 67 | 45·2483 | 101·9909 |
| 98 | 68 | 26·1632 | 56·7426 |
| 99 | 69 | 14·6586 | 30·5794 |
| 100 | 70 | 7·9459 | 15·9208 |
| 101 | 71 | 4·1607 | 7·9749 |
| 102 | 72 | 2·1011 | 3·8142 |
| 103 | 73 | 1·0216 | 1·7131 |
| 104 | 74 | ·4774 | ·6915 |
| 105 | 75 | ·2141 | ·2141 |

**Male 77 Years older.**

| $x$ | $y$ | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 77 | 0 | 95,483·7 | 439,394·4 |
| 78 | 1 | 71,026·4 | 343,910·7 |
| 79 | 2 | 56,721·3 | 272,884·3 |
| 80 | 3 | 46,095·3 | 216,163·0 |
| 81 | 4 | 37,476·3 | 170,067·7 |
| 82 | 5 | 30,311·3 | 132,591·4 |
| 83 | 6 | 24,319·1 | 102,280·1 |
| 84 | 7 | 19,306·9 | 77,961·0 |
| 85 | 8 | 15,135·9 | 58,654·1 |
| 86 | 9 | 11,707·3 | 43,518·2 |
| 87 | 10 | 8,923·86 | 31,810·93 |
| 88 | 11 | 6,695·72 | 22,887·07 |
| 89 | 12 | 4,939·61 | 16,191·35 |
| 90 | 13 | 3,578·84 | 11,251·74 |
| 91 | 14 | 2,543·63 | 7,672·90 |
| 92 | 15 | 1,771·48 | 5,129·27 |
| 93 | 16 | 1,207·52 | 3,357·79 |
| 94 | 17 | 804·721 | 2,150·274 |
| 95 | 18 | 523·722 | 1,345·553 |
| 96 | 19 | 332·488 | 821·831 |
| 97 | 20 | 205·678 | 489·343 |
| 98 | 21 | 123·839 | 283·665 |
| 99 | 22 | 72·5291 | 159·8264 |
| 100 | 23 | 41·2726 | 87·2973 |
| 101 | 24 | 22·7933 | 46·0247 |
| 102 | 25 | 12·2022 | 23·2314 |
| 103 | 26 | 6·3246 | 11·0292 |
| 104 | 27 | 3·1700 | 4·7046 |
| 105 | 28 | 1·5346 | 1·5346 |

## JOINT LIVES:—Male and Female Life.

**Male 31 Years older than Female.**

**Male 76 Years older than Female.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ | Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | **Male 31 Years older.** | | $x$ | $y$ | **Male 31 Years older.** | |
| 31 | 0 | 930,911 | 13,171,055 | 86 | 55 | 3,567·50 | 12,705·51 |
| 32 | 1 | 774,002 | 12,240,144 | 87 | 56 | 2,680·01 | 9,138·01 |
| 33 | 2 | 697,525 | 11,466,142 | 88 | 57 | 1,977·49 | 6,458·00 |
| 34 | 3 | 646,232 | 10,768,617 | 89 | 58 | 1,431·82 | 4,480·51 |
| 35 | 4 | 605,510 | 10,122,385 | 90 | 59 | 1,016·28 | 3,048·69 |
| 36 | 5 | 570,974 | 9,516,875 | 91 | 60 | 706·383 | 2,032·405 |
| 37 | 6 | 540,661 | 8,945,901 | 92 | 61 | 480·269 | 1,326·022 |
| 38 | 7 | 513,209 | 8,405,240 | 93 | 62 | 319·041 | 845·753 |
| 39 | 8 | 487,708 | 7,892,031 | 94 | 63 | 206·826 | 526·712 |
| 40 | 9 | 463,956 | 7,404,323 | 95 | 64 | 130·683 | 319·886 |
| 41 | 10 | 441,658 | 6,940,367 | 96 | 65 | 80·3747 | 189·2030 |
| 42 | 11 | 420,577 | 6,498,709 | 97 | 66 | 48·0534 | 108·8283 |
| 43 | 12 | 400,516 | 6,078,132 | 98 | 67 | 27·8886 | 60·7749 |
| 44 | 13 | 381,319 | 5,677,616 | 99 | 68 | 15·6891 | 32·8863 |
| 45 | 14 | 362,862 | 5,296,297 | 100 | 69 | 8·5425 | 17·1972 |
| 46 | 15 | 345,047 | 4,933,435 | 101 | 70 | 4·4950 | 8·6547 |
| 47 | 16 | 327,802 | 4,588,388 | 102 | 71 | 2·2820 | 4·1597 |
| 48 | 17 | 311,075 | 4,260,586 | 103 | 72 | 1·1160 | 1·8777 |
| 49 | 18 | 294,832 | 3,949,511 | 104 | 73 | ·5248 | ·7617 |
| 50 | 19 | 279,053 | 3,654,679 | 105 | 74 | ·2369 | ·2369 |
| 51 | 20 | 263,729 | 3,375,626 | | | | |
| 52 | 21 | 248,722 | 3,111,897 | | | | |
| 53 | 22 | 234,276 | 2,863,175 | **Male 76 Years older.** | | | |
| 54 | 23 | 220,387 | 2,628,899 | | | | |
| 55 | 24 | 207,044 | 2,408,512 | | | | |
| 56 | 25 | 194,234 | 2,201,468 | 76 | 0 | 108,445 | 519,469 |
| 57 | 26 | 181,938 | 2,007,234 | 77 | 1 | 81,408·8 | 411,024·1 |
| 58 | 27 | 170,139 | 1,825,296 | 78 | 2 | 65,651·1 | 329,615·3 |
| 59 | 28 | 158,818 | 1,655,157 | 79 | 3 | 53,911·7 | 263,964·2 |
| 60 | 29 | 147,954 | 1,496,339 | 80 | 4 | 44,320·9 | 210,052·5 |
| 61 | 30 | 137,532 | 1,348,385 | 81 | 5 | 36,273·5 | 165,731·6 |
| 62 | 31 | 127,533 | 1,210,853 | 82 | 6 | 29,470·1 | 129,458·1 |
| 63 | 32 | 117,945 | 1,083,320 | 83 | 7 | 23,709·5 | 99,988·0 |
| 64 | 33 | 108,755 | 965,375 | 84 | 8 | 18,850·9 | 76,278·5 |
| 65 | 34 | 99,953·3 | 856,620·4 | 85 | 9 | 14,799·3 | 57,427·6 |
| 66 | 35 | 91,534·4 | 756,667·1 | 86 | 10 | 11,459·2 | 42,628·3 |
| 67 | 36 | 83,493·8 | 665,132·7 | 87 | 11 | 8,741·49 | 31,169·05 |
| 68 | 37 | 75,830·5 | 581,638·9 | 88 | 12 | 6,562·15 | 22,427·56 |
| 69 | 38 | 68,545·0 | 505,808·4 | 89 | 13 | 4,842·29 | 15,865·41 |
| 70 | 39 | 61,640·3 | 437,263·4 | 90 | 14 | 3,508·45 | 11,023·12 |
| 71 | 40 | 55,120·5 | 375,623·1 | 91 | 15 | 2,493·21 | 7,514·67 |
| 72 | 41 | 48,990·6 | 320,502·6 | 92 | 16 | 1,735·80 | 5,021·46 |
| 73 | 42 | 43,255·9 | 271,512·0 | 93 | 17 | 1,182·67 | 3,285·66 |
| 74 | 43 | 37,921·1 | 228,256·1 | 94 | 18 | 787·719 | 2,102·988 |
| 75 | 44 | 32,989·7 | 190,335·0 | 95 | 19 | 512·331 | 1,315·269 |
| 76 | 45 | 28,463·5 | 157,345·3 | 96 | 20 | 325·034 | 802·938 |
| 77 | 46 | 24,341·5 | 128,881·8 | 97 | 21 | 200·925 | 477·904 |
| 78 | 47 | 20,619·7 | 104,540·3 | 98 | 22 | 120·950 | 276·979 |
| 79 | 48 | 17,290·6 | 83,920·6 | 99 | 23 | 70·8217 | 156·0289 |
| 80 | 49 | 14,342·9 | 66,630·0 | 100 | 24 | 40·2925 | 85·2072 |
| 81 | 50 | 11,761·4 | 52,287·1 | 101 | 25 | 22·2475 | 44·9147 |
| 82 | 51 | 9,527·01 | 40,525·73 | 102 | 26 | 11·9076 | 22·6672 |
| 83 | 52 | 7,617·38 | 30,998·72 | 103 | 27 | 6·1707 | 10·7596 |
| 84 | 53 | 6,007·14 | 23,381·34 | 104 | 28 | 3·0923 | 4·5889 |
| 85 | 54 | 4,668·69 | 17,374·20 | 105 | 29 | 1·4966 | 1·4966 |

## JOINT LIVES:—Male and Female Life.

### Male 32 Years older than Female.

### Male 75 Years older than Female.

**Male 32 Years older.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 32 | 0 | 907,822 | 12,718,946 |
| 33 | 1 | 754,636 | 11,811,124 |
| 34 | 2 | 679,910 | 11,056,488 |
| 35 | 3 | 629,751 | 10,376,578 |
| 36 | 4 | 589,906 | 9,746,827 |
| 37 | 5 | 556,095 | 9,156,921 |
| 38 | 6 | 526,405 | 8,600,826 |
| 39 | 7 | 499,505 | 8,074,421 |
| 40 | 8 | 474,510 | 7,574,916 |
| 41 | 9 | 451,220 | 7,100,406 |
| 42 | 10 | 429,351 | 6,649,186 |
| 43 | 11 | 408,669 | 6,219,835 |
| 44 | 12 | 388,983 | 5,811,166 |
| 45 | 13 | 370,143 | 5,422,183 |
| 46 | 14 | 352,026 | 5,052,040 |
| 47 | 15 | 334,539 | 4,700,014 |
| 48 | 16 | 317,612 | 4,365,475 |
| 49 | 17 | 301,196 | 4,047,863 |
| 50 | 18 | 285,257 | 3,746,667 |
| 51 | 19 | 269,778 | 3,461,410 |
| 52 | 20 | 254,606 | 3,191,632 |
| 53 | 21 | 239,872 | 2,937,026 |
| 54 | 22 | 225,700 | 2,697,154 |
| 55 | 23 | 212,080 | 2,471,454 |
| 56 | 24 | 198,999 | 2,259,374 |
| 57 | 25 | 186,439 | 2,060,375 |
| 58 | 26 | 174,382 | 1,873,936 |
| 59 | 27 | 162,810 | 1,699,554 |
| 60 | 28 | 151,703 | 1,536,744 |
| 61 | 29 | 141,043 | 1,385,041 |
| 62 | 30 | 130,815 | 1,243,998 |
| 63 | 31 | 121,003 | 1,113,183 |
| 64 | 32 | 111,597 | 992,180 |
| 65 | 33 | 102,586 | 880,583 |
| 66 | 34 | 93,965·3 | 777,997·1 |
| 67 | 35 | 85,729·6 | 684,031·8 |
| 68 | 36 | 77,878·3 | 598,302·2 |
| 69 | 37 | 70,412·3 | 520,423·9 |
| 70 | 38 | 63,334·7 | 450,011·6 |
| 71 | 39 | 56,649·8 | 386,676·9 |
| 72 | 40 | 50,363·0 | 330,027·1 |
| 73 | 41 | 44,479·9 | 279,664·1 |
| 74 | 42 | 39,005·3 | 235,184·2 |
| 75 | 43 | 33,943·2 | 196,178·9 |
| 76 | 44 | 29,295·5 | 162,235·7 |
| 77 | 45 | 25,061·4 | 132,940·2 |
| 78 | 46 | 21,237·1 | 107,878·8 |
| 79 | 47 | 17,815·0 | 86,641·7 |
| 80 | 48 | 14,783·7 | 68,826·7 |
| 81 | 49 | 12,127·9 | 54,043·0 |
| 82 | 50 | 9,828·18 | 41,915·14 |
| 83 | 51 | 7,861·81 | 32,086·96 |
| 84 | 52 | 6,202·91 | 24,225·15 |
| 85 | 53 | 4,823·31 | 18,022·24 |
| 86 | 54 | 3,693·27 | 13,198·93 |
| 87 | 55 | 2,778·19 | 9,505·66 |
| 88 | 56 | 2,052·80 | 6,727·47 |
| 89 | 57 | 1,488·54 | 4,674·67 |
| 90 | 58 | 1,058·23 | 3,186·13 |
| 91 | 59 | 736·808 | 2,127·902 |
| 92 | 60 | 501·900 | 1,391·094 |
| 93 | 61 | 334·102 | 889·194 |
| 94 | 62 | 217·084 | 555·092 |
| 95 | 63 | 137·510 | 338·008 |
| 96 | 64 | 84·8092 | 200·4975 |
| 97 | 65 | 50·8603 | 115·6883 |
| 98 | 66 | 29·6175 | 64·8280 |
| 99 | 67 | 16·7237 | 35·2105 |
| 100 | 68 | 9·1431 | 18·4868 |
| 101 | 69 | 4·8325 | 9·3437 |
| 102 | 70 | 2·4654 | 4·5112 |
| 103 | 71 | 1·2121 | 2·0458 |
| 104 | 72 | ·5733 | ·8337 |
| 105 | 73 | ·2604 | ·2604 |

**Male 75 Years older.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 75 | 0 | 122,121 | 608,795 |
| 76 | 1 | 92,459·8 | 486,674·0 |
| 77 | 2 | 75,247·8 | 394,214·2 |
| 78 | 3 | 62,399·2 | 318,966·4 |
| 79 | 4 | 51,836·5 | 256,567·2 |
| 80 | 5 | 42,898·5 | 204,730·7 |
| 81 | 6 | 35,266·8 | 161,832·2 |
| 82 | 7 | 28,731·3 | 126,565·4 |
| 83 | 8 | 23,149·5 | 97,834·1 |
| 84 | 9 | 18,431·6 | 74,684·6 |
| 85 | 10 | 14,485·7 | 56,253·0 |
| 86 | 11 | 11,225·0 | 41,767·3 |
| 87 | 12 | 8,567·11 | 30,542·25 |
| 88 | 13 | 6,432·86 | 21,975·14 |
| 89 | 14 | 4,747·04 | 15,542·28 |
| 90 | 15 | 3,438·89 | 10,795·24 |
| 91 | 16 | 2,443·00 | 7,356·35 |
| 92 | 17 | 1,700·08 | 4,913·35 |
| 93 | 18 | 1,157·68 | 3,213·27 |
| 94 | 19 | 770·587 | 2,055·586 |
| 95 | 20 | 500·845 | 1,284·999 |
| 96 | 21 | 317·522 | 784·154 |
| 97 | 22 | 196·238 | 466·632 |
| 98 | 23 | 118·103 | 270·394 |
| 99 | 24 | 69·1400 | 152·2908 |
| 100 | 25 | 39·3277 | 83·1508 |
| 101 | 26 | 21·7105 | 43·8231 |
| 102 | 27 | 11·6179 | 22·1126 |
| 103 | 28 | 6·0194 | 10·4947 |
| 104 | 29 | 3·0159 | 4·4753 |
| 105 | 30 | 1·4594 | 1·4594 |

## JOINT LIVES:—Male and Female Life.

**Male 33 Years older than Female.**

**Male 74 Years older than Female.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 33 Years older.** | |
| 33 | 0 | 885,107 | 12,274,693 |
| 34 | 1 | 735,579 | 11,389,586 |
| 35 | 2 | 662,570 | 10,654,007 |
| 36 | 3 | 613,522 | 9,991,437 |
| 37 | 4 | 574,533 | 9,377,915 |
| 38 | 5 | 541,432 | 8,803,382 |
| 39 | 6 | 512,349 | 8,261,950 |
| 40 | 7 | 485,987 | 7,749,601 |
| 41 | 8 | 461,485 | 7,263,614 |
| 42 | 9 | 438,647 | 6,802,129 |
| 43 | 10 | 417,194 | 6,363,482 |
| 44 | 11 | 396,901 | 5,946,288 |
| 45 | 12 | 377,582 | 5,549,387 |
| 46 | 13 | 359,089 | 5,171,805 |
| 47 | 14 | 341,305 | 4,812,716 |
| 48 | 15 | 324,139 | 4,471,411 |
| 49 | 16 | 307,525 | 4,147,272 |
| 50 | 17 | 291,414 | 3,839,747 |
| 51 | 18 | 275,776 | 3,548,333 |
| 52 | 19 | 260,445 | 3,272,557 |
| 53 | 20 | 245,547 | 3,012,112 |
| 54 | 21 | 231,091 | 2,766,565 |
| 55 | 22 | 217,193 | 2,535,474 |
| 56 | 23 | 203,839 | 2,318,281 |
| 57 | 24 | 191,013 | 2,114,442 |
| 58 | 25 | 178,696 | 1,923,429 |
| 59 | 26 | 166,870 | 1,744,733 |
| 60 | 27 | 155,516 | 1,577,863 |
| 61 | 28 | 144,617 | 1,422,347 |
| 62 | 29 | 134,155 | 1,277,730 |
| 63 | 30 | 124,117 | 1,143,575 |
| 64 | 31 | 114,491 | 1,019,458 |
| 65 | 32 | 105,268 | 904,967 |
| 66 | 33 | 96,440·7 | 799,698·8 |
| 67 | 34 | 88,006·4 | 703,258·1 |
| 68 | 35 | 79,963·7 | 615,251·7 |
| 69 | 36 | 72,313·8 | 535,288·0 |
| 70 | 37 | 65,060·0 | 462,974·2 |
| 71 | 38 | 58,206·9 | 397,914·2 |
| 72 | 39 | 51,760·3 | 339,707·3 |
| 73 | 40 | 45,725·9 | 287,947·0 |
| 74 | 41 | 40,109·0 | 242,221·1 |
| 75 | 42 | 34,913·7 | 202,112·1 |
| 76 | 43 | 30,142·3 | 167,198·4 |
| 77 | 44 | 25,794·0 | 137,056·1 |
| 78 | 45 | 21,865·3 | 111,262·1 |
| 79 | 46 | 18,348·4 | 89,396·8 |
| 80 | 47 | 15,232·1 | 71,048·4 |
| 81 | 48 | 12,500·6 | 55,816·3 |
| 82 | 49 | 10,134·4 | 43,315·7 |
| 83 | 50 | 8,110·35 | 33,181·29 |
| 84 | 51 | 6,401·96 | 25,070·94 |
| 85 | 52 | 4,980·50 | 18,668·98 |
| 86 | 53 | 3,815·59 | 13,688·48 |
| 87 | 54 | 2,876·14 | 9,872·89 |
| 88 | 55 | 2,128·01 | 6,996·75 |
| 89 | 56 | 1,545·23 | 4,868·74 |
| 90 | 57 | 1,100·16 | 3,323·51 |
| 91 | 58 | 767·218 | 2,223·347 |
| 92 | 59 | 523·517 | 1,456·129 |
| 93 | 60 | 349·150 | 932·612 |
| 94 | 61 | 227·332 | 583·462 |
| 95 | 62 | 144·330 | 356·130 |
| 96 | 63 | 89·2400 | 211·7998 |
| 97 | 64 | 53·6665 | 122·5598 |
| 98 | 65 | 31·3475 | 68·8933 |
| 99 | 66 | 17·7604 | 37·5458 |
| 100 | 67 | 9·7460 | 19·7854 |
| 101 | 68 | 5·1722 | 10·0394 |
| 102 | 69 | 2·6505 | 4·8672 |
| 103 | 70 | 1·3095 | 2·2167 |
| 104 | 71 | ·6227 | ·9072 |
| 105 | 72 | ·2845 | ·2845 |

**Male 74 Years older.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | | |
| 74 | 0 | 136,432 | 707,639 |
| 75 | 1 | 104,119 | 571,207 |
| 76 | 2 | 85,462·5 | 467,087·9 |
| 77 | 3 | 71,520·5 | 381,625·4 |
| 78 | 4 | 59,997·3 | 310,104·9 |
| 79 | 5 | 50,172·9 | 250,107·6 |
| 80 | 6 | 41,708·0 | 199,934·7 |
| 81 | 7 | 34,382·8 | 158,226·7 |
| 82 | 8 | 28,052·8 | 123,843·9 |
| 83 | 9 | 22,634·6 | 95,791·1 |
| 84 | 10 | 18,041·0 | 73,156·5 |
| 85 | 11 | 14,189·6 | 55,115·5 |
| 86 | 12 | 11,001·1 | 40,925·9 |
| 87 | 13 | 8,398·32 | 29,924·82 |
| 88 | 14 | 6,306·32 | 21,526·50 |
| 89 | 15 | 4,652·93 | 15,220·18 |
| 90 | 16 | 3,369·64 | 10,567·25 |
| 91 | 17 | 2,392·72 | 7,197·61 |
| 92 | 18 | 1,664·16 | 4,804·89 |
| 93 | 19 | 1,132·50 | 3,140·73 |
| 94 | 20 | 753·311 | 2,008·226 |
| 95 | 21 | 489·271 | 1,254·915 |
| 96 | 22 | 310·115 | 765·644 |
| 97 | 23 | 191·618 | 455·529 |
| 98 | 24 | 115·299 | 263·911 |
| 99 | 25 | 67·4845 | 148·6124 |
| 100 | 26 | 38·3784 | 81·1279 |
| 101 | 27 | 21·1822 | 42·7495 |
| 102 | 28 | 11·3330 | 21·5673 |
| 103 | 29 | 5·8707 | 10·2343 |
| 104 | 30 | 2·9408 | 4·3636 |
| 105 | 31 | 1·4228 | 1·4228 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 34 Years older than Female.

### Male 73 Years older than Female.

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 34 Years older.** | |
| 34 | 0 | 862,755 | 11,838,208 |
| 35 | 1 | 716,819 | 10,975,453 |
| 36 | 2 | 645,496 | 10,258,634 |
| 37 | 3 | 597,534 | 9,613,138 |
| 38 | 4 | 559,384 | 9,015,604 |
| 39 | 5 | 526,974 | 8,456,220 |
| 40 | 6 | 498,484 | 7,929,246 |
| 41 | 7 | 472,647 | 7,430,762 |
| 42 | 8 | 448,626 | 6,958,115 |
| 43 | 9 | 426,227 | 6,509,489 |
| 44 | 10 | 405,181 | 6,083,262 |
| 45 | 11 | 385,268 | 5,678,081 |
| 46 | 12 | 366,306 | 5,292,813 |
| 47 | 13 | 348,153 | 4,926,507 |
| 48 | 14 | 330,695 | 4,578,354 |
| 49 | 15 | 313,845 | 4,247,659 |
| 50 | 16 | 297,538 | 3,933,814 |
| 51 | 17 | 281,728 | 3,636,276 |
| 52 | 18 | 266,236 | 3,354,548 |
| 53 | 19 | 251,178 | 3,088,312 |
| 54 | 20 | 236,558 | 2,837,134 |
| 55 | 21 | 222,381 | 2,600,576 |
| 56 | 22 | 208,753 | 2,378,195 |
| 57 | 23 | 195,659 | 2,169,442 |
| 58 | 24 | 183,080 | 1,973,783 |
| 59 | 25 | 170,998 | 1,790,703 |
| 60 | 26 | 159,395 | 1,619,705 |
| 61 | 27 | 148,252 | 1,460,310 |
| 62 | 28 | 137,554 | 1,312,058 |
| 63 | 29 | 127,286 | 1,174,504 |
| 64 | 30 | 117,437 | 1,047,218 |
| 65 | 31 | 107,998 | 929,781 |
| 66 | 32 | 98,961·4 | 821,783·0 |
| 67 | 33 | 90,324·9 | 722,821·6 |
| 68 | 34 | 82,087·4 | 632,496·7 |
| 69 | 35 | 74,250·2 | 550,409·3 |
| 70 | 36 | 66,816·9 | 476,159·1 |
| 71 | 37 | 59,792·6 | 409,342·2 |
| 72 | 38 | 53,183·0 | 349,549·6 |
| 73 | 39 | 46,994·5 | 296,366·6 |
| 74 | 40 | 41,232·6 | 249,372·1 |
| 75 | 41 | 35,901·6 | 208,139·5 |
| 76 | 42 | 31,004·1 | 172,237·9 |
| 77 | 43 | 26,539·6 | 141,233·8 |
| 78 | 44 | 22,504·4 | 114,694·2 |
| 79 | 45 | 18,891·2 | 92,189·8 |
| 80 | 46 | 15,688·2 | 73,298·6 |
| 81 | 47 | 12,879·7 | 57,610·4 |
| 82 | 48 | 10,445·9 | 44,730·7 |
| 83 | 49 | 8,363·08 | 34,284·75 |
| 84 | 50 | 6,604·34 | 25,921·67 |
| 85 | 51 | 5,140·32 | 19,317·33 |
| 86 | 52 | 3,939·94 | 14,177·01 |
| 87 | 53 | 2,971·39 | 10,237·07 |
| 88 | 54 | 2,203·03 | 7,265·68 |
| 89 | 55 | 1,601·85 | 5,062·65 |
| 90 | 56 | 1,142·05 | 3,460·80 |
| 91 | 57 | 797·616 | 2,318·745 |
| 92 | 58 | 545·125 | 1,521·129 |
| 93 | 59 | 364·188 | 976·004 |
| 94 | 60 | 237·571 | 611·816 |
| 95 | 61 | 151·144 | 374·245 |
| 96 | 62 | 93·6661 | 223·1010 |
| 97 | 63 | 56·4702 | 129·4349 |
| 98 | 64 | 33·0770 | 72·9647 |
| 99 | 65 | 18·7979 | 39·8877 |
| 100 | 66 | 10·3502 | 21·0898 |
| 101 | 67 | 5·5133 | 10·7396 |
| 102 | 68 | 2·8368 | 5·2263 |
| 103 | 69 | 1·4078 | 2·3895 |
| 104 | 70 | ·6727 | ·9817 |
| 105 | 71 | ·3090 | ·3090 |
| | | **Male 73 Years older.** | |
| 73 | 0 | 151,300 | 816,202 |
| 74 | 1 | 116,321 | 664,902 |
| 75 | 2 | 96,239·4 | 548,580·7 |
| 76 | 3 | 81,229·2 | 452,341·3 |
| 77 | 4 | 68,767·4 | 371,112·1 |
| 78 | 5 | 58,071·8 | 302,344·7 |
| 79 | 6 | 48,780·4 | 244,272·9 |
| 80 | 7 | 40,662·4 | 195,492·5 |
| 81 | 8 | 33,570·8 | 154,830·1 |
| 82 | 9 | 27,428·8 | 121,259·3 |
| 83 | 10 | 22,154·9 | 93,830·5 |
| 84 | 11 | 17,672·3 | 71,675·6 |
| 85 | 12 | 13,906·6 | 54,003·3 |
| 86 | 13 | 10,784·3 | 40,096·7 |
| 87 | 14 | 8,233·12 | 29,312·37 |
| 88 | 15 | 6,181·30 | 21,079·25 |
| 89 | 16 | 4,559·23 | 14,897·95 |
| 90 | 17 | 3,300·29 | 10,338·72 |
| 91 | 18 | 2,342·17 | 7,038·43 |
| 92 | 19 | 1,627·97 | 4,696·26 |
| 93 | 20 | 1,107·11 | 3,068·29 |
| 94 | 21 | 735·903 | 1,961·175 |
| 95 | 22 | 477·857 | 1,225·272 |
| 96 | 23 | 302·815 | 747·415 |
| 97 | 24 | 187·068 | 444·600 |
| 98 | 25 | 112·538 | 257·532 |
| 99 | 26 | 65·8553 | 144·9939 |
| 100 | 27 | 37·4445 | 79·1386 |
| 101 | 28 | 20·6628 | 41·6941 |
| 102 | 29 | 11·0530 | 21·0313 |
| 103 | 30 | 5·7245 | 9·9783 |
| 104 | 31 | 2·8670 | 4·2538 |
| 105 | 32 | 1·3868 | 1·3868 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

**Male 35 Years older than Female.**

**Male 72 Years older than Female.**

| Ages | | $D_{x,\ y}$ | $N_{x,\ y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 35 Years older.** | |
| 35 | 0 | 840,752 | 11,409,403 |
| 36 | 1 | 698,346 | 10,568,651 |
| 37 | 2 | 628,675 | 9,870,305 |
| 38 | 3 | 581,778 | 9,241,630 |
| 39 | 4 | 544,447 | 8,659,852 |
| 40 | 5 | 512,713 | 8,115,405 |
| 41 | 6 | 484,801 | 7,602,692 |
| 42 | 7 | 459,477 | 7,117,891 |
| 43 | 8 | 435,923 | 6,658,414 |
| 44 | 9 | 413,954 | 6,222,491 |
| 45 | 10 | 393,305 | 5,808,537 |
| 46 | 11 | 373,763 | 5,415,232 |
| 47 | 12 | 355,151 | 5,041,469 |
| 48 | 13 | 337,331 | 4,686,318 |
| 49 | 14 | 320,193 | 4,348,987 |
| 50 | 15 | 303,652 | 4,028,794 |
| 51 | 16 | 287,648 | 3,725,142 |
| 52 | 17 | 271,982 | 3,437,494 |
| 53 | 18 | 256,762 | 3,165,512 |
| 54 | 19 | 241,983 | 2,908,750 |
| 55 | 20 | 227,642 | 2,666,767 |
| 56 | 21 | 213,740 | 2,439,125 |
| 57 | 22 | 200,376 | 2,225,385 |
| 58 | 23 | 187,533 | 2,025,009 |
| 59 | 24 | 175,193 | 1,837,476 |
| 60 | 25 | 163,338 | 1,662,283 |
| 61 | 26 | 151,949 | 1,498,945 |
| 62 | 27 | 141,012 | 1,346,996 |
| 63 | 28 | 130,511 | 1,205,984 |
| 64 | 29 | 120,436 | 1,075,473 |
| 65 | 30 | 110,777 | 955,037 |
| 66 | 31 | 101,528 | 844,260 |
| 67 | 32 | 92,685·7 | 742,731·5 |
| 68 | 33 | 84,249·9 | 650,045·8 |
| 69 | 34 | 76,222·1 | 565,795·9 |
| 70 | 35 | 68,606·1 | 489,573·8 |
| 71 | 36 | 61,407·3 | 420,967·7 |
| 72 | 37 | 54,631·8 | 359,560·4 |
| 73 | 38 | 48,286·3 | 304,928·6 |
| 74 | 39 | 42,376·5 | 256,642·3 |
| 75 | 40 | 36,907·4 | 214,265·8 |
| 76 | 41 | 31,881·4 | 177,358·4 |
| 77 | 42 | 27,298·4 | 145,477·0 |
| 78 | 43 | 23,154·9 | 118,178·6 |
| 79 | 44 | 19,443·4 | 95,023·7 |
| 80 | 45 | 16,152·2 | 75,580·3 |
| 81 | 46 | 13,265·4 | 59,428·1 |
| 82 | 47 | 10,762·7 | 46,162·7 |
| 83 | 48 | 8,620·11 | 35,399·95 |
| 84 | 49 | 6,810·14 | 26,779·84 |
| 85 | 50 | 5,302·82 | 19,969·70 |
| 86 | 51 | 4,066·37 | 14,666·88 |
| 87 | 52 | 3,068·23 | 10,600·51 |
| 88 | 53 | 2,275·99 | 7,532·28 |
| 89 | 54 | 1,658·32 | 5,256·29 |
| 90 | 55 | 1,183·89 | 3,597·97 |
| 91 | 56 | 827·992 | 2,414·084 |
| 92 | 57 | 566·723 | 1,586·092 |
| 93 | 58 | 379·219 | 1,019·369 |
| 94 | 59 | 247·803 | 640·150 |
| 95 | 60 | 157·951 | 392·347 |
| 96 | 61 | 98·0877 | 234·3964 |
| 97 | 62 | 59·2711 | 136·3087 |
| 98 | 63 | 34·8051 | 77·0376 |
| 99 | 64 | 19·8350 | 42·2325 |
| 100 | 65 | 10·9548 | 22·3975 |
| 101 | 66 | 5·8551 | 11·4427 |
| 102 | 67 | 3·0239 | 5·5876 |
| 103 | 68 | 1·5067 | 2·5637 |
| 104 | 69 | ·7232 | 1·0570 |
| 105 | 70 | ·3338 | ·3338 |

**Male 72 Years older.**

| $x$ | $y$ | $D_{x,\ y}$ | $N_{x,\ y}$ |
|---|---|---|---|
| 72 | 0 | 166,643 | 934,613 |
| 73 | 1 | 128,997 | 767,970 |
| 74 | 2 | 107,518 | 638,973 |
| 75 | 3 | 91,472·3 | 531,455·1 |
| 76 | 4 | 78,102·5 | 439,982·8 |
| 77 | 5 | 66,560·5 | 361,880·3 |
| 78 | 6 | 56,460·1 | 295,319·8 |
| 79 | 7 | 47,557·6 | 238,859·7 |
| 80 | 8 | 39,702·1 | 191,302·1 |
| 81 | 9 | 32,824·0 | 151,600·0 |
| 82 | 10 | 26,847·5 | 118,776·0 |
| 83 | 11 | 21,702·2 | 91,928·5 |
| 84 | 12 | 17,319·8 | 70,226·3 |
| 85 | 13 | 13,632·6 | 52,906·5 |
| 86 | 14 | 10,572·2 | 39,273·9 |
| 87 | 15 | 8,069·90 | 28,701·73 |
| 88 | 16 | 6,056·82 | 20,631·83 |
| 89 | 17 | 4,465·40 | 14,575·01 |
| 90 | 18 | 3,230·57 | 10,109·61 |
| 91 | 19 | 2,291·23 | 6,879·04 |
| 92 | 20 | 1,591·47 | 4,587·81 |
| 93 | 21 | 1,081·53 | 2,996·34 |
| 94 | 22 | 718·735 | 1,914·813 |
| 95 | 23 | 466·608 | 1,196·078 |
| 96 | 24 | 295·624 | 729·470 |
| 97 | 25 | 182·589 | 433·846 |
| 98 | 26 | 109·821 | 251·257 |
| 99 | 27 | 64·2530 | 141·4362 |
| 100 | 28 | 36·5263 | 77·1832 |
| 101 | 29 | 20·1522 | 40·6569 |
| 102 | 30 | 10·7778 | 20·5047 |
| 103 | 31 | 5·5809 | 9·7269 |
| 104 | 32 | 2·7945 | 4·1460 |
| 105 | 33 | 1·3515 | 1·3515 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 36 Years older than Female.

### Male 71 Years older than Female.

**Male 36 Years older.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 36 | 0 | 819,085 | 10,988,192 |
| 37 | 1 | 680,148 | 10,169,107 |
| 38 | 2 | 612,098 | 9,488,959 |
| 39 | 3 | 566,243 | 8,876,861 |
| 40 | 4 | 529,713 | 8,310,618 |
| 41 | 5 | 498,639 | 7,780,905 |
| 42 | 6 | 471,291 | 7,282,266 |
| 43 | 7 | 446,467 | 6,810,975 |
| 44 | 8 | 423,371 | 6,364,508 |
| 45 | 9 | 401,821 | 5,941,137 |
| 46 | 10 | 381,560 | 5,539,316 |
| 47 | 11 | 362,380 | 5,157,756 |
| 48 | 12 | 344,111 | 4,795,376 |
| 49 | 13 | 326,617 | 4,451,265 |
| 50 | 14 | 309,794 | 4,124,648 |
| 51 | 15 | 293,559 | 3,814,854 |
| 52 | 16 | 277,697 | 3,521,295 |
| 53 | 17 | 262,304 | 3,243,598 |
| 54 | 18 | 247,363 | 2,981,294 |
| 55 | 19 | 232,862 | 2,733,931 |
| 56 | 20 | 218,796 | 2,501,069 |
| 57 | 21 | 205,162 | 2,282,273 |
| 58 | 22 | 192,054 | 2,077,111 |
| 59 | 23 | 179,455 | 1,885,057 |
| 60 | 24 | 167,345 | 1,705,602 |
| 61 | 25 | 155,708 | 1,538,257 |
| 62 | 26 | 144,529 | 1,382,549 |
| 63 | 27 | 133,792 | 1,238,020 |
| 64 | 28 | 123,487 | 1,104,228 |
| 65 | 29 | 113,605 | 980,741 |
| 66 | 30 | 104,140 | 867,136 |
| 67 | 31 | 95,089·2 | 762,996·3 |
| 68 | 32 | 86,451·9 | 667,907·1 |
| 69 | 33 | 78,230·1 | 581,455·2 |
| 70 | 34 | 70,428·2 | 503,225·1 |
| 71 | 35 | 63,051·6 | 432,796·9 |
| 72 | 36 | 56,107·2 | 369,745·3 |
| 73 | 37 | 49,601·6 | 313,638·1 |
| 74 | 38 | 43,541·4 | 264,036·5 |
| 75 | 39 | 37,931·3 | 220,495·1 |
| 76 | 40 | 32,774·5 | 182,563·8 |
| 77 | 41 | 28,070·8 | 149,789·3 |
| 78 | 42 | 23,816·9 | 121,718·5 |
| 79 | 43 | 20,005·4 | 97,901·6 |
| 80 | 44 | 16,624·4 | 77,896·2 |
| 81 | 45 | 13,657·8 | 61,271·8 |
| 82 | 46 | 11,085·0 | 47,614·0 |
| 83 | 47 | 8,881·53 | 36,529·02 |
| 84 | 48 | 7,019·44 | 27,647·49 |
| 85 | 49 | 5,468·06 | 20,628·05 |
| 86 | 50 | 4,194·92 | 15,159·99 |
| 87 | 51 | 3,166·68 | 10,965·07 |
| 88 | 52 | 2,350·17 | 7,798·39 |
| 89 | 53 | 1,713·24 | 5,448·22 |
| 90 | 54 | 1,225·63 | 3,734·98 |
| 91 | 55 | 858·327 | 2,509·345 |
| 92 | 56 | 588·305 | 1,651·018 |
| 93 | 57 | 394·244 | 1,062·713 |
| 94 | 58 | 258·031 | 668·469 |
| 95 | 59 | 164·754 | 410·438 |
| 96 | 60 | 102·506 | 245·684 |
| 97 | 61 | 62·0690 | 143·1784 |
| 98 | 62 | 36·5314 | 81·1094 |
| 99 | 63 | 20·8713 | 44·5780 |
| 100 | 64 | 11·5592 | 23·7067 |
| 101 | 65 | 6·1971 | 12·1475 |
| 102 | 66 | 3·2114 | 5·9504 |
| 103 | 67 | 1·6061 | 2·7390 |
| 104 | 68 | ·7740 | 1·1329 |
| 105 | 69 | ·3589 | ·3589 |

**Male 71 Years older.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 71 | 0 | 182,385 | 1,062,941 |
| 72 | 1 | 142,079 | 880,556 |
| 73 | 2 | 119,234 | 738,477 |
| 74 | 3 | 102,192 | 619,243 |
| 75 | 4 | 87,951·3 | 517,051·4 |
| 76 | 5 | 75,595·9 | 429,100·1 |
| 77 | 6 | 64,713·2 | 353,504·2 |
| 78 | 7 | 55,044·7 | 288,791·0 |
| 79 | 8 | 46,434·4 | 233,746·3 |
| 80 | 9 | 38,819·0 | 187,311·9 |
| 81 | 10 | 32,128·4 | 148,492·9 |
| 82 | 11 | 26,298·9 | 116,364·5 |
| 83 | 12 | 21,269·2 | 90,065·6 |
| 84 | 13 | 16,978·5 | 68,796·4 |
| 85 | 14 | 13,364·4 | 51,817·9 |
| 86 | 15 | 10,362·6 | 38,453·5 |
| 87 | 16 | 7,907·39 | 28,090·93 |
| 88 | 17 | 5,932·17 | 20,183·54 |
| 89 | 18 | 4,371·06 | 14,251·37 |
| 90 | 19 | 3,160·30 | 9,880·31 |
| 91 | 20 | 2,239·86 | 6,720·01 |
| 92 | 21 | 1,554·69 | 4,480·15 |
| 93 | 22 | 1,056·30 | 2,925·46 |
| 94 | 23 | 701·816 | 1,869·159 |
| 95 | 24 | 455·528 | 1,167·343 |
| 96 | 25 | 288·546 | 711·815 |
| 97 | 26 | 178·181 | 423·269 |
| 98 | 27 | 107·149 | 245·088 |
| 99 | 28 | 62·6774 | 137·9390 |
| 100 | 29 | 35·6238 | 75·2616 |
| 101 | 30 | 19·6504 | 39·6378 |
| 102 | 31 | 10·5074 | 19·9874 |
| 103 | 32 | 5·4398 | 9·4800 |
| 104 | 33 | 2·7234 | 4·0402 |
| 105 | 34 | 1·3168 | 1·3168 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

**Male 37 Years older than Female.**

**Male 70 Years older than Female.**

| Ages $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Male 37 Years older.** | |
| 37 | 0 | 797,741 | 10,574,517 |
| 38 | 1 | 662,214 | 9,776,776 |
| 39 | 2 | 595,753 | 9,114,562 |
| 40 | 3 | 550,920 | 8,518,809 |
| 41 | 4 | 515,173 | 7,967,889 |
| 42 | 5 | 484,744 | 7,452,716 |
| 43 | 6 | 457,947 | 6,967,972 |
| 44 | 7 | 433,611 | 6,510,025 |
| 45 | 8 | 410,962 | 6,076,414 |
| 46 | 9 | 389,821 | 5,665,452 |
| 47 | 10 | 369,940 | 5,275,631 |
| 48 | 11 | 351,115 | 4,905,691 |
| 49 | 12 | 333,182 | 4,554,576 |
| 50 | 13 | 316,010 | 4,221,394 |
| 51 | 14 | 299,497 | 3,905,384 |
| 52 | 15 | 283,404 | 3,605,887 |
| 53 | 16 | 267,816 | 3,322,483 |
| 54 | 17 | 252,702 | 3,054,667 |
| 55 | 18 | 238,040 | 2,801,965 |
| 56 | 19 | 223,814 | 2,563,925 |
| 57 | 20 | 210,015 | 2,340,111 |
| 58 | 21 | 196,642 | 2,130,096 |
| 59 | 22 | 183,781 | 1,933,454 |
| 60 | 23 | 171,415 | 1,749,673 |
| 61 | 24 | 159,528 | 1,578,258 |
| 62 | 25 | 148,104 | 1,418,730 |
| 63 | 26 | 137,129 | 1,270,626 |
| 64 | 27 | 126,591 | 1,133,497 |
| 65 | 28 | 116,483 | 1,006,906 |
| 66 | 29 | 106,799 | 890,423 |
| 67 | 30 | 97,536·1 | 783,624·3 |
| 68 | 31 | 88,693·8 | 686,088·2 |
| 69 | 32 | 80,274·8 | 597,394·4 |
| 70 | 33 | 72,283·6 | 517,119·6 |
| 71 | 34 | 64,726·1 | 444,836·0 |
| 72 | 35 | 57,609·6 | 380,109·9 |
| 73 | 36 | 50,941·1 | 322,500·3 |
| 74 | 37 | 44,727·5 | 271,559·2 |
| 75 | 38 | 38,974·0 | 226,831·7 |
| 76 | 39 | 33,683·8 | 187,857·7 |
| 77 | 40 | 28,857·2 | 154,173·9 |
| 78 | 41 | 24,490·8 | 125,316·7 |
| 79 | 42 | 20,577·4 | 100,825·9 |
| 80 | 43 | 17,104·9 | 80,248·5 |
| 81 | 44 | 14,057·0 | 63,143·6 |
| 82 | 45 | 11,412·9 | 49,086·6 |
| 83 | 46 | 9,147·47 | 37,673·70 |
| 84 | 47 | 7,232·33 | 28,526·23 |
| 85 | 48 | 5,636·12 | 21,293·90 |
| 86 | 49 | 4,325·64 | 15,657·78 |
| 87 | 50 | 3,266·79 | 11,332·14 |
| 88 | 51 | 2,425·58 | 8,065·35 |
| 89 | 52 | 1,769·07 | 5,639·77 |
| 90 | 53 | 1,266·22 | 3,870·70 |
| 91 | 54 | 888·587 | 2,604·476 |
| 92 | 55 | 609·859 | 1,715·889 |
| 93 | 56 | 409·258 | 1,106·030 |
| 94 | 57 | 268·254 | 696·772 |
| 95 | 58 | 171·554 | 428·518 |
| 96 | 59 | 106·921 | 256·964 |
| 97 | 60 | 64·8646 | 150·0429 |
| 98 | 61 | 38·2559 | 85·1783 |
| 99 | 62 | 21·9065 | 46·9224 |
| 100 | 63 | 12·1631 | 25·0159 |
| 101 | 64 | 6·5390 | 12·8528 |
| 102 | 65 | 3·3989 | 6·3138 |
| 103 | 66 | 1·7057 | 2·9149 |
| 104 | 67 | ·8251 | 1·2092 |
| 105 | 68 | ·3841 | ·3841 |
| | | **Male 70 Years older.** | |
| 70 | 0 | 198,452 | 1,201,198 |
| 71 | 1 | 155,500 | 1,002,746 |
| 72 | 2 | 131,326 | 847,246 |
| 73 | 3 | 113,328 | 715,920 |
| 74 | 4 | 98,258·4 | 602,592·3 |
| 75 | 5 | 85,128·7 | 504,333·9 |
| 76 | 6 | 73,497·9 | 419,205·2 |
| 77 | 7 | 63,091·0 | 345,707·3 |
| 78 | 8 | 53,744·8 | 282,616·3 |
| 79 | 9 | 45,401·6 | 228,871·5 |
| 80 | 10 | 37,996·4 | 183,469·9 |
| 81 | 11 | 31,471·9 | 145,473·5 |
| 82 | 12 | 25,774·3 | 114,001·6 |
| 83 | 13 | 20,850·2 | 88,227·3 |
| 84 | 14 | 16,644·6 | 67,377·1 |
| 85 | 15 | 13,099·5 | 50,732·5 |
| 86 | 16 | 10,153·9 | 37,633·0 |
| 87 | 17 | 7,744·65 | 27,479·10 |
| 88 | 18 | 5,806·84 | 19,734·45 |
| 89 | 19 | 4,275·99 | 13,927·61 |
| 90 | 20 | 3,089·45 | 9,651·62 |
| 91 | 21 | 2,188·10 | 6,562·17 |
| 92 | 22 | 1,518·42 | 4,374·07 |
| 93 | 23 | 1,031·43 | 2,855·65 |
| 94 | 24 | 685·151 | 1,824·220 |
| 95 | 25 | 444·620 | 1,139·069 |
| 96 | 26 | 281·580 | 694·449 |
| 97 | 27 | 173·846 | 412·869 |
| 98 | 28 | 104·521 | 239·023 |
| 99 | 29 | 61·1286 | 134·5022 |
| 100 | 30 | 34·7368 | 73·3736 |
| 101 | 31 | 19·1575 | 38·6368 |
| 102 | 32 | 10·2418 | 19·4793 |
| 103 | 33 | 5·3013 | 9·2375 |
| 104 | 34 | 2·6535 | 3·9362 |
| 105 | 35 | 1·2827 | 1·2827 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

**Male 38 Years older than Female.**

**Male 69 Years older than Female.**

**Male 38 Years older.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 38 | 0 | 776,706 | 10,168,306 |
| 39 | 1 | 644,531 | 9,391,600 |
| 40 | 2 | 579,631 | 8,747,069 |
| 41 | 3 | 535,797 | 8,167,438 |
| 42 | 4 | 500,817 | 7,631,641 |
| 43 | 5 | 471,019 | 7,130,824 |
| 44 | 6 | 444,761 | 6,659,805 |
| 45 | 7 | 420,902 | 6,215,044 |
| 46 | 8 | 398,689 | 5,794,142 |
| 47 | 9 | 377,949 | 5,395,453 |
| 48 | 10 | 358,440 | 5,017,504 |
| 49 | 11 | 339,964 | 4,659,064 |
| 50 | 12 | 322,361 | 4,319,100 |
| 51 | 13 | 305,506 | 3,996,739 |
| 52 | 14 | 289,136 | 3,691,233 |
| 53 | 15 | 273,320 | 3,402,097 |
| 54 | 16 | 258,012 | 3,128,777 |
| 55 | 17 | 243,177 | 2,870,765 |
| 56 | 18 | 228,790 | 2,627,588 |
| 57 | 19 | 214,832 | 2,398,798 |
| 58 | 20 | 201,293 | 2,183,966 |
| 59 | 21 | 188,171 | 1,982,673 |
| 60 | 22 | 175,548 | 1,794,502 |
| 61 | 23 | 163,408 | 1,618,954 |
| 62 | 24 | 151,737 | 1,455,546 |
| 63 | 25 | 140,521 | 1,303,809 |
| 64 | 26 | 129,748 | 1,163,288 |
| 65 | 27 | 119,412 | 1,033,540 |
| 66 | 28 | 109,505 | 914,128 |
| 67 | 29 | 100,027 | 804,623 |
| 68 | 30 | 90,976·1 | 704,595·5 |
| 69 | 31 | 82,356·5 | 613,619·4 |
| 70 | 32 | 74,172·8 | 531,262·9 |
| 71 | 33 | 66,431·3 | 457,090·1 |
| 72 | 34 | 59,139·6 | 390,658·8 |
| 73 | 35 | 52,305·2 | 331,519·2 |
| 74 | 36 | 45,935·3 | 279,214·0 |
| 75 | 37 | 40,035·7 | 233,278·7 |
| 76 | 38 | 34,609·6 | 193,243·0 |
| 77 | 39 | 29,657·8 | 158,633·4 |
| 78 | 40 | 25,176·9 | 128,975·6 |
| 79 | 41 | 21,159·6 | 103,798·7 |
| 80 | 42 | 17,593·9 | 82,639·1 |
| 81 | 43 | 14,463·3 | 65,045·2 |
| 82 | 44 | 11,746·5 | 50,581·9 |
| 83 | 45 | 9,418·04 | 38,835·42 |
| 84 | 46 | 7,448·89 | 29,417·38 |
| 85 | 47 | 5,807·05 | 21,968·49 |
| 86 | 48 | 4,458·58 | 16,161·44 |
| 87 | 49 | 3,368·59 | 11,702·86 |
| 88 | 50 | 2,502·26 | 8,334·27 |
| 89 | 51 | 1,825·84 | 5,832·01 |
| 90 | 52 | 1,307·49 | 4,006·17 |
| 91 | 53 | 918·015 | 2,698·684 |
| 92 | 54 | 631·359 | 1,780·669 |
| 93 | 55 | 424·252 | 1,149·310 |
| 94 | 56 | 278·471 | 725·058 |
| 95 | 57 | 178·351 | 446·587 |
| 96 | 58 | 111·334 | 268·236 |
| 97 | 59 | 67·6584 | 156·9024 |
| 98 | 60 | 39·9789 | 89·2440 |
| 99 | 61 | 22·9406 | 49·2651 |
| 100 | 62 | 12·7664 | 26·3245 |
| 101 | 63 | 6·8806 | 13·5581 |
| 102 | 64 | 3·5865 | 6·6775 |
| 103 | 65 | 1·8053 | 3·0910 |
| 104 | 66 | ·8762 | 1·2857 |
| 105 | 67 | ·4095 | ·4095 |

**Male 69 Years older.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 69 | 0 | 214,778 | 1,349,344 |
| 70 | 1 | 169,199 | 1,134,566 |
| 71 | 2 | 143,732 | 965,367 |
| 72 | 3 | 124,821 | 821,635 |
| 73 | 4 | 108,966 | 696,814 |
| 74 | 5 | 95,104·9 | 587,848·3 |
| 75 | 6 | 82,766·1 | 492,743·4 |
| 76 | 7 | 71,655·4 | 409,977·3 |
| 77 | 8 | 61,601·0 | 338,321·9 |
| 78 | 9 | 52,549·3 | 276,720·9 |
| 79 | 10 | 44,439·5 | 224,171·6 |
| 80 | 11 | 37,219·9 | 179,732·1 |
| 81 | 12 | 30,844·0 | 142,512·2 |
| 82 | 13 | 25,266·4 | 111,668·2 |
| 83 | 14 | 20,440·1 | 86,401·8 |
| 84 | 15 | 16,314·6 | 65,961·7 |
| 85 | 16 | 12,835·7 | 49,647·1 |
| 86 | 17 | 9,944·97 | 36,811·40 |
| 87 | 18 | 7,581·03 | 26,866·43 |
| 88 | 19 | 5,680·54 | 19,285·40 |
| 89 | 20 | 4,180·12 | 13,604·86 |
| 90 | 21 | 3,018·06 | 9,424·74 |
| 91 | 22 | 2,137·05 | 6,406·68 |
| 92 | 23 | 1,482·68 | 4,269·63 |
| 93 | 24 | 1,006·94 | 2,786·95 |
| 94 | 25 | 668·745 | 1,780·009 |
| 95 | 26 | 433·887 | 1,111·264 |
| 96 | 27 | 274·729 | 677·377 |
| 97 | 28 | 169·583 | 402·648 |
| 98 | 29 | 101·939 | 233·065 |
| 99 | 30 | 59·6067 | 131·1255 |
| 100 | 31 | 33·8654 | 71·5188 |
| 101 | 32 | 18·6732 | 37·6534 |
| 102 | 33 | 9·9809 | 18·9802 |
| 103 | 34 | 5·1652 | 8·9993 |
| 104 | 35 | 2·5848 | 3·8341 |
| 105 | 36 | 1·2493 | 1·2493 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

**Male 39 Years older than Female.**

**Male 68 Years older than Female.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Male 39 Years older.** | |
| 39 | 0 | 755,966 | 9,769,511 |
| 40 | 1 | 627,089 | 9,013,545 |
| 41 | 2 | 563,721 | 8,386,456 |
| 42 | 3 | 520,867 | 7,822,735 |
| 43 | 4 | 486,637 | 7,301,868 |
| 44 | 5 | 457,457 | 6,815,231 |
| 45 | 6 | 431,725 | 6,357,774 |
| 46 | 7 | 408,332 | 5,926,049 |
| 47 | 8 | 386,547 | 5,517,717 |
| 48 | 9 | 366,201 | 5,131,170 |
| 49 | 10 | 347,056 | 4,764,969 |
| 50 | 11 | 328,923 | 4,417,913 |
| 51 | 12 | 311,646 | 4,088,990 |
| 52 | 13 | 294,938 | 3,777,344 |
| 53 | 14 | 278,848 | 3,482,406 |
| 54 | 15 | 263,315 | 3,203,558 |
| 55 | 16 | 248,287 | 2,940,243 |
| 56 | 17 | 233,728 | 2,691,956 |
| 57 | 18 | 219,608 | 2,458,228 |
| 58 | 19 | 205,910 | 2,238,620 |
| 59 | 20 | 192,622 | 2,032,710 |
| 60 | 21 | 179,741 | 1,840,088 |
| 61 | 22 | 167,348 | 1,660,347 |
| 62 | 23 | 155,428 | 1,492,999 |
| 63 | 24 | 143,968 | 1,337,571 |
| 64 | 25 | 132,958 | 1,193,603 |
| 65 | 26 | 122,390 | 1,060,645 |
| 66 | 27 | 112,258 | 938,255 |
| 67 | 28 | 102,561 | 825,997 |
| 68 | 29 | 93,299·0 | 723,436·0 |
| 69 | 30 | 84,475·7 | 630,137·0 |
| 70 | 31 | 76,096·3 | 545,661·3 |
| 71 | 32 | 68,167·6 | 469,565·0 |
| 72 | 33 | 60,697·6 | 401,397·4 |
| 73 | 34 | 53,694·3 | 340,699·8 |
| 74 | 35 | 47,165·4 | 287,005·5 |
| 75 | 36 | 41,116·8 | 239,840·1 |
| 76 | 37 | 35,552·5 | 198,723·3 |
| 77 | 38 | 30,473·0 | 163,170·8 |
| 78 | 39 | 25,875·4 | 132,697·8 |
| 79 | 40 | 21,752·4 | 106,822·4 |
| 80 | 41 | 18,091·8 | 85,070·0 |
| 81 | 42 | 14,876·8 | 66,978·2 |
| 82 | 43 | 12,086·0 | 52,101·4 |
| 83 | 44 | 9,693·35 | 40,015·39 |
| 84 | 45 | 7,669·21 | 30,322·04 |
| 85 | 46 | 5,980·93 | 22,652·83 |
| 86 | 47 | 4,593·80 | 16,671·90 |
| 87 | 48 | 3,472·12 | 12,078·10 |
| 88 | 49 | 2,580·24 | 8,605·98 |
| 89 | 50 | 1,883·56 | 6,025·74 |
| 90 | 51 | 1,349·45 | 4,142·18 |
| 91 | 52 | 947·933 | 2,792·729 |
| 92 | 53 | 652·269 | 1,844·796 |
| 93 | 54 | 439·209 | 1,192·527 |
| 94 | 55 | 288·673 | 753·318 |
| 95 | 56 | 185·143 | 464·645 |
| 96 | 57 | 115·745 | 279·502 |
| 97 | 58 | 70·4509 | 163·7574 |
| 98 | 59 | 41·7009 | 93·3065 |
| 99 | 60 | 23·9738 | 51·6056 |
| 100 | 61 | 13·3690 | 27·6318 |
| 101 | 62 | 7·2219 | 14·2628 |
| 102 | 63 | 3·7738 | 7·0409 |
| 103 | 64 | 1·9049 | 3·2671 |
| 104 | 65 | ·9274 | 1·3622 |
| 105 | 66 | ·4348 | ·4348 |
| | | **Male 68 Years older.** | |
| 68 | 0 | 231,305 | 1,507,296 |
| 69 | 1 | 183,118 | 1,275,991 |
| 70 | 2 | 156,394 | 1,092,873 |
| 71 | 3 | 136,612 | 936,479 |
| 72 | 4 | 120,016 | 799,867 |
| 73 | 5 | 105,469 | 679,851 |
| 74 | 6 | 92,465·5 | 574,382·2 |
| 75 | 7 | 80,691·3 | 481,916·7 |
| 76 | 8 | 69,963·2 | 401,225·4 |
| 77 | 9 | 60,230·8 | 331,262·2 |
| 78 | 10 | 51,435·7 | 271,031·4 |
| 79 | 11 | 43,531·3 | 219,595·7 |
| 80 | 12 | 36,477·4 | 176,064·4 |
| 81 | 13 | 30,236·3 | 139,587·0 |
| 82 | 14 | 24,769·4 | 109,350·7 |
| 83 | 15 | 20,034·8 | 84,581·3 |
| 84 | 16 | 15,986·1 | 64,546·5 |
| 85 | 17 | 12,571·5 | 48,560·4 |
| 86 | 18 | 9,734·86 | 35,988·93 |
| 87 | 19 | 7,416·14 | 26,254·07 |
| 88 | 20 | 5,553·19 | 18,837·93 |
| 89 | 21 | 4,083·52 | 13,284·74 |
| 90 | 22 | 2,947·65 | 9,201·22 |
| 91 | 23 | 2,086·75 | 6,253·57 |
| 92 | 24 | 1,447·47 | 4,166·82 |
| 93 | 25 | 982·830 | 2,719·354 |
| 94 | 26 | 652·601 | 1,736·524 |
| 95 | 27 | 423·330 | 1,083·923 |
| 96 | 28 | 267·992 | 660·593 |
| 97 | 29 | 165·392 | 392·601 |
| 98 | 30 | 99·4006 | 227·2091 |
| 99 | 31 | 58·1113 | 127·8085 |
| 100 | 32 | 33·0094 | 69·6972 |
| 101 | 33 | 18·1976 | 36·6878 |
| 102 | 34 | 9·7248 | 18·4902 |
| 103 | 35 | 5·0316 | 8·7654 |
| 104 | 36 | 2·5174 | 3·7338 |
| 105 | 37 | 1·2164 | 1·2164 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 40 Years older than Female.

### Male 67 Years older than Female.

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Male 40 Years older.** | |
| 40 | 0 | 735,508 | 9,378,076 |
| 41 | 1 | 609,876 | 8,642,568 |
| 42 | 2 | 548,012 | 8,032,692 |
| 43 | 3 | 506,119 | 7,484,680 |
| 44 | 4 | 472,625 | 6,978,561 |
| 45 | 5 | 444,048 | 6,505,936 |
| 46 | 6 | 418,832 | 6,061,888 |
| 47 | 7 | 395,897 | 5,643,056 |
| 48 | 8 | 374,531 | 5,247,159 |
| 49 | 9 | 354,570 | 4,872,628 |
| 50 | 10 | 335,785 | 4,518,058 |
| 51 | 11 | 317,990 | 4,182,273 |
| 52 | 12 | 300,865 | 3,864,283 |
| 53 | 13 | 284,443 | 3,563,418 |
| 54 | 14 | 268,640 | 3,278,975 |
| 55 | 15 | 253,390 | 3,010,335 |
| 56 | 16 | 238,639 | 2,756,945 |
| 57 | 17 | 224,348 | 2,518,306 |
| 58 | 18 | 210,488 | 2,293,958 |
| 59 | 19 | 197,039 | 2,083,470 |
| 60 | 20 | 183,993 | 1,886,431 |
| 61 | 21 | 171,345 | 1,702,438 |
| 62 | 22 | 159,175 | 1,531,093 |
| 63 | 23 | 147,470 | 1,371,918 |
| 64 | 24 | 136,220 | 1,224,448 |
| 65 | 25 | 125,417 | 1,088,228 |
| 66 | 26 | 115,057 | 962,811 |
| 67 | 27 | 105,139 | 847,754 |
| 68 | 28 | 95,662·8 | 742,614·9 |
| 69 | 29 | 86,632·7 | 646,952·1 |
| 70 | 30 | 78,054·4 | 560,319·4 |
| 71 | 31 | 69,935·3 | 482,265·0 |
| 72 | 32 | 62,284·0 | 412,329·7 |
| 73 | 33 | 55,108·9 | 350,045·7 |
| 74 | 34 | 48,418·0 | 294,936·8 |
| 75 | 35 | 42,217·9 | 246,518·8 |
| 76 | 36 | 36,512·6 | 204,300·9 |
| 77 | 37 | 31,303·1 | 167,788·3 |
| 78 | 38 | 26,586·7 | 136,485·2 |
| 79 | 39 | 22,355·9 | 109,898·5 |
| 80 | 40 | 18,598·6 | 87,542·6 |
| 81 | 41 | 15,297·8 | 68,944·0 |
| 82 | 42 | 12,431·6 | 53,646·2 |
| 83 | 43 | 9,973·52 | 41,214·60 |
| 84 | 44 | 7,893·40 | 31,241·08 |
| 85 | 45 | 6,157·83 | 23,347·68 |
| 86 | 46 | 4,731·35 | 17,189·85 |
| 87 | 47 | 3,577·42 | 12,458·50 |
| 88 | 48 | 2,659·54 | 8,881·08 |
| 89 | 49 | 1,942·26 | 6,221·54 |
| 90 | 50 | 1,392·11 | 4,279·28 |
| 91 | 51 | 978·352 | 2,887·172 |
| 92 | 52 | 673·527 | 1,908·820 |
| 93 | 53 | 453·755 | 1,235·293 |
| 94 | 54 | 298·850 | 781·538 |
| 95 | 55 | 191·926 | 482·688 |
| 96 | 56 | 120·153 | 290·762 |
| 97 | 57 | 73·2422 | 170·6087 |
| 98 | 58 | 43·4220 | 97·3665 |
| 99 | 59 | 25·0064 | 53·9445 |
| 100 | 60 | 13·9711 | 28·9381 |
| 101 | 61 | 7·5628 | 14·9670 |
| 102 | 62 | 3·9610 | 7·4042 |
| 103 | 63 | 2·0044 | 3·4432 |
| 104 | 64 | ·9786 | 1·4388 |
| 105 | 65 | ·4602 | ·4602 |

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Male 67 Years older.** | |
| 67 | 0 | 247,984 | 1,674,943 |
| 68 | 1 | 197,209 | 1,426,959 |
| 69 | 2 | 169,260 | 1,229,750 |
| 70 | 3 | 148,647 | 1,060,490 |
| 71 | 4 | 131,354 | 911,843 |
| 72 | 5 | 116,165 | 780,489 |
| 73 | 6 | 102,542 | 664,324 |
| 74 | 7 | 90,147·5 | 561,782·3 |
| 75 | 8 | 78,785·6 | 471,634·8 |
| 76 | 9 | 68,407·0 | 392,849·2 |
| 77 | 10 | 58,954·4 | 324,442·2 |
| 78 | 11 | 50,384·6 | 265,487·8 |
| 79 | 12 | 42,662·9 | 215,103·2 |
| 80 | 13 | 35,758·7 | 172,440·3 |
| 81 | 14 | 29,641·6 | 136,681·6 |
| 82 | 15 | 24,278·4 | 107,040·0 |
| 83 | 16 | 19,631·4 | 82,761·6 |
| 84 | 17 | 15,657·0 | 63,130·2 |
| 85 | 18 | 12,305·9 | 47,473·2 |
| 86 | 19 | 9,523·14 | 35,167·29 |
| 87 | 20 | 7,249·88 | 25,644·15 |
| 88 | 21 | 5,424·86 | 18,394·27 |
| 89 | 22 | 3,988·26 | 12,969·41 |
| 90 | 23 | 2,878·26 | 8,981·15 |
| 91 | 24 | 2,037·20 | 6,102·89 |
| 92 | 25 | 1,412·81 | 4,065·69 |
| 93 | 26 | 959·104 | 2,652·877 |
| 94 | 27 | 636·722 | 1,693·773 |
| 95 | 28 | 412·949 | 1,057·051 |
| 96 | 29 | 261·370 | 644·102 |
| 97 | 30 | 161·274 | 382·732 |
| 98 | 31 | 96·9070 | 221·4576 |
| 99 | 32 | 56·6425 | 124·5506 |
| 100 | 33 | 32·1686 | 67·9081 |
| 101 | 34 | 17·7305 | 35·7395 |
| 102 | 35 | 9·4732 | 18·0090 |
| 103 | 36 | 4·9004 | 8·5358 |
| 104 | 37 | 2·4512 | 3·6354 |
| 105 | 38 | 1·1842 | 1·1842 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 41 Years older than Female.

### Male 66 Years older than Female.

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 41 Years older.** | |
| 41 | 0 | 715,319 | 8,993,977 |
| 42 | 1 | 592,881 | 8,278,658 |
| 43 | 2 | 532,495 | 7,685,777 |
| 44 | 3 | 491,546 | 7,153,282 |
| 45 | 4 | 458,772 | 6,661,736 |
| 46 | 5 | 430,788 | 6,202,964 |
| 47 | 6 | 406,077 | 5,772,176 |
| 48 | 7 | 383,590 | 5,366,099 |
| 49 | 8 | 362,637 | 4,982,509 |
| 50 | 9 | 343,055 | 4,619,872 |
| 51 | 10 | 324,624 | 4,276,817 |
| 52 | 11 | 306,990 | 3,952,193 |
| 53 | 12 | 290,160 | 3,645,203 |
| 54 | 13 | 274,031 | 3,355,043 |
| 55 | 14 | 258,515 | 3,081,012 |
| 56 | 15 | 243,543 | 2,822,497 |
| 57 | 16 | 229,062 | 2,578,954 |
| 58 | 17 | 215,031 | 2,349,892 |
| 59 | 18 | 201,420 | 2,134,861 |
| 60 | 19 | 188,212 | 1,933,441 |
| 61 | 20 | 175,398 | 1,745,229 |
| 62 | 21 | 162,977 | 1,569,831 |
| 63 | 22 | 151,025 | 1,406,854 |
| 64 | 23 | 139,533 | 1,255,829 |
| 65 | 24 | 128,494 | 1,116,296 |
| 66 | 25 | 117,904 | 987,802 |
| 67 | 26 | 107,761 | 869,898 |
| 68 | 27 | 98,067·6 | 762,136·8 |
| 69 | 28 | 88,827·6 | 664,069·2 |
| 70 | 29 | 80,047·4 | 575,241·6 |
| 71 | 30 | 71,734·9 | 495,194·2 |
| 72 | 31 | 63,899·2 | 423,459·3 |
| 73 | 32 | 56,549·2 | 359,560·1 |
| 74 | 33 | 49,693·5 | 303,010·9 |
| 75 | 34 | 43,339·1 | 253,317·4 |
| 76 | 35 | 37,490·3 | 209,978·3 |
| 77 | 36 | 32,148·5 | 172,488·0 |
| 78 | 37 | 27,310·9 | 140,339·5 |
| 79 | 38 | 22,970·4 | 113,028·6 |
| 80 | 39 | 19,114·6 | 90,058·2 |
| 81 | 40 | 15,726·3 | 70,943·6 |
| 82 | 41 | 12,783·3 | 55,217·3 |
| 83 | 42 | 10,258·7 | 42,434·0 |
| 84 | 43 | 8,121·55 | 32,175·28 |
| 85 | 44 | 6,337·84 | 24,053·73 |
| 86 | 45 | 4,871·30 | 17,715·89 |
| 87 | 46 | 3,684·54 | 12,844·59 |
| 88 | 47 | 2,740·20 | 9,160·05 |
| 89 | 48 | 2,001·95 | 6,419·85 |
| 90 | 49 | 1,435·49 | 4,417·90 |
| 91 | 50 | 1,009·28 | 2,982·41 |
| 92 | 51 | 695·139 | 1,973·133 |
| 93 | 52 | 468·543 | 1,277·994 |
| 94 | 53 | 308·747 | 809·451 |
| 95 | 54 | 198·693 | 500·704 |
| 96 | 55 | 124·555 | 302·011 |
| 97 | 56 | 76·0315 | 177·4559 |
| 98 | 57 | 45·1424 | 101·4244 |
| 99 | 58 | 26·0385 | 56·2820 |
| 100 | 59 | 14·5729 | 30·2435 |
| 101 | 60 | 7·9034 | 15·6706 |
| 102 | 61 | 4·1480 | 7·7672 |
| 103 | 62 | 2·1039 | 3·6192 |
| 104 | 63 | 1·0297 | 1·5153 |
| 105 | 64 | ·4856 | ·4856 |
| | | **Male 66 Years older.** | |
| 66 | 0 | 264,775 | 1,852,141 |
| 67 | 1 | 211,429 | 1,587,366 |
| 68 | 2 | 182,285 | 1,375,937 |
| 69 | 3 | 160,876 | 1,193,652 |
| 60 | 4 | 142,925 | 1,032,776 |
| 71 | 5 | 127,138 | 889,851 |
| 72 | 6 | 112,941 | 762,713 |
| 73 | 7 | 99,971·3 | 649,771·7 |
| 74 | 8 | 88,018·6 | 549,800·4 |
| 75 | 9 | 77,033·2 | 461,781·8 |
| 76 | 10 | 66,957·3 | 384,748·6 |
| 77 | 11 | 57,749·6 | 317,791·3 |
| 78 | 12 | 49,379·5 | 260,041·7 |
| 79 | 13 | 41,822·3 | 210,662·2 |
| 80 | 14 | 35,055·3 | 168,839·9 |
| 81 | 15 | 29,053·9 | 133,784·6 |
| 82 | 16 | 23,789·5 | 104,730·7 |
| 83 | 17 | 19,227·4 | 80,941·2 |
| 84 | 18 | 15,326·3 | 61,713·8 |
| 85 | 19 | 12,038·3 | 46,387·5 |
| 86 | 20 | 9,309·63 | 34,349·21 |
| 87 | 21 | 7,082·34 | 25,039·58 |
| 88 | 22 | 5,298·30 | 17,957·24 |
| 89 | 23 | 3,894·38 | 12,658·94 |
| 90 | 24 | 2,809·92 | 8,764·56 |
| 91 | 25 | 1,988·42 | 5,954·64 |
| 92 | 26 | 1,378·70 | 3,966·22 |
| 93 | 27 | 935·767 | 2,587·519 |
| 94 | 28 | 621·108 | 1,651·752 |
| 95 | 29 | 402·745 | 1,030·644 |
| 96 | 30 | 254·862 | 627·899 |
| 97 | 31 | 157·229 | 373·037 |
| 98 | 32 | 94·4575 | 215·8082 |
| 99 | 33 | 55·1997 | 121·3507 |
| 100 | 34 | 31·3429 | 66·1510 |
| 101 | 35 | 17·2718 | 34·8081 |
| 102 | 36 | 9·2261 | 17·5363 |
| 103 | 37 | 4·7715 | 8·3102 |
| 104 | 38 | 2·3862 | 3·5387 |
| 105 | 39 | 1·1525 | 1·1525 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

**Male 42 Years older than Female.**

**Male 65 Years older than Female.**

**Male 42 Years older.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 42 | 0 | 695,386 | 8,617,176 |
| 43 | 1 | 576,094 | 7,921,790 |
| 44 | 2 | 517,163 | 7,345,696 |
| 45 | 3 | 477,138 | 6,828,533 |
| 46 | 4 | 445,071 | 6,351,395 |
| 47 | 5 | 417,668 | 5,906,324 |
| 48 | 6 | 393,454 | 5,488,656 |
| 49 | 7 | 371,408 | 5,095,202 |
| 50 | 8 | 350,859 | 4,723,794 |
| 51 | 9 | 331,652 | 4,372,935 |
| 52 | 10 | 313,394 | 4,041,283 |
| 53 | 11 | 296,066 | 3,727,889 |
| 54 | 12 | 279,538 | 3,431,823 |
| 55 | 13 | 263,702 | 3,152,285 |
| 56 | 14 | 248,469 | 2,888,583 |
| 57 | 15 | 233,770 | 2,640,114 |
| 58 | 16 | 219,549 | 2,406,344 |
| 59 | 17 | 205,768 | 2,186,795 |
| 60 | 18 | 192,397 | 1,981,027 |
| 61 | 19 | 179,421 | 1,788,630 |
| 62 | 20 | 166,832 | 1,609,209 |
| 63 | 21 | 154,632 | 1,442,377 |
| 64 | 22 | 142,897 | 1,287,745 |
| 65 | 23 | 131,619 | 1,144,848 |
| 66 | 24 | 120,796 | 1,013,229 |
| 67 | 25 | 110,427 | 892,433 |
| 68 | 26 | 100,513 | 782,006 |
| 69 | 27 | 91,060·5 | 681,493·0 |
| 70 | 28 | 82,075·5 | 590,432·5 |
| 71 | 29 | 73,566·6 | 508,357·0 |
| 72 | 30 | 65,543·4 | 434,790·4 |
| 73 | 31 | 58,015·7 | 369,247·0 |
| 74 | 32 | 50,992·4 | 311,231·3 |
| 75 | 33 | 44,480·8 | 260,238·9 |
| 76 | 34 | 38,485·9 | 215,758·1 |
| 77 | 35 | 33,009·3 | 177,272·2 |
| 78 | 36 | 28,048·5 | 144,262·9 |
| 79 | 37 | 23,596·1 | 116,214·4 |
| 80 | 38 | 19,640·0 | 92,618·3 |
| 81 | 39 | 16,162·6 | 72,978·3 |
| 82 | 40 | 13,141·4 | 56,815·7 |
| 83 | 41 | 10,549·0 | 43,674·3 |
| 84 | 42 | 8,353·76 | 33,125·27 |
| 85 | 43 | 6,521·03 | 24,771·51 |
| 86 | 44 | 5,013·70 | 18,250·48 |
| 87 | 45 | 3,793·52 | 13,236·78 |
| 88 | 46 | 2,822·25 | 9,443·26 |
| 89 | 47 | 2,062·66 | 6,621·01 |
| 90 | 48 | 1,479·60 | 4,558·35 |
| 91 | 49 | 1,040·73 | 3,078·75 |
| 92 | 50 | 717·115 | 2,038·019 |
| 93 | 51 | 483·578 | 1,320·904 |
| 94 | 52 | 318·810 | 837·326 |
| 95 | 53 | 205·273 | 518·516 |
| 96 | 54 | 128·946 | 313·243 |
| 97 | 55 | 78·8170 | 184·2967 |
| 98 | 56 | 46·8616 | 105·4797 |
| 99 | 57 | 27·0701 | 58·6181 |
| 100 | 58 | 15·1744 | 31·5480 |
| 101 | 59 | 8·2438 | 16·3736 |
| 102 | 60 | 4·3348 | 8·1298 |
| 103 | 61 | 2·2032 | 3·7950 |
| 104 | 62 | 1·0808 | 1·5918 |
| 105 | 63 | ·5110 | ·5110 |

**Male 65 Years older.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 65 | 0 | 281,648 | 2,038,732 |
| 66 | 1 | 225,745 | 1,757,084 |
| 67 | 2 | 195,428 | 1,531,339 |
| 68 | 3 | 173,255 | 1,335,911 |
| 69 | 4 | 154,683 | 1,162,656 |
| 70 | 5 | 138,338 | 1,007,973 |
| 71 | 6 | 123,610 | 869,635 |
| 72 | 7 | 110,110 | 746,025 |
| 73 | 8 | 97,610·3 | 635,914·6 |
| 74 | 9 | 86,060·8 | 538,304·3 |
| 75 | 10 | 75,400·7 | 452,243·5 |
| 76 | 11 | 65,589·0 | 376,842·8 |
| 77 | 12 | 56,597·6 | 311,253·8 |
| 78 | 13 | 48,406·5 | 254,656·2 |
| 79 | 14 | 40,999·6 | 206,249·7 |
| 80 | 15 | 34,360·3 | 165,250·1 |
| 81 | 16 | 28,468·9 | 130,889·8 |
| 82 | 17 | 23,299·9 | 102,420·9 |
| 83 | 18 | 18,821·1 | 79,121·0 |
| 84 | 19 | 14,992·9 | 60,299·9 |
| 85 | 20 | 11,768·4 | 45,307·0 |
| 86 | 21 | 9,094·49 | 33,538·57 |
| 87 | 22 | 6,917·12 | 24,444·08 |
| 88 | 23 | 5,173·58 | 17,526·96 |
| 89 | 24 | 3,801·90 | 12,353·38 |
| 90 | 25 | 2,742·63 | 8,551·48 |
| 91 | 26 | 1,940·41 | 5,808·85 |
| 92 | 27 | 1,345·16 | 3,868·44 |
| 93 | 28 | 912·821 | 2,523·283 |
| 94 | 29 | 605·761 | 1,610·462 |
| 95 | 30 | 392·718 | 1,004·701 |
| 96 | 31 | 248·469 | 611·983 |
| 97 | 32 | 153·254 | 363·514 |
| 98 | 33 | 92·0516 | 210·2602 |
| 99 | 34 | 53·7829 | 118·2086 |
| 100 | 35 | 30·5320 | 64·4257 |
| 101 | 36 | 16·8214 | 33·8937 |
| 102 | 37 | 8·9835 | 17·0723 |
| 103 | 38 | 4·6450 | 8·0888 |
| 104 | 39 | 2·3224 | 3·4438 |
| 105 | 40 | 1·1214 | 1·1214 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Male 43 Years older than Female.
### Male 64 Years older than Female.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 43 Years older.** | |
| 43 | 0 | 675,697 | 8,247,663 |
| 44 | 1 | 559,506 | 7,571,966 |
| 45 | 2 | 502,004 | 7,012,460 |
| 46 | 3 | 462,889 | 6,510,456 |
| 47 | 4 | 431,517 | 6,047,567 |
| 48 | 5 | 404,685 | 5,616,050 |
| 49 | 6 | 380,958 | 5,211,365 |
| 50 | 7 | 359,346 | 4,830,407 |
| 51 | 8 | 339,197 | 4,471,061 |
| 52 | 9 | 320,179 | 4,131,864 |
| 53 | 10 | 302,243 | 3,811,685 |
| 54 | 11 | 285,228 | 3,509,442 |
| 55 | 12 | 269,002 | 3,224,214 |
| 56 | 13 | 253,455 | 2,955,212 |
| 57 | 14 | 238,498 | 2,701,757 |
| 58 | 15 | 224,061 | 2,463,259 |
| 59 | 16 | 210,091 | 2,239,198 |
| 60 | 17 | 196,550 | 2,029,107 |
| 61 | 18 | 183,410 | 1,832,557 |
| 62 | 19 | 170,658 | 1,649,147 |
| 63 | 20 | 158,290 | 1,478,489 |
| 64 | 21 | 146,310 | 1,320,199 |
| 65 | 22 | 134,792 | 1,173,889 |
| 66 | 23 | 123,734 | 1,039,097 |
| 67 | 24 | 113,136 | 915,363 |
| 68 | 25 | 103,000 | 802,227 |
| 69 | 26 | 93,331·5 | 699,227·0 |
| 70 | 27 | 84,138·7 | 605,895·5 |
| 71 | 28 | 75,430·5 | 521,756·8 |
| 72 | 29 | 67,217·0 | 446,326·3 |
| 73 | 30 | 59,508·5 | 379,109·3 |
| 74 | 31 | 52,314·7 | 319,600·8 |
| 75 | 32 | 45,643·4 | 267,286·1 |
| 76 | 33 | 39,499·8 | 221,642·7 |
| 77 | 34 | 33,886·0 | 182,142·9 |
| 78 | 35 | 28,799·5 | 148,256·9 |
| 79 | 36 | 24,233·3 | 119,457·4 |
| 80 | 37 | 20,175·0 | 95,224·1 |
| 81 | 38 | 16,606·9 | 75,049·1 |
| 82 | 39 | 13,506·0 | 58,442·2 |
| 83 | 40 | 10,844·5 | 44,936·2 |
| 84 | 41 | 8,590·13 | 34,091·65 |
| 85 | 42 | 6,707·47 | 25,501·52 |
| 86 | 43 | 5,158·61 | 18,794·05 |
| 87 | 44 | 3,904·42 | 13,635·44 |
| 88 | 45 | 2,905·72 | 9,731·02 |
| 89 | 46 | 2,124·43 | 6,825·30 |
| 90 | 47 | 1,524·48 | 4,700·87 |
| 91 | 48 | 1,072·72 | 3,176·39 |
| 92 | 49 | 739·461 | 2,103·672 |
| 93 | 50 | 498·865 | 1,364·211 |
| 94 | 51 | 329·040 | 865·346 |
| 95 | 52 | 211·963 | 536·306 |
| 96 | 53 | 133·216 | 324·343 |
| 97 | 54 | 81·5957 | 191·1270 |
| 98 | 55 | 48·5785 | 109·5313 |
| 99 | 56 | 28·1011 | 60·9528 |
| 100 | 57 | 15·7756 | 32·8517 |
| 101 | 58 | 8·5841 | 17·0761 |
| 102 | 59 | 4·5215 | 8·4920 |
| 103 | 60 | 2·3024 | 3·9705 |
| 104 | 61 | 1·1318 | 1·6681 |
| 105 | 62 | ·5363 | ·5363 |
| | | **Male 64 Years older.** | |
| 64 | 0 | 298,582 | 2,234,550 |
| 65 | 1 | 240,131 | 1,935,968 |
| 66 | 2 | 208,661 | 1,695,837 |
| 67 | 3 | 185,748 | 1,487,176 |
| 68 | 4 | 166,586 | 1,301,428 |
| 69 | 5 | 149,719 | 1,134,842 |
| 70 | 6 | 134,499 | 985,123 |
| 71 | 7 | 120,511 | 850,624 |
| 72 | 8 | 107,509 | 730,113 |
| 73 | 9 | 95,439·2 | 622,604·3 |
| 74 | 10 | 84,237·0 | 527,165·1 |
| 75 | 11 | 73,859·8 | 442,928·1 |
| 76 | 12 | 64,280·5 | 369,068·3 |
| 77 | 13 | 55,482·4 | 304,787·8 |
| 78 | 14 | 47,454·4 | 249,305·4 |
| 79 | 15 | 40,186·8 | 201,851·0 |
| 80 | 16 | 33,668·4 | 161,664·2 |
| 81 | 17 | 27,883·0 | 127,995·8 |
| 82 | 18 | 22,807·6 | 100,112·8 |
| 83 | 19 | 18,411·8 | 77,305·2 |
| 84 | 20 | 14,656·8 | 58,893·4 |
| 85 | 21 | 11,496·4 | 44,236·6 |
| 86 | 22 | 8,882·33 | 32,740·16 |
| 87 | 23 | 6,754·29 | 23,857·83 |
| 88 | 24 | 5,050·73 | 17,103·54 |
| 89 | 25 | 3,710·86 | 12,052·81 |
| 90 | 26 | 2,676·42 | 8,341·95 |
| 91 | 27 | 1,893·20 | 5,665·53 |
| 92 | 28 | 1,312·17 | 3,772·33 |
| 93 | 29 | 890·265 | 2,460·161 |
| 94 | 30 | 590·679 | 1,569·896 |
| 95 | 31 | 382·866 | 979·217 |
| 96 | 32 | 242·188 | 596·351 |
| 97 | 33 | 149·351 | 354·163 |
| 98 | 34 | 89·6888 | 204·8117 |
| 99 | 35 | 52·3915 | 115·1229 |
| 100 | 36 | 29·7358 | 62·7314 |
| 101 | 37 | 16·3791 | 32·9956 |
| 102 | 38 | 8·7453 | 16·6165 |
| 103 | 39 | 4·5207 | 7·8712 |
| 104 | 40 | 2·2597 | 3·3505 |
| 105 | 41 | 1·0908 | 1·0908 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

**Male 44 Years older than Female.**

**Male 63 Years older than Female.**

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 44 Years older.** | |
| 44 | 0 | 656,240 | 7,885,426 |
| 45 | 1 | 543,107 | 7,229,186 |
| 46 | 2 | 487,013 | 6,686,079 |
| 47 | 3 | 448,792 | 6,199,066 |
| 48 | 4 | 418,103 | 5,750,274 |
| 49 | 5 | 391,832 | 5,332,171 |
| 50 | 6 | 368,586 | 4,940,339 |
| 51 | 7 | 347,401 | 4,571,753 |
| 52 | 8 | 327,463 | 4,224,352 |
| 53 | 9 | 308,787 | 3,896,889 |
| 54 | 10 | 291,179 | 3,588,102 |
| 55 | 11 | 274,477 | 3,296,923 |
| 56 | 12 | 258,549 | 3,022,446 |
| 57 | 13 | 243,283 | 2,763,897 |
| 58 | 14 | 228,593 | 2,520,614 |
| 59 | 15 | 214,409 | 2,292,021 |
| 60 | 16 | 200,680 | 2,077,612 |
| 61 | 17 | 187,369 | 1,876,932 |
| 62 | 18 | 174,453 | 1,689,563 |
| 63 | 19 | 161,921 | 1,515,110 |
| 64 | 20 | 149,771 | 1,353,189 |
| 65 | 21 | 138,012 | 1,203,418 |
| 66 | 22 | 126,717 | 1,065,406 |
| 67 | 23 | 115,888 | 938,689 |
| 68 | 24 | 105,527 | 822,801 |
| 69 | 25 | 95,640·3 | 717,273·9 |
| 70 | 26 | 86,237·0 | 621,633·6 |
| 71 | 27 | 77,326·6 | 535,396·6 |
| 72 | 28 | 68,920·0 | 458,070·0 |
| 73 | 29 | 61,028·0 | 389,150·0 |
| 74 | 30 | 53,660·9 | 328,122·0 |
| 75 | 31 | 46,827·0 | 274,461·1 |
| 76 | 32 | 40,532·2 | 227,634·1 |
| 77 | 33 | 34,778·7 | 187,101·9 |
| 78 | 34 | 29,564·4 | 152,323·2 |
| 79 | 35 | 24,882·2 | 122,758·8 |
| 80 | 36 | 20,719·8 | 97,876·6 |
| 81 | 37 | 17,059·3 | 77,156·8 |
| 82 | 38 | 13,877·3 | 60,097·5 |
| 83 | 39 | 11,145·3 | 46,220·2 |
| 84 | 40 | 8,830·77 | 35,074·94 |
| 85 | 41 | 6,897·27 | 26,244·17 |
| 86 | 42 | 5,306·10 | 19,346·90 |
| 87 | 43 | 4,017·27 | 14,040·80 |
| 88 | 44 | 2,990·66 | 10,023·53 |
| 89 | 45 | 2,187·26 | 7,032·87 |
| 90 | 46 | 1,570·12 | 4,845·61 |
| 91 | 47 | 1,105·25 | 3,275·49 |
| 92 | 48 | 762·188 | 2,170·239 |
| 93 | 49 | 514·411 | 1,408·051 |
| 94 | 50 | 339·442 | 893·640 |
| 95 | 51 | 218·765 | 554·198 |
| 96 | 52 | 137·558 | 335·433 |
| 97 | 53 | 84·2980 | 197·8746 |
| 98 | 54 | 50·2911 | 113·5766 |
| 99 | 55 | 29·1306 | 63·2855 |
| 100 | 56 | 16·3764 | 34·1549 |
| 101 | 57 | 8·9242 | 17·7785 |
| 102 | 58 | 4·7082 | 8·8543 |
| 103 | 59 | 2·4016 | 4·1461 |
| 104 | 60 | 1·1828 | 1·7445 |
| 105 | 61 | ·5617 | ·5617 |

**Male 63 Years older.**

| $x$ | $y$ | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| 63 | 0 | 315,566 | 2,439,426 |
| 64 | 1 | 254,569 | 2,123,860 |
| 65 | 2 | 221,958 | 1,869,291 |
| 66 | 3 | 198,325 | 1,647,333 |
| 67 | 4 | 178,598 | 1,449,008 |
| 68 | 5 | 161,240 | 1,270,410 |
| 69 | 6 | 145,564 | 1,109,170 |
| 70 | 7 | 131,127 | 963,606 |
| 71 | 8 | 117,665 | 832,479 |
| 72 | 9 | 105,118 | 714,814 |
| 73 | 10 | 93,416·7 | 609,695·5 |
| 74 | 11 | 82,515·5 | 516,278·8 |
| 75 | 12 | 72,386·4 | 433,763·3 |
| 76 | 13 | 63,014·1 | 361,376·9 |
| 77 | 14 | 54,391·1 | 298,362·8 |
| 78 | 15 | 46,513·6 | 243,971·7 |
| 79 | 16 | 39,377·6 | 197,458·1 |
| 80 | 17 | 32,975·5 | 158,080·5 |
| 81 | 18 | 27,293·9 | 125,105·0 |
| 82 | 19 | 22,311·6 | 97,811·1 |
| 83 | 20 | 17,999·0 | 75,499·5 |
| 84 | 21 | 14,318·1 | 57,500·5 |
| 85 | 22 | 11,228·2 | 43,182·4 |
| 86 | 23 | 8,673·24 | 31,954·19 |
| 87 | 24 | 6,593·90 | 23,280·95 |
| 88 | 25 | 4,929·79 | 16,687·05 |
| 89 | 26 | 3,621·28 | 11,757·26 |
| 90 | 27 | 2,611·30 | 8,135·98 |
| 91 | 28 | 1,846·78 | 5,524·68 |
| 92 | 29 | 1,279·75 | 3,677·90 |
| 93 | 30 | 868·099 | 2,398·145 |
| 94 | 31 | 575·861 | 1,530·046 |
| 95 | 32 | 373·188 | 954·185 |
| 96 | 33 | 236·019 | 580·997 |
| 97 | 34 | 145·517 | 344·978 |
| 98 | 35 | 87·3685 | 199·4611 |
| 99 | 36 | 51·0251 | 112·0926 |
| 100 | 37 | 28·9539 | 61·0675 |
| 101 | 38 | 15·9447 | 32·1136 |
| 102 | 39 | 8·5113 | 16·1689 |
| 103 | 40 | 4·3987 | 7·6576 |
| 104 | 41 | 2·1981 | 3·2589 |
| 105 | 42 | 1·0608 | 1·0608 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Male 45 Years older than Female.

### Male 62 Years older than Female.

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 45 Years older.** | |
| 45 | 0 | 637,006 | 7,530,459 |
| 46 | 1 | 526,888 | 6,893,453 |
| 47 | 2 | 472,181 | 6,366,565 |
| 48 | 3 | 434,841 | 5,894,384 |
| 49 | 4 | 404,824 | 5,459,543 |
| 50 | 5 | 379,107 | 5,054,719 |
| 51 | 6 | 356,334 | 4,675,612 |
| 52 | 7 | 335,384 | 4,319,278 |
| 53 | 8 | 315,811 | 3,983,894 |
| 54 | 9 | 297,483 | 3,668,083 |
| 55 | 10 | 280,204 | 3,370,600 |
| 56 | 11 | 263,812 | 3,090,396 |
| 57 | 12 | 248,173 | 2,826,584 |
| 58 | 13 | 233,180 | 2,578,411 |
| 59 | 14 | 218,746 | 2,345,231 |
| 60 | 15 | 204,804 | 2,126,485 |
| 61 | 16 | 191,306 | 1,921,681 |
| 62 | 17 | 178,218 | 1,730,375 |
| 63 | 18 | 165,520 | 1,552,157 |
| 64 | 19 | 153,206 | 1,386,637 |
| 65 | 20 | 141,277 | 1,233,431 |
| 66 | 21 | 129,744 | 1,092,154 |
| 67 | 22 | 118,681 | 962,410 |
| 68 | 23 | 108,093 | 843,729 |
| 69 | 24 | 97,986·6 | 735,636·4 |
| 70 | 25 | 88,370·3 | 637,649·8 |
| 71 | 26 | 79,255·1 | 549,279·5 |
| 72 | 27 | 70,652·5 | 470,024·4 |
| 73 | 28 | 62,574·2 | 399,371·9 |
| 74 | 29 | 55,031·0 | 336,797·7 |
| 75 | 30 | 48,032·0 | 281,766·7 |
| 76 | 31 | 41,583·3 | 233,734·7 |
| 77 | 32 | 35,687·7 | 192,151·4 |
| 78 | 33 | 30,343·2 | 156,463·7 |
| 79 | 34 | 25,543·1 | 126,120·5 |
| 80 | 35 | 21,274·7 | 100,577·4 |
| 81 | 36 | 17,520·0 | 79,302·7 |
| 82 | 37 | 14,255·3 | 61,782·7 |
| 83 | 38 | 11,451·7 | 47,527·4 |
| 84 | 39 | 9,075·77 | 36,075·65 |
| 85 | 40 | 7,090·48 | 26,999·88 |
| 86 | 41 | 5,456·24 | 19,909·40 |
| 87 | 42 | 4,132·13 | 14,453·16 |
| 88 | 43 | 3,077·11 | 10,321·03 |
| 89 | 44 | 2,251·20 | 7,243·92 |
| 90 | 45 | 1,616·57 | 4,992·72 |
| 91 | 46 | 1,138·34 | 3,376·15 |
| 92 | 47 | 785·303 | 2,237·810 |
| 93 | 48 | 530·220 | 1,452·507 |
| 94 | 49 | 350·019 | 922·287 |
| 95 | 50 | 225·680 | 572·268 |
| 96 | 51 | 141·972 | 346·588 |
| 97 | 52 | 87·0453 | 204·6160 |
| 98 | 53 | 51·9566 | 117·5707 |
| 99 | 54 | 30·1576 | 65·6141 |
| 100 | 55 | 16·9764 | 35·4565 |
| 101 | 56 | 9·2640 | 18·4801 |
| 102 | 57 | 4·8947 | 9·2161 |
| 103 | 58 | 2·5007 | 4·3214 |
| 104 | 59 | 1·2337 | 1·8207 |
| 105 | 60 | ·5870 | ·5870 |

**Male 62 Years older.**

| $x$ | $y$ | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| 62 | 0 | 332,595 | 2,653,187 |
| 63 | 1 | 269,049 | 2,320,592 |
| 64 | 2 | 235,303 | 2,051,543 |
| 65 | 3 | 210,963 | 1,816,240 |
| 66 | 4 | 190,691 | 1,605,277 |
| 67 | 5 | 172,866 | 1,414,586 |
| 68 | 6 | 156,765 | 1,241,720 |
| 69 | 7 | 141,915 | 1,084,955 |
| 70 | 8 | 128,031 | 943,040 |
| 71 | 9 | 115,048 | 815,009 |
| 72 | 10 | 102,890 | 699,961 |
| 73 | 11 | 91,507·6 | 597,070·8 |
| 74 | 12 | 80,869·4 | 505,563·2 |
| 75 | 13 | 70,960·2 | 424,693·8 |
| 76 | 14 | 61,774·5 | 353,733·6 |
| 77 | 15 | 53,312·8 | 291,959·1 |
| 78 | 16 | 45,576·9 | 238,646·3 |
| 79 | 17 | 38,567·2 | 193,069·4 |
| 80 | 18 | 32,278·8 | 154,502·2 |
| 81 | 19 | 26,700·2 | 122,223·4 |
| 82 | 20 | 21,811·3 | 95,523·2 |
| 83 | 21 | 17,583·1 | 73,711·9 |
| 84 | 22 | 13,984·1 | 56,128·8 |
| 85 | 23 | 10,963·9 | 42,144·7 |
| 86 | 24 | 8,467·29 | 31,180·78 |
| 87 | 25 | 6,436·01 | 22,713·49 |
| 88 | 26 | 4,810·78 | 16,277·48 |
| 89 | 27 | 3,533·17 | 11,466·70 |
| 90 | 28 | 2,547·27 | 7,933·53 |
| 91 | 29 | 1,801·14 | 5,386·26 |
| 92 | 30 | 1,247·89 | 3,585·12 |
| 93 | 31 | 846·322 | 2,337·231 |
| 94 | 32 | 561·305 | 1,490·909 |
| 95 | 33 | 363·683 | 929·604 |
| 96 | 34 | 229·961 | 565·921 |
| 97 | 35 | 141·753 | 335·960 |
| 98 | 36 | 85·0900 | 194·2069 |
| 99 | 37 | 49·6834 | 109·1169 |
| 100 | 38 | 28·1860 | 59·4335 |
| 101 | 39 | 15·5182 | 31·2475 |
| 102 | 40 | 8·2816 | 15·7293 |
| 103 | 41 | 4·2788 | 7·4477 |
| 104 | 42 | 2·1376 | 3·1689 |
| 105 | 43 | 1·0313 | 1·0313 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 46 Years older than Female.

### Male 61 Years older than Female.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 46 Years older.** | |
| 46 | 0 | 617,983 | 7,182,771 |
| 47 | 1 | 510,842 | 6,564,788 |
| 48 | 2 | 457,503 | 6,053,946 |
| 49 | 3 | 421,031 | 5,596,443 |
| 50 | 4 | 391,677 | 5,175,412 |
| 51 | 5 | 366,506 | 4,783,735 |
| 52 | 6 | 344,007 | 4,417,229 |
| 53 | 7 | 323,450 | 4,073,222 |
| 54 | 8 | 304,250 | 3,749,772 |
| 55 | 9 | 286,270 | 3,445,522 |
| 56 | 10 | 269,315 | 3,159,252 |
| 57 | 11 | 253,225 | 2,889,937 |
| 58 | 12 | 237,866 | 2,636,712 |
| 59 | 13 | 223,135 | 2,398,846 |
| 60 | 14 | 208,946 | 2,175,711 |
| 61 | 15 | 195,237 | 1,966,765 |
| 62 | 16 | 181,963 | 1,771,528 |
| 63 | 17 | 169,093 | 1,589,565 |
| 64 | 18 | 156,612 | 1,420,472 |
| 65 | 19 | 144,517 | 1,263,860 |
| 66 | 20 | 132,813 | 1,119,343 |
| 67 | 21 | 121,516 | 986,530 |
| 68 | 22 | 110,699 | 865,014 |
| 69 | 23 | 100,370 | 754,315 |
| 70 | 24 | 90,538·2 | 653,945·1 |
| 71 | 25 | 81,215·7 | 563,406·9 |
| 72 | 26 | 72,414·5 | 482,191·2 |
| 73 | 27 | 64,147·2 | 409,776·7 |
| 74 | 28 | 56,425·3 | 345,629·5 |
| 75 | 29 | 49,258·4 | 289,204·2 |
| 76 | 30 | 42,653·3 | 239,945·8 |
| 77 | 31 | 36,613·2 | 197,292·5 |
| 78 | 32 | 31,136·3 | 160,679·3 |
| 79 | 33 | 26,216·0 | 129,543·0 |
| 80 | 34 | 21,839·7 | 103,327·0 |
| 81 | 35 | 17,989·1 | 81,487·3 |
| 82 | 36 | 14,640·3 | 63,498·2 |
| 83 | 37 | 11,763·7 | 48,857·9 |
| 84 | 38 | 9,325·24 | 37,094·24 |
| 85 | 39 | 7,287·20 | 27,769·00 |
| 86 | 40 | 5,609·09 | 20,481·80 |
| 87 | 41 | 4,249·05 | 14,872·71 |
| 88 | 42 | 3,165·09 | 10,623·66 |
| 89 | 43 | 2,316·27 | 7,458·57 |
| 90 | 44 | 1,663·82 | 5,142·30 |
| 91 | 45 | 1,172·01 | 3,478·48 |
| 92 | 46 | 808·817 | 2,306·469 |
| 93 | 47 | 546·301 | 1,497·652 |
| 94 | 48 | 360·777 | 951·351 |
| 95 | 49 | 232·713 | 590·574 |
| 96 | 50 | 146·460 | 357·861 |
| 97 | 51 | 89·8385 | 211·4007 |
| 98 | 52 | 53·6499 | 121·5622 |
| 99 | 53 | 31·1563 | 67·9123 |
| 100 | 54 | 17·5748 | 36·7560 |
| 101 | 55 | 9·6034 | 19·1812 |
| 102 | 56 | 5·0811 | 9·5778 |
| 103 | 57 | 2·5998 | 4·4967 |
| 104 | 58 | 1·2847 | 1·8969 |
| 105 | 59 | ·6122 | ·6122 |

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 61 Years older.** | |
| 61 | 0 | 349,672 | 2,875,678 |
| 62 | 1 | 283,568 | 2,526,006 |
| 63 | 2 | 248,688 | 2,242,438 |
| 64 | 3 | 223,648 | 1,993,750 |
| 65 | 4 | 202,843 | 1,770,102 |
| 66 | 5 | 184,571 | 1,567,259 |
| 67 | 6 | 168,069 | 1,382,688 |
| 68 | 7 | 152,835 | 1,214,619 |
| 69 | 8 | 138,563 | 1,061,784 |
| 70 | 9 | 125,183 | 923,221 |
| 71 | 10 | 112,610 | 798,038 |
| 72 | 11 | 100,788 | 685,428 |
| 73 | 12 | 89,682·1 | 584,640·0 |
| 74 | 13 | 79,276·1 | 494,957·9 |
| 75 | 14 | 69,564·4 | 415,681·8 |
| 76 | 15 | 60,549·9 | 346,117·4 |
| 77 | 16 | 52,239·2 | 285,567·5 |
| 78 | 17 | 44,638·9 | 233,328·3 |
| 79 | 18 | 37,752·3 | 188,689·4 |
| 80 | 19 | 31,576·8 | 150,937·1 |
| 81 | 20 | 26,101·6 | 119,360·3 |
| 82 | 21 | 21,307·3 | 93,258·7 |
| 83 | 22 | 17,172·9 | 71,951·4 |
| 84 | 23 | 13,654·9 | 54,778·5 |
| 85 | 24 | 10,703·5 | 41,123·6 |
| 86 | 25 | 8,264·54 | 30,420·05 |
| 87 | 26 | 6,280·64 | 22,155·51 |
| 88 | 27 | 4,693·73 | 15,874·87 |
| 89 | 28 | 3,446·53 | 11,181·14 |
| 90 | 29 | 2,484·33 | 7,734·61 |
| 91 | 30 | 1,756·30 | 5,250·28 |
| 92 | 31 | 1,216·58 | 3,493·98 |
| 93 | 32 | 824·929 | 2,277·400 |
| 94 | 33 | 547·008 | 1,452·471 |
| 95 | 34 | 354·348 | 905·463 |
| 96 | 35 | 224·012 | 551·115 |
| 97 | 36 | 138·056 | 327·103 |
| 98 | 37 | 82·8525 | 189·0471 |
| 99 | 38 | 48·3659 | 106·1946 |
| 100 | 39 | 27·4320 | 57·8287 |
| 101 | 40 | 15·0992 | 30·3967 |
| 102 | 41 | 8·0559 | 15·2975 |
| 103 | 42 | 4·1611 | 7·2416 |
| 104 | 43 | 2·0782 | 3·0805 |
| 105 | 44 | 1·0023 | 1·0023 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

**Male 47 Years older than Female.**

**Male 60 Years older than Female.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 47 Years older.** | |
| 47 | 0 | 599,162 | 6,842,379 |
| 48 | 1 | 494,962 | 6,243,217 |
| 49 | 2 | 442,973 | 5,748,255 |
| 50 | 3 | 407,358 | 5,305,282 |
| 51 | 4 | 378,658 | 4,897,924 |
| 52 | 5 | 353,827 | 4,519,266 |
| 53 | 6 | 331,767 | 4,165,439 |
| 54 | 7 | 311,610 | 3,833,672 |
| 55 | 8 | 292,783 | 3,522,062 |
| 56 | 9 | 275,146 | 3,229,279 |
| 57 | 10 | 258,507 | 2,954,133 |
| 58 | 11 | 242,708 | 2,695,626 |
| 59 | 12 | 227,619 | 2,452,918 |
| 60 | 13 | 213,139 | 2,225,299 |
| 61 | 14 | 199,186 | 2,012,160 |
| 62 | 15 | 185,702 | 1,812,974 |
| 63 | 16 | 172,646 | 1,627,272 |
| 64 | 17 | 159,992 | 1,454,626 |
| 65 | 18 | 147,730 | 1,294,634 |
| 66 | 19 | 135,859 | 1,146,904 |
| 67 | 20 | 124,391 | 1,011,045 |
| 68 | 21 | 113,343 | 886,654 |
| 69 | 22 | 102,790 | 773,311 |
| 70 | 23 | 92,740·4 | 670,520·9 |
| 71 | 24 | 83,208·1 | 577,780·5 |
| 72 | 25 | 74,205·9 | 494,572·4 |
| 73 | 26 | 65,747·0 | 420,366·5 |
| 74 | 27 | 57,843·7 | 354,619·5 |
| 75 | 28 | 50,506·4 | 296,775·8 |
| 76 | 29 | 43,742·4 | 246,269·4 |
| 77 | 30 | 37,555·3 | 202,527·0 |
| 78 | 31 | 31,943·8 | 164,971·7 |
| 79 | 32 | 26,901·2 | 133,027·9 |
| 80 | 33 | 22,415·0 | 106,126·7 |
| 81 | 34 | 18,466·9 | 83,711·7 |
| 82 | 35 | 15,032·3 | 65,244·8 |
| 83 | 36 | 12,081·3 | 50,212·5 |
| 84 | 37 | 9,579·27 | 38,131·16 |
| 85 | 38 | 7,487·51 | 28,551·89 |
| 86 | 39 | 5,764·71 | 21,064·38 |
| 87 | 40 | 4,368·08 | 15,299·67 |
| 88 | 41 | 3,254·64 | 10,931·59 |
| 89 | 42 | 2,382·50 | 7,676·95 |
| 90 | 43 | 1,711·91 | 5,294·45 |
| 91 | 44 | 1,206·27 | 3,582·54 |
| 92 | 45 | 832·741 | 2,376·267 |
| 93 | 46 | 562·659 | 1,543·526 |
| 94 | 47 | 371·718 | 980·867 |
| 95 | 48 | 239·865 | 609·149 |
| 96 | 49 | 151·024 | 369·284 |
| 97 | 50 | 92·6785 | 218·2597 |
| 98 | 51 | 55·3715 | 125·5812 |
| 99 | 52 | 32·1717 | 70·2097 |
| 100 | 53 | 18·1569 | 38·0380 |
| 101 | 54 | 9·9420 | 19·8811 |
| 102 | 55 | 5·2673 | 9·9391 |
| 103 | 56 | 2·6988 | 4·6718 |
| 104 | 57 | 1·3355 | 1·9730 |
| 105 | 58 | ·6375 | ·6375 |

**Male 60 Years older.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | | |
| 60 | 0 | 366,806 | 3,106,745 |
| 61 | 1 | 298,128 | 2,739,939 |
| 62 | 2 | 262,108 | 2,441,811 |
| 63 | 3 | 236,369 | 2,179,703 |
| 64 | 4 | 215,039 | 1,943,334 |
| 65 | 5 | 196,333 | 1,728,295 |
| 66 | 6 | 179,449 | 1,531,962 |
| 67 | 7 | 163,856 | 1,352,513 |
| 68 | 8 | 149,226 | 1,188,657 |
| 69 | 9 | 135,481 | 1,039,431 |
| 70 | 10 | 122,530 | 903,950 |
| 71 | 11 | 110,308 | 781,420 |
| 72 | 12 | 98,776·9 | 671,111·7 |
| 73 | 13 | 87,915·1 | 572,334·8 |
| 74 | 14 | 77,716·7 | 484,419·7 |
| 75 | 15 | 68,185·3 | 406,703·0 |
| 76 | 16 | 59,330·6 | 338,517·7 |
| 77 | 17 | 51,164·1 | 279,187·1 |
| 78 | 18 | 43,695·8 | 228,023·0 |
| 79 | 19 | 36,931·3 | 184,327·2 |
| 80 | 20 | 30,868·8 | 147,395·9 |
| 81 | 21 | 25,498·4 | 116,527·1 |
| 82 | 22 | 20,810·2 | 91,028·7 |
| 83 | 23 | 16,768·6 | 70,218·5 |
| 84 | 24 | 13,330·6 | 53,449·9 |
| 85 | 25 | 10,447·3 | 40,119·3 |
| 86 | 26 | 8,065·03 | 29,672·03 |
| 87 | 27 | 6,127·82 | 21,607·00 |
| 88 | 28 | 4,578·63 | 15,479·18 |
| 89 | 29 | 3,361·37 | 10,900·55 |
| 90 | 30 | 2,422·47 | 7,539·18 |
| 91 | 31 | 1,712·24 | 5,116·71 |
| 92 | 32 | 1,185·83 | 3,404·47 |
| 93 | 33 | 803·918 | 2,218·641 |
| 94 | 34 | 532·967 | 1,414·723 |
| 95 | 35 | 345·180 | 881·756 |
| 96 | 36 | 218·170 | 536·576 |
| 97 | 37 | 134·426 | 318·406 |
| 98 | 38 | 80·6554 | 183·9800 |
| 99 | 39 | 47·0720 | 103·3246 |
| 100 | 40 | 26·6915 | 56·2526 |
| 101 | 41 | 14·6878 | 29·5611 |
| 102 | 42 | 7·8342 | 14·8733 |
| 103 | 43 | 4·0454 | 7·0391 |
| 104 | 44 | 2·0198 | 2·9937 |
| 105 | 45 | ·9739 | ·9739 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 48 Years older than Female.

### Male 59 Years older than Female.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Male 48 Years older.** | |
| 48 | 0 | 580,537 | 6,509,299 |
| 49 | 1 | 479,242 | 5,928,762 |
| 50 | 2 | 428,587 | 5,449,520 |
| 51 | 3 | 393,817 | 5,020,933 |
| 52 | 4 | 365,559 | 4,627,116 |
| 53 | 5 | 341,237 | 4,261,557 |
| 54 | 6 | 319,622 | 3,920,320 |
| 55 | 7 | 299,864 | 3,600,698 |
| 56 | 8 | 281,405 | 3,300,834 |
| 57 | 9 | 264,104 | 3,019,429 |
| 58 | 10 | 247,772 | 2,755,325 |
| 59 | 11 | 232,253 | 2,507,553 |
| 60 | 12 | 217,423 | 2,275,300 |
| 61 | 13 | 203,183 | 2,057,877 |
| 62 | 14 | 189,458 | 1,854,694 |
| 63 | 15 | 176,194 | 1,665,236 |
| 64 | 16 | 163,354 | 1,489,042 |
| 65 | 17 | 150,918 | 1,325,688 |
| 66 | 18 | 138,880 | 1,174,770 |
| 67 | 19 | 127,243 | 1,035,890 |
| 68 | 20 | 116,025 | 908,647 |
| 69 | 21 | 105,245 | 792,622 |
| 70 | 22 | 94,976·1 | 687,376·9 |
| 71 | 23 | 85,231·9 | 592,400·8 |
| 72 | 24 | 76,026·3 | 507,168·9 |
| 73 | 25 | 67,373·4 | 431,142·6 |
| 74 | 26 | 59,286·3 | 363,769·2 |
| 75 | 27 | 51,776·0 | 304,482·9 |
| 76 | 28 | 44,850·7 | 252,706·9 |
| 77 | 29 | 38,514·2 | 207,856·2 |
| 78 | 30 | 32,765·7 | 169,342·0 |
| 79 | 31 | 27,598·8 | 136,576·3 |
| 80 | 32 | 23,000·9 | 108,977·5 |
| 81 | 33 | 18,953·4 | 85,976·6 |
| 82 | 34 | 15,431·5 | 67,023·2 |
| 83 | 35 | 12,404·8 | 51,591·7 |
| 84 | 36 | 9,837·96 | 39,186·85 |
| 85 | 37 | 7,691·48 | 29,348·89 |
| 86 | 38 | 5,923·16 | 21,657·41 |
| 87 | 39 | 4,489·27 | 15,734·25 |
| 88 | 40 | 3,345·82 | 11,244·98 |
| 89 | 41 | 2,449·91 | 7,899·16 |
| 90 | 42 | 1,760·86 | 5,449·25 |
| 91 | 43 | 1,241·14 | 3,688·39 |
| 92 | 44 | 857·084 | 2,447·250 |
| 93 | 45 | 579·301 | 1,590·166 |
| 94 | 46 | 382·848 | 1,010·865 |
| 95 | 47 | 247·140 | 628·017 |
| 96 | 48 | 155·665 | 380·877 |
| 97 | 49 | 95·5665 | 225·2121 |
| 98 | 50 | 57·1219 | 129·6456 |
| 99 | 51 | 33·2041 | 72·5237 |
| 100 | 52 | 18·7486 | 39·3196 |
| 101 | 53 | 10·2713 | 20·5710 |
| 102 | 54 | 5·4529 | 10·2997 |
| 103 | 55 | 2·7976 | 4·8468 |
| 104 | 56 | 1·3864 | 2·0492 |
| 105 | 57 | ·6628 | ·6628 |

**Male 59 Years older.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 59 | 0 | 384,009 | 3,346,254 |
| 60 | 1 | 312,736 | 2,962,245 |
| 61 | 2 | 275,566 | 2,649,509 |
| 62 | 3 | 249,125 | 2,373,943 |
| 63 | 4 | 227,271 | 2,124,818 |
| 64 | 5 | 208,138 | 1,897,547 |
| 65 | 6 | 190,884 | 1,689,409 |
| 66 | 7 | 174,950 | 1,498,525 |
| 67 | 8 | 159,986 | 1,323,575 |
| 68 | 9 | 145,906 | 1,163,589 |
| 69 | 10 | 132,610 | 1,017,683 |
| 70 | 11 | 120,026 | 885,073 |
| 71 | 12 | 108,108 | 765,047 |
| 72 | 13 | 96,830·8 | 656,939·4 |
| 73 | 14 | 86,185·8 | 560,108·6 |
| 74 | 15 | 76,176·0 | 473,922·8 |
| 75 | 16 | 66,812·2 | 397,746·8 |
| 76 | 17 | 58,109·5 | 330,934·6 |
| 77 | 18 | 50,083·1 | 272,825·1 |
| 78 | 19 | 42,745·5 | 222,742·0 |
| 79 | 20 | 36,103·3 | 179,996·5 |
| 80 | 21 | 30,155·5 | 143,893·2 |
| 81 | 22 | 24,903·6 | 113,737·7 |
| 82 | 23 | 20,320·4 | 88,834·1 |
| 83 | 24 | 16,370·4 | 68,513·7 |
| 84 | 25 | 13,011·4 | 52,143·3 |
| 85 | 26 | 10,195·1 | 39,131·9 |
| 86 | 27 | 7,868·79 | 28,936·75 |
| 87 | 28 | 5,977·56 | 21,067·96 |
| 88 | 29 | 4,465·49 | 15,090·40 |
| 89 | 30 | 3,277·68 | 10,624·91 |
| 90 | 31 | 2,361·70 | 7,347·23 |
| 91 | 32 | 1,668·96 | 4,985·53 |
| 92 | 33 | 1,155·63 | 3,316·57 |
| 93 | 34 | 783·283 | 2,160·937 |
| 94 | 35 | 519·179 | 1,377·654 |
| 95 | 36 | 336·178 | 858·475 |
| 96 | 37 | 212·433 | 522·297 |
| 97 | 38 | 130·861 | 309·864 |
| 98 | 39 | 78·4977 | 179·0033 |
| 99 | 40 | 45·8013 | 100·5056 |
| 100 | 41 | 25·9641 | 54·7043 |
| 101 | 42 | 14·2836 | 28·7402 |
| 102 | 43 | 7·6164 | 14·4566 |
| 103 | 44 | 3·9318 | 6·8402 |
| 104 | 45 | 1·9625 | 2·9084 |
| 105 | 46 | ·9459 | ·9459 |

## JOINT LIVES :—Male and Female Life.

**Male 49 Years older than Female.**

**Male 58 Years older than Female.**

| Ages x | Ages y | D$_{x,\,y}$ | N$_{x,\,y}$ |
|---|---|---|---|
| | | **Male 49 Years older.** | |
| 49 | 0 | 562,100 | 6,183,561 |
| 50 | 1 | 463,678 | 5,621,461 |
| 51 | 2 | 414,341 | 5,157,783 |
| 52 | 3 | 380,194 | 4,743,442 |
| 53 | 4 | 352,552 | 4,363,248 |
| 54 | 5 | 328,746 | 4,010,696 |
| 55 | 6 | 307,575 | 3,681,950 |
| 56 | 7 | 288,212 | 3,374,375 |
| 57 | 8 | 270,112 | 3,086,163 |
| 58 | 9 | 253,136 | 2,816,051 |
| 59 | 10 | 237,098 | 2,562,915 |
| 60 | 11 | 221,848 | 2,325,817 |
| 61 | 12 | 207,267 | 2,103,969 |
| 62 | 13 | 193,260 | 1,896,702 |
| 63 | 14 | 179,758 | 1,703,442 |
| 64 | 15 | 166,712 | 1,523,684 |
| 65 | 16 | 154,090 | 1,356,972 |
| 66 | 17 | 141,877 | 1,202,882 |
| 67 | 18 | 130,073 | 1,061,005 |
| 68 | 19 | 118,685 | 930,932 |
| 69 | 20 | 107,734 | 812,247 |
| 70 | 21 | 97,244·7 | 704,513·0 |
| 71 | 22 | 87,286·7 | 607,268·3 |
| 72 | 23 | 77,875·5 | 519,981·6 |
| 73 | 24 | 69,026·2 | 442,106·1 |
| 74 | 25 | 60,752·9 | 373,079·9 |
| 75 | 26 | 53,067·3 | 312,327·0 |
| 76 | 27 | 45,978·1 | 259,259·7 |
| 77 | 28 | 39,490·0 | 213,281·6 |
| 78 | 29 | 33,602·4 | 173,791·6 |
| 79 | 30 | 28,308·9 | 140,189·2 |
| 80 | 31 | 23,597·4 | 111,880·3 |
| 81 | 32 | 19,448·8 | 88,282·9 |
| 82 | 33 | 15,838·1 | 68,834·1 |
| 83 | 34 | 12,734·3 | 52,996·0 |
| 84 | 35 | 10,101·4 | 40,261·7 |
| 85 | 36 | 7,899·19 | 30,160·33 |
| 86 | 37 | 6,084·52 | 22,261·14 |
| 87 | 38 | 4,612·67 | 16,176·62 |
| 88 | 39 | 3,438·64 | 11,563·95 |
| 89 | 40 | 2,518·54 | 8,125·31 |
| 90 | 41 | 1,810·68 | 5,606·77 |
| 91 | 42 | 1,276·63 | 3,796·09 |
| 92 | 43 | 881·857 | 2,519·461 |
| 93 | 44 | 596·235 | 1,637·604 |
| 94 | 45 | 394·172 | 1,041·369 |
| 95 | 46 | 254·540 | 647·197 |
| 96 | 47 | 160·386 | 392·657 |
| 97 | 48 | 98·5037 | 232·2707 |
| 98 | 49 | 58·9019 | 133·7670 |
| 99 | 50 | 34·2538 | 74·8651 |
| 100 | 51 | 19·3503 | 40·6113 |
| 101 | 52 | 10·6060 | 21·2610 |
| 102 | 53 | 5·6335 | 10·6550 |
| 103 | 54 | 2·8963 | 5·0215 |
| 104 | 55 | 1·4372 | 2·1252 |
| 105 | 56 | ·6880 | ·6880 |

**Male 58 Years older.**

| Ages x | Ages y | D$_{x,\,y}$ | N$_{x,\,y}$ |
|---|---|---|---|
| 58 | 0 | 401,296 | 3,594,083 |
| 59 | 1 | 327,403 | 3,192,787 |
| 60 | 2 | 289,068 | 2,865,384 |
| 61 | 3 | 261,916 | 2,576,316 |
| 62 | 4 | 239,535 | 2,314,400 |
| 63 | 5 | 219,977 | 2,074,865 |
| 64 | 6 | 202,361 | 1,854,888 |
| 65 | 7 | 186,099 | 1,652,527 |
| 66 | 8 | 170,819 | 1,466,428 |
| 67 | 9 | 156,427 | 1,295,609 |
| 68 | 10 | 142,814 | 1,139,182 |
| 69 | 11 | 129,900 | 996,368 |
| 70 | 12 | 117,632 | 866,468 |
| 71 | 13 | 105,978 | 748,836 |
| 72 | 14 | 94,926·1 | 642,858·3 |
| 73 | 15 | 84,477·2 | 547,932·2 |
| 74 | 16 | 74,642·0 | 463,455·0 |
| 75 | 17 | 65,437·2 | 388,813·0 |
| 76 | 18 | 56,881·8 | 323,375·8 |
| 77 | 19 | 48,993·8 | 266,494·0 |
| 78 | 20 | 41,787·1 | 217,500·2 |
| 79 | 21 | 35,269·0 | 175,713·1 |
| 80 | 22 | 29,452·0 | 140,444·1 |
| 81 | 23 | 24,317·4 | 110,992·1 |
| 82 | 24 | 19,837·8 | 86,674·7 |
| 83 | 25 | 15,978·5 | 66,836·9 |
| 84 | 26 | 12,697·3 | 50,858·4 |
| 85 | 27 | 9,946·98 | 38,161·12 |
| 86 | 28 | 7,675·84 | 28,214·14 |
| 87 | 29 | 5,829·86 | 20,538·30 |
| 88 | 30 | 4,354·31 | 14,708·44 |
| 89 | 31 | 3,195·45 | 10,354·13 |
| 90 | 32 | 2,302·00 | 7,158·68 |
| 91 | 33 | 1,626·45 | 4,856·68 |
| 92 | 34 | 1,125·96 | 3,230·23 |
| 93 | 35 | 763·019 | 2,104·271 |
| 94 | 36 | 505·639 | 1,341·252 |
| 95 | 37 | 327·338 | 835·613 |
| 96 | 38 | 206·800 | 508·275 |
| 97 | 39 | 127·360 | 301·475 |
| 98 | 40 | 76·3786 | 174·1152 |
| 99 | 41 | 44·5532 | 97·7366 |
| 100 | 42 | 25·2497 | 53·1834 |
| 101 | 43 | 13·8866 | 27·9337 |
| 102 | 44 | 7·4025 | 14·0471 |
| 103 | 45 | 3·8201 | 6·6446 |
| 104 | 46 | 1·9061 | 2·8245 |
| 105 | 47 | ·9184 | ·9184 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Male 50 Years older than Female.

### Male 51 Years older than Female.

| Ages | | $D_{x,y}$ | $N_{x,y}$ | Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | **Male 50 Years older.** | | $x$ | $y$ | **Male 51 Years older.** | |
| 50 | 0 | 543,845 | 5,865,184 | 51 | 0 | 525,768 | 5,554,198 |
| 51 | 1 | 448,266 | 5,321,339 | 52 | 1 | 432,759 | 5,028,430 |
| 52 | 2 | 400,008 | 4,873,073 | 53 | 2 | 385,775 | 4,595,671 |
| 53 | 3 | 366,666 | 4,473,065 | 54 | 3 | 353,243 | 4,209,896 |
| 54 | 4 | 339,646 | 4,106,399 | 55 | 4 | 326,844 | 3,856,653 |
| 55 | 5 | 316,355 | 3,766,753 | 56 | 5 | 304,061 | 3,529,809 |
| 56 | 6 | 295,623 | 3,450,398 | 57 | 6 | 283,759 | 3,225,748 |
| 57 | 7 | 276,646 | 3,154,775 | 58 | 7 | 265,157 | 2,941,989 |
| 58 | 8 | 258,895 | 2,878,129 | 59 | 8 | 247,742 | 2,676,832 |
| 59 | 9 | 242,231 | 2,619,234 | 60 | 9 | 231,380 | 2,429,090 |
| 60 | 10 | 226,476 | 2,377,003 | 61 | 10 | 215,898 | 2,197,710 |
| 61 | 11 | 211,485 | 2,150,527 | 62 | 11 | 201,157 | 1,981,812 |
| 62 | 12 | 197,144 | 1,939,042 | 63 | 12 | 187,050 | 1,780,655 |
| 63 | 13 | 183,365 | 1,741,898 | 64 | 13 | 173,496 | 1,593,605 |
| 64 | 14 | 170,083 | 1,558,533 | 65 | 14 | 160,437 | 1,420,109 |
| 65 | 15 | 157,256 | 1,388,450 | 66 | 15 | 147,835 | 1,259,672 |
| 66 | 16 | 144,858 | 1,231,194 | 67 | 16 | 135,672 | 1,111,837 |
| 67 | 17 | 132,880 | 1,086,336 | 68 | 17 | 123,943 | 976,165 |
| 68 | 18 | 121,324 | 953,456 | 69 | 18 | 112,655 | 852,222 |
| 69 | 19 | 110,205 | 832,132 | 70 | 19 | 101,828 | 739,567 |
| 70 | 20 | 99,545.2 | 721,926·9 | 71 | 20 | 91,485·8 | 637,739·4 |
| 71 | 21 | 89,371·6 | 622,381·7 | 72 | 21 | 81,657·9 | 546,253·6 |
| 72 | 22 | 79,752·9 | 533,010·1 | 73 | 22 | 72,409·7 | 464,595·7 |
| 73 | 23 | 70,705·2 | 453,257·2 | 74 | 23 | 63,757·2 | 392,186·0 |
| 74 | 24 | 62,243·3 | 382,552·0 | 75 | 24 | 55,714·1 | 328,428·8 |
| 75 | 25 | 54,380·0 | 320,308·7 | 76 | 25 | 48,290·5 | 272,714·7 |
| 76 | 26 | 47,124·8 | 265,928·7 | 77 | 26 | 41,492·3 | 224,424·2 |
| 77 | 27 | 40,482·7 | 218,803·9 | 78 | 27 | 35,319·8 | 182,931·9 |
| 78 | 28 | 34,453·7 | 178,321·2 | 79 | 28 | 29,767·3 | 147,612·1 |
| 79 | 29 | 29,031·8 | 143,867·5 | 80 | 29 | 24,822·6 | 117,844·8 |
| 80 | 30 | 24,204·6 | 114,835·7 | 81 | 30 | 20,466·6 | 93,022·2 |
| 81 | 31 | 19,953·1 | 90,631·1 | 82 | 31 | 16,673·5 | 72,555·6 |
| 82 | 32 | 16,252·0 | 70,678·0 | 83 | 32 | 13,411·4 | 55,882·1 |
| 83 | 33 | 13,069·8 | 54,426·0 | 84 | 33 | 10,642·9 | 42,470·7 |
| 84 | 34 | 10,369·7 | 41,356·2 | 85 | 34 | 8,326·11 | 31,827·80 |
| 85 | 35 | 8,110·71 | 30,986·53 | 86 | 35 | 6,416·16 | 23,501·69 |
| 86 | 36 | 6,248·83 | 22,875·82 | 87 | 36 | 4,866·28 | 17,085·53 |
| 87 | 37 | 4,738·32 | 16,626·99 | 88 | 37 | 3,629·41 | 12,219·25 |
| 88 | 38 | 3,533·16 | 11,888·67 | 89 | 38 | 2,659·56 | 8,589·84 |
| 89 | 39 | 2,588·41 | 8,355·51 | 90 | 39 | 1,913·05 | 5,930·28 |
| 90 | 40 | 1,861·41 | 5,767·10 | 91 | 40 | 1,349·52 | 4,017·23 |
| 91 | 41 | 1,312·75 | 3,905·69 | 92 | 41 | 932·736 | 2,667·706 |
| 92 | 42 | 907·070 | 2,592·935 | 93 | 42 | 631·009 | 1,734·970 |
| 93 | 43 | 613·469 | 1,685·865 | 94 | 43 | 417·421 | 1,103·961 |
| 94 | 44 | 405·695 | 1,072·396 | 95 | 44 | 269·729 | 686·540 |
| 95 | 45 | 262·069 | 666·701 | 96 | 45 | 170·075 | 416·811 |
| 96 | 46 | 165·189 | 404·632 | 97 | 46 | 104·530 | 246·736 |
| 97 | 47 | 101·491 | 239·443 | 98 | 47 | 62·5535 | 142·2056 |
| 98 | 48 | 60·7122 | 137·9522 | 99 | 48 | 36·4067 | 79·6521 |
| 99 | 49 | 35·3212 | 77·2400 | 100 | 49 | 20·5840 | 43·2454 |
| 100 | 50 | 19·9620 | 41·9188 | 101 | 50 | 11·2924 | 22·6614 |
| 101 | 51 | 10·9464 | 21·9568 | 102 | 51 | 6·0038 | 11·3690 |
| 102 | 52 | 5·8171 | 11·0104 | 103 | 52 | 3·0897 | 5·3652 |
| 103 | 53 | 2·9922 | 5·1933 | 104 | 53 | 1·5371 | 2·2755 |
| 104 | 54 | 1·4879 | 2·2011 | 105 | 54 | ·7384 | ·7384 |
| 105 | 55 | ·7132 | ·7132 | | | | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

**Male 52 Years older than Female.**

**Male 53 Years older than Female.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ | Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | **Male 52 Years older.** | | $x$ | $y$ | **Male 53 Years older.** | |
| 52 | 0 | 507,580 | 5,250,606 | 53 | 0 | 489,519 | 4,954,731 |
| 53 | 1 | 417,361 | 4,743,026 | 54 | 1 | 402,082 | 4,465,212 |
| 54 | 2 | 371,653 | 4,325,665 | 55 | 2 | 357,644 | 4,063,130 |
| 55 | 3 | 339,929 | 3,954,012 | 56 | 3 | 326,720 | 3,705,486 |
| 56 | 4 | 314,143 | 3,614,083 | 57 | 4 | 301,536 | 3,378,766 |
| 57 | 5 | 291,859 | 3,299,940 | 58 | 5 | 279,738 | 3,077,230 |
| 58 | 6 | 271,975 | 3,008,081 | 59 | 6 | 260,258 | 2,797,492 |
| 59 | 7 | 253,734 | 2,736,106 | 60 | 7 | 242,367 | 2,537,234 |
| 60 | 8 | 236,643 | 2,482,372 | 61 | 8 | 225,590 | 2,294,867 |
| 61 | 9 | 220,572 | 2,245,729 | 62 | 9 | 209,800 | 2,069,277 |
| 62 | 10 | 205,354 | 2,025,157 | 63 | 10 | 194,839 | 1,859,477 |
| 63 | 11 | 190,858 | 1,819,803 | 64 | 11 | 180,586 | 1,664,638 |
| 64 | 12 | 176,983 | 1,628,945 | 65 | 12 | 166,945 | 1,484,052 |
| 65 | 13 | 163,656 | 1,451,962 | 66 | 13 | 153,852 | 1,317,107 |
| 66 | 14 | 150,826 | 1,288,306 | 67 | 14 | 141,261 | 1,163,255 |
| 67 | 15 | 138,460 | 1,137,480 | 68 | 15 | 129,148 | 1,021,994 |
| 68 | 16 | 126,547 | 999,020 | 69 | 16 | 117,505 | 892,846 |
| 69 | 17 | 115,087 | 872,473 | 70 | 17 | 106,339 | 775,341 |
| 70 | 18 | 104,092 | 757,386 | 71 | 18 | 95,664·5 | 669,001·8 |
| 71 | 19 | 93,583·9 | 653,294·3 | 72 | 19 | 85,506·5 | 573,337·3 |
| 72 | 20 | 83,589·6 | 559,710·4 | 73 | 20 | 75,893·1 | 487,830·8 |
| 73 | 21 | 74,139·3 | 476,120·8 | 74 | 21 | 66,853·9 | 411,937·7 |
| 74 | 22 | 65,294·3 | 401,981·5 | 75 | 22 | 58,445·1 | 345,083·8 |
| 75 | 23 | 57,069·3 | 336,687·2 | 76 | 23 | 50,678·6 | 286,638·7 |
| 76 | 24 | 49,475·2 | 279,617·9 | 77 | 24 | 43,561·8 | 235,960·1 |
| 77 | 25 | 42,518·7 | 230,142·7 | 78 | 25 | 37,096·1 | 192,398·3 |
| 78 | 26 | 36,200·6 | 187,624·0 | 79 | 26 | 31,276·6 | 155,302·2 |
| 79 | 27 | 30,515·6 | 151,423·4 | 80 | 27 | 26,091·3 | 124,025·6 |
| 80 | 28 | 25,451·5 | 120,907·8 | 81 | 28 | 21,520·9 | 97,934·3 |
| 81 | 29 | 20,989·1 | 95,456·3 | 82 | 29 | 17,539·2 | 76,413·4 |
| 82 | 30 | 17,102·5 | 74,467·2 | 83 | 30 | 14,113·2 | 58,874·2 |
| 83 | 31 | 13,759·2 | 57,364·7 | 84 | 31 | 11,204·2 | 44,761·0 |
| 84 | 32 | 10,921·0 | 43,605·5 | 85 | 32 | 8,768·80 | 33,556·75 |
| 85 | 33 | 8,545·46 | 32,684·45 | 86 | 33 | 6,760·08 | 24,787·95 |
| 86 | 34 | 6,586·56 | 24,138·99 | 87 | 34 | 5,129·29 | 18,027·87 |
| 87 | 35 | 4,996·59 | 17,552·43 | 88 | 35 | 3,827·24 | 12,898·58 |
| 88 | 36 | 3,727·42 | 12,555·84 | 89 | 36 | 2,805·79 | 9,071·34 |
| 89 | 37 | 2,732·01 | 8,828·42 | 90 | 37 | 2,019·18 | 6,265·55 |
| 90 | 38 | 1,965·63 | 6,096·41 | 91 | 38 | 1,425·09 | 4,246·37 |
| 91 | 39 | 1,386·97 | 4,130·78 | 92 | 39 | 985·468 | 2,821·279 |
| 92 | 40 | 958·865 | 2,743·811 | 93 | 40 | 667·040 | 1,835·811 |
| 93 | 41 | 648·864 | 1,784·946 | 94 | 41 | 441·505 | 1,168·771 |
| 94 | 42 | 429·356 | 1,136·082 | 95 | 42 | 285·461 | 727·266 |
| 95 | 43 | 277·526 | 706·726 | 96 | 43 | 180·106 | 441·805 |
| 96 | 44 | 175·047 | 429·200 | 97 | 44 | 110·768 | 261·699 |
| 97 | 45 | 107·622 | 254·153 | 98 | 45 | 66·3321 | 150·9307 |
| 98 | 46 | 64·4265 | 146·5309 | 99 | 46 | 38·6341 | 84·5986 |
| 99 | 47 | 37·5109 | 82·1044 | 100 | 47 | 21·8601 | 45·9645 |
| 100 | 48 | 21·2167 | 44·5935 | 101 | 48 | 12·0022 | 24·1044 |
| 101 | 49 | 11·6443 | 23·3768 | 102 | 49 | 6·3866 | 12·1022 |
| 102 | 50 | 6·1936 | 11·7325 | 103 | 50 | 3·2897 | 5·7156 |
| 103 | 51 | 3·1889 | 5·5389 | 104 | 51 | 1·6382 | 2·4259 |
| 104 | 52 | 1·5872 | 2·3500 | 105 | 52 | ·7877 | ·7877 |
| 105 | 53 | ·7628 | ·7628 | | | | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Male 54 Years older than Female.

### Male 55 Years older than Female.

| Ages | | $D_{x, y}$ | $N_{x, y}$ | Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | **Male 54 Years older.** | | $x$ | $y$ | **Male 55 Years older.** | |
| 54 | 0 | 471,599 | 4,666,671 | 55 | 0 | 453,824 | 4,386,500 |
| 55 | 1 | 386,927 | 4,195,072 | 56 | 1 | 371,891 | 3,932,676 |
| 56 | 2 | 343,747 | 3,808,145 | 57 | 2 | 329,952 | 3,560,785 |
| 57 | 3 | 313,608 | 3,464,398 | 58 | 3 | 300,584 | 3,230,833 |
| 58 | 4 | 289,014 | 3,150,790 | 59 | 4 | 276,563 | 2,930,249 |
| 59 | 5 | 267,688 | 2,861,776 | 60 | 5 | 255,696 | 2,653,686 |
| 60 | 6 | 248,599 | 2,594,088 | 61 | 6 | 236,987 | 2,397,990 |
| 61 | 7 | 231,046 | 2,345,489 | 62 | 7 | 219,762 | 2,161,003 |
| 62 | 8 | 214,572 | 2,114,443 | 63 | 8 | 203,586 | 1,941,241 |
| 63 | 9 | 199,058 | 1,899,871 | 64 | 9 | 188,344 | 1,737,655 |
| 64 | 10 | 184,353 | 1,700,813 | 65 | 10 | 173,897 | 1,549,311 |
| 65 | 11 | 170,344 | 1,516,460 | 66 | 11 | 160,139 | 1,375,414 |
| 66 | 12 | 156,944 | 1,346,116 | 67 | 12 | 146,991 | 1,215,275 |
| 67 | 13 | 144,095 | 1,189,172 | 68 | 13 | 134,404 | 1,068,284 |
| 68 | 14 | 131,760 | 1,045,077 | 69 | 14 | 122,346 | 933,880 |
| 69 | 15 | 119,920 | 913,317 | 70 | 15 | 110,805 | 811,534 |
| 70 | 16 | 108,573 | 793,397 | 71 | 16 | 99,782·9 | 700,729·3 |
| 71 | 17 | 97,729·3 | 684,823·8 | 72 | 17 | 89,294·2 | 600,946·4 |
| 72 | 18 | 87,407·6 | 587,094·5 | 73 | 18 | 79,359·6 | 511,652·2 |
| 73 | 19 | 77,633·6 | 499,686·9 | 74 | 19 | 70,004·8 | 432,292·6 |
| 74 | 20 | 68,435·4 | 422,053·3 | 75 | 20 | 61,256·7 | 362,287·8 |
| 75 | 21 | 59,841·1 | 353,617·9 | 76 | 21 | 53,140·0 | 301,031·1 |
| 76 | 22 | 51,900·4 | 293,776·8 | 77 | 22 | 45,697·1 | 247,891·1 |
| 77 | 23 | 44,621·4 | 241,876·4 | 78 | 23 | 38,930·6 | 202,194·0 |
| 78 | 24 | 38,006·2 | 197,255·0 | 79 | 24 | 32,836·6 | 163,263·4 |
| 79 | 25 | 32,050·3 | 159,248·8 | 80 | 25 | 27,403·5 | 130,426·8 |
| 80 | 26 | 26,742·0 | 127,198·5 | 81 | 26 | 22,612·1 | 103,023·3 |
| 81 | 27 | 22,061·9 | 100,456·5 | 82 | 27 | 18,435·6 | 80,411·2 |
| 82 | 28 | 17,983·6 | 78,394·6 | 83 | 28 | 14,840·3 | 61,975·6 |
| 83 | 29 | 14,473·6 | 60,411·0 | 84 | 29 | 11,786·0 | 47,135·3 |
| 84 | 30 | 11,492·5 | 45,937·4 | 85 | 30 | 9,227·69 | 35,349·28 |
| 85 | 31 | 8,996·20 | 34,444·94 | 86 | 31 | 7,116·65 | 26,121·59 |
| 86 | 32 | 6,936·76 | 25,448·74 | 87 | 32 | 5,402·01 | 19,004·94 |
| 87 | 33 | 5,264·41 | 18,511·98 | 88 | 33 | 4,032·38 | 13,602·93 |
| 88 | 34 | 3,928·88 | 13,247·57 | 89 | 34 | 2,957·43 | 9,570·55 |
| 89 | 35 | 2,880·92 | 9,318·69 | 90 | 35 | 2,129·24 | 6,613·12 |
| 90 | 36 | 2,073·71 | 6,437·77 | 91 | 36 | 1,503·44 | 4,483·88 |
| 91 | 37 | 1,463·91 | 4,364·06 | 92 | 37 | 1,040·14 | 2,980·44 |
| 92 | 38 | 1,012·56 | 2,900·15 | 93 | 38 | 704·391 | 1,940·303 |
| 93 | 39 | 685·547 | 1,887·590 | 94 | 39 | 466·465 | 1,235·912 |
| 94 | 40 | 453·873 | 1,202·043 | 95 | 40 | 301·761 | 769·447 |
| 95 | 41 | 293·538 | 748·170 | 96 | 41 | 190·497 | 467·686 |
| 96 | 42 | 185·256 | 454·632 | 97 | 42 | 117·228 | 277·189 |
| 97 | 43 | 113·969 | 269·376 | 98 | 43 | 70·2445 | 159·9611 |
| 98 | 44 | 68·2712 | 155·4069 | 99 | 44 | 40·9395 | 89·7166 |
| 99 | 45 | 39·7768 | 87·1357 | 100 | 45 | 23·1806 | 48·7771 |
| 100 | 46 | 22·5147 | 47·3589 | 101 | 46 | 12·7364 | 25·5965 |
| 101 | 47 | 12·3662 | 24·8442 | 102 | 47 | 6·7825 | 12·8601 |
| 102 | 48 | 6·5829 | 12·4780 | 103 | 48 | 3·4964 | 6·0776 |
| 103 | 49 | 3·3922 | 5·8951 | 104 | 49 | 1·7426 | 2·5812 |
| 104 | 50 | 1·6900 | 2·5029 | 105 | 50 | ·8386 | ·8386 |
| 105 | 51 | ·8129 | ·8129 | | | | |

## JOINT LIVES:—Male and Female Life.

### **Male 56 Years older than Female.**

### **Male 57* Years older than Female.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ | Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | **Male 56 Years older.** | | $x$ | $y$ | **Male 57* Years older.** | |
| 56 | 0 | 436,189 | 4,114,295 | 57 | 0 | 418,684 | 3,850,128 |
| 57 | 1 | 356,967 | 3,678,106 | 58 | 1 | 342,142 | 3,431,444 |
| 58 | 2 | 316,249 | 3,321,139 | 59 | 2 | 302,625 | 3,089,302 |
| 59 | 3 | 287,635 | 3,004,890 | 60 | 3 | 274,750 | 2,786,677 |
| 60 | 4 | 264,174 | 2,717,255 | 61 | 4 | 251,834 | 2,511,927 |
| 61 | 5 | 243,752 | 2,453,081 | 62 | 5 | 231,848 | 2,260,093 |
| 62 | 6 | 225,413 | 2,209,329 | 63 | 6 | 213,872 | 2,028,245 |
| 63 | 7 | 208,510 | 1,983,916 | 64 | 7 | 197,288 | 1,814,373 |
| 64 | 8 | 192,629 | 1,775,406 | 65 | 8 | 181,704 | 1,617,085 |
| 65 | 9 | 177,662 | 1,582,777 | 66 | 9 | 167,019 | 1,435,381 |
| 66 | 10 | 163,480 | 1,405,115 | 67 | 10 | 153,112 | 1,268,362 |
| 67 | 11 | 149,983 | 1,241,635 | 68 | 11 | 139,896 | 1,115,250 |
| 68 | 12 | 137,105 | 1,091,652 | 69 | 12 | 127,309 | 975,354 |
| 69 | 13 | 124,800 | 954,547 | 70 | 13 | 115,314 | 848,045 |
| 70 | 14 | 113,046 | 829,747 | 71 | 14 | 103,893 | 732,731 |
| 71 | 15 | 101,834 | 716,701 | 72 | 15 | 93,044·2 | 628,838·3 |
| 72 | 16 | 91,170·5 | 614,866·6 | 73 | 16 | 82,776·1 | 535,794·1 |
| 73 | 17 | 81,072·5 | 523,696·1 | 74 | 17 | 73,105·8 | 453,018·0 |
| 74 | 18 | 71,561·3 | 442,623·6 | 75 | 18 | 64,054·7 | 379,912·2 |
| 75 | 19 | 62,661·5 | 371,062·3 | 76 | 19 | 55,644·7 | 315,857·5 |
| 76 | 20 | 54,397·1 | 308,400·8 | 77 | 20 | 47,895·4 | 260,212·8 |
| 77 | 21 | 46,788·6 | 254,003·7 | 78 | 21 | 40,821·5 | 212,317·4 |
| 78 | 22 | 39,869·2 | 207,215·1 | 79 | 22 | 34,446·2 | 171,495·9 |
| 79 | 23 | 33,635·3 | 167,345·9 | 80 | 23 | 28,758·7 | 137,049·7 |
| 80 | 24 | 28,075·8 | 133,710·6 | 81 | 24 | 23,739·9 | 108,291·0 |
| 81 | 25 | 23,171·5 | 105,634·8 | 82 | 25 | 19,362·8 | 84,551·1 |
| 82 | 26 | 18,895·4 | 82,463·3 | 83 | 26 | 15,592·7 | 65,188·3 |
| 83 | 27 | 15,213·3 | 63,567·9 | 84 | 27 | 12,388·4 | 49,595·6 |
| 84 | 28 | 12,084·6 | 48,354·6 | 85 | 28 | 9,703·07 | 37,207·22 |
| 85 | 29 | 9,463·31 | 36,270·00 | 86 | 29 | 7,486·17 | 27,504·15 |
| 86 | 30 | 7,299·78 | 26,806·69 | 87 | 30 | 5,684·70 | 20,017·98 |
| 87 | 31 | 5,542·10 | 19,506·91 | 88 | 31 | 4,245·08 | 14,333·28 |
| 88 | 32 | 4,137·77 | 13,964·81 | 89 | 32 | 3,114·68 | 10,088·20 |
| 89 | 33 | 3,035·35 | 9,827·04 | 90 | 33 | 2,243·37 | 6,973·52 |
| 90 | 34 | 2,185·79 | 6,791·69 | 91 | 34 | 1,584·70 | 4,730·15 |
| 91 | 35 | 1,543·70 | 4,605·90 | 92 | 35 | 1,096·83 | 3,145·45 |
| 92 | 36 | 1,068·23 | 3,062·20 | 93 | 36 | 743·120 | 2,048·623 |
| 93 | 37 | 723·579 | 1,993·974 | 94 | 37 | 492·343 | 1,305·503 |
| 94 | 38 | 479·287 | 1,270·395 | 95 | 38 | 318·658 | 813·160 |
| 95 | 39 | 310·133 | 791·108 | 96 | 39 | 201·267 | 494·502 |
| 96 | 40 | 195·834 | 480·975 | 97 | 40 | 123·922 | 293·235 |
| 97 | 41 | 120·545 | 285·141 | 98 | 41 | 74·2973 | 169·3134 |
| 98 | 42 | 72·2529 | 164·5962 | 99 | 42 | 43·3272 | 95·0161 |
| 99 | 43 | 42·1228 | 92·3433 | 100 | 43 | 24·5478 | 51·6889 |
| 100 | 44 | 23·8582 | 50·2205 | 101 | 44 | 13·4965 | 27·1411 |
| 101 | 45 | 13·1132 | 26·3623 | 102 | 45 | 7·1922 | 13·6446 |
| 102 | 46 | 6·9856 | 13·2491 | 103 | 46 | 3·7103 | 6·4524 |
| 103 | 47 | 3·6025 | 6·2635 | 104 | 47 | 1·8507 | 2·7421 |
| 104 | 48 | 1·7962 | 2·6610 | 105 | 48 | ·8914 | ·8914 |
| 105 | 49 | ·8648 | ·8648 | | | | |

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* Note.—The Columns $D_{x,y}$ and $N_{x,y}$ for **Male 58 Years older than Female,** are printed on page 297; and the corresponding Columns for **Male 59–105 Years older** will be found by reading the Tables backwards, from p. 296 to p. 250.

## JOINT LIVES :—Male and Female Life.

### Female 1 Year older than Male.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ | Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | Female 1 Year older. | | $x$ | $y$ | Female 1 Year older. | |
| 0 | 1 | 2,130,306 | 31,186,430 | 55 | 56 | 84,150·5 | 806,005·6 |
| 1 | 2 | 1,622,790 | 29,056,124 | 56 | 57 | 77,913·3 | 721,855·1 |
| 2 | 3 | 1,422,061 | 27,433,334 | 57 | 58 | 71,936·4 | 643,941·8 |
| 3 | 4 | 1,299,443 | 26,011,273 | 58 | 59 | 66,215·9 | 572,005·4 |
| 4 | 5 | 1,209,732 | 24,711,830 | 59 | 60 | 60,747·0 | 505,789·5 |
| 5 | 6 | 1,138,252 | 23,502,098 | 60 | 61 | 55,524·9 | 445,042·5 |
| 6 | 7 | 1,078,577 | 22,363,846 | 61 | 62 | 50,545·2 | 389,517·6 |
| 7 | 8 | 1,026,428 | 21,285,269 | 62 | 63 | 45,804·8 | 338,972·4 |
| 8 | 9 | 979,817 | 20,258,841 | 63 | 64 | 41,301·8 | 293,167·6 |
| 9 | 10 | 937,768 | 19,279,024 | 64 | 65 | 37,035·6 | 251,865·8 |
| 10 | 11 | 899,276 | 18,341,256 | 65 | 66 | 33,007·0 | 214,830·2 |
| 11 | 12 | 863,529 | 17,441,980 | 66 | 67 | 29,218·3 | 181,823·2 |
| 12 | 13 | 829,875 | 16,578,451 | 67 | 68 | 25,672·4 | 152,604·9 |
| 13 | 14 | 797,793 | 15,748,576 | 68 | 69 | 22,373·0 | 126,932·5 |
| 14 | 15 | 766,876 | 14,950,783 | 69 | 70 | 19,323·5 | 104,559·5 |
| 15 | 16 | 736,815 | 14,183,907 | 70 | 71 | 16,526·8 | 85,236·0 |
| 16 | 17 | 707,387 | 13,447,092 | 71 | 72 | 13,984·7 | 68,709·2 |
| 17 | 18 | 678,442 | 12,739,705 | 72 | 73 | 11,697·0 | 54,724·5 |
| 18 | 19 | 649,893 | 12,061,263 | 73 | 74 | 9,661·09 | 43,027·53 |
| 19 | 20 | 621,711 | 11,411,370 | 74 | 75 | 7,871·60 | 33,366·44 |
| 20 | 21 | 593,911 | 10,789,659 | 75 | 76 | 6,320·00 | 25,494·84 |
| 21 | 22 | 566,811 | 10,195,748 | 76 | 77 | 4,994·58 | 19,174·84 |
| 22 | 23 | 540,731 | 9,628,937 | 77 | 78 | 3,880·59 | 14,180·26 |
| 23 | 24 | 515,650 | 9,088,206 | 78 | 79 | 2,960·63 | 10,299·67 |
| 24 | 25 | 491,546 | 8,572,556 | 79 | 80 | 2,215·15 | 7,339·04 |
| 25 | 26 | 468,394 | 8,081,010 | 80 | 81 | 1,623·24 | 5,123·89 |
| 26 | 27 | 446,168 | 7,612,616 | 81 | 82 | 1,163·39 | 3,500·65 |
| 27 | 28 | 424,840 | 7,166,448 | 82 | 83 | 814·354 | 2,337·259 |
| 28 | 29 | 404,382 | 6,741,608 | 83 | 84 | 555·920 | 1,522·905 |
| 29 | 30 | 384,765 | 6,337,226 | 84 | 85 | 369·540 | 966·985 |
| 30 | 31 | 365,959 | 5,952,461 | 85 | 86 | 238·826 | 597·445 |
| 31 | 32 | 347,934 | 5,586,502 | 86 | 87 | 149·820 | 358·619 |
| 32 | 33 | 330,662 | 5,238,568 | 87 | 88 | 91·0755 | 208·7992 |
| 33 | 34 | 314,114 | 4,907,906 | 88 | 89 | 53·5593 | 117·7237 |
| 34 | 35 | 298,260 | 4,593,792 | 89 | 90 | 30·4162 | 64·1644 |
| 35 | 36 | 283,073 | 4,295,532 | 90 | 91 | 16·6503 | 33·7482 |
| 36 | 37 | 268,527 | 4,012,459 | 91 | 92 | 8·7697 | 17·0979 |
| 37 | 38 | 254,594 | 3,743,932 | 92 | 93 | 4·4356 | 8·3282 |
| 38 | 39 | 241,249 | 3,489,338 | 93 | 94 | 2·1502 | 3·8926 |
| 39 | 40 | 228,469 | 3,248,089 | 94 | 95 | ·9970 | 1·7424 |
| 40 | 41 | 216,229 | 3,019,620 | 95 | 96 | ·4413 | ·7454 |
| 41 | 42 | 204,507 | 2,803,391 | 96 | 97 | ·1860 | ·3041 |
| 42 | 43 | 193,282 | 2,598,884 | 97 | 98 | ·0746 | ·1181 |
| 43 | 44 | 182,533 | 2,405,602 | 98 | 99 | ·0283 | ·0435 |
| 44 | 45 | 172,242 | 2,223,069 | 99 | 100 | ·0102 | ·0152 |
| 45 | 46 | 162,390 | 2,050,827 | 100 | 101 | ·0035 | ·0050 |
| 46 | 47 | 152,961 | 1,888,437 | 101 | 102 | ·0011 | ·0015 |
| 47 | 48 | 143,937 | 1,735,476 | 102 | 103 | ·0003 | ·0004 |
| 48 | 49 | 135,304 | 1,591,539 | 103 | 104 | ·0001 | ·0001 |
| 49 | 50 | 127,048 | 1,456,235 | 104 | 105 | ·0000 | ·0000 |
| 50 | 51 | 119,155 | 1,329,187 | | | | |
| 51 | 52 | 111,613 | 1,210,032 | | | | |
| 52 | 53 | 104,351 | 1,098,419 | | | | |
| 53 | 54 | 97,412·1 | 994,068·0 | | | | |
| 54 | 55 | 90,650·3 | 896,655·9 | | | | |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Female 2 Years older than Male.

### Female 105 Years older than Male.

| Ages $x$ | Ages $y$ | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| | | **Female 2 Years older.** | |
| 0 | 2 | 1,969,085 | 30,239,777 |
| 1 | 3 | 1,542,407 | 28,270,692 |
| 2 | 4 | 1,367,321 | 26,728,285 |
| 3 | 5 | 1,257,740 | 25,360,964 |
| 4 | 6 | 1,176,158 | 24,103,224 |
| 5 | 7 | 1,109,718 | 22,927,066 |
| 6 | 8 | 1,053,105 | 21,817,348 |
| 7 | 9 | 1,003,596 | 20,764,243 |
| 8 | 10 | 959,053 | 19,760,647 |
| 9 | 11 | 918,603 | 18,801,594 |
| 10 | 12 | 881,336 | 17,882,991 |
| 11 | 13 | 846,515 | 17,001,655 |
| 12 | 14 | 813,551 | 16,155,140 |
| 13 | 15 | 781,977 | 15,341,589 |
| 14 | 16 | 751,434 | 14,559,612 |
| 15 | 17 | 721,651 | 13,808,178 |
| 16 | 18 | 692,442 | 13,086,527 |
| 17 | 19 | 663,686 | 12,394,085 |
| 18 | 20 | 635,323 | 11,730,399 |
| 19 | 21 | 607,344 | 11,095,076 |
| 20 | 22 | 580,055 | 10,487,732 |
| 21 | 23 | 553,468 | 9,907,677 |
| 22 | 24 | 527,891 | 9,354,209 |
| 23 | 25 | 503,302 | 8,826,318 |
| 24 | 26 | 479,679 | 8,323,016 |
| 25 | 27 | 456,997 | 7,843,337 |
| 26 | 28 | 435,227 | 7,386,340 |
| 27 | 29 | 414,342 | 6,951,113 |
| 28 | 30 | 394,314 | 6,536,771 |
| 29 | 31 | 375,112 | 6,142,457 |
| 30 | 32 | 356,708 | 5,767,345 |
| 31 | 33 | 339,072 | 5,410,637 |
| 32 | 34 | 322,175 | 5,071,565 |
| 33 | 35 | 305,987 | 4,749,390 |
| 34 | 36 | 290,481 | 4,443,403 |
| 35 | 37 | 275,630 | 4,152,922 |
| 36 | 38 | 261,406 | 3,877,292 |
| 37 | 39 | 247,783 | 3,615,886 |
| 38 | 40 | 234,737 | 3,368,103 |
| 39 | 41 | 222,243 | 3,133,366 |
| 40 | 42 | 210,279 | 2,911,123 |
| 41 | 43 | 198,822 | 2,700,844 |
| 42 | 44 | 187,852 | 2,502,022 |
| 43 | 45 | 177,349 | 2,314,170 |
| 44 | 46 | 167,294 | 2,136,821 |
| 45 | 47 | 157,669 | 1,969,527 |
| 46 | 48 | 148,458 | 1,811,858 |
| 47 | 49 | 139,645 | 1,663,400 |
| 48 | 50 | 131,216 | 1,523,755 |
| 49 | 51 | 123,155 | 1,392,539 |
| 50 | 52 | 115,451 | 1,269,384 |
| 51 | 53 | 108,090 | 1,153,933 |
| 52 | 54 | 101,006 | 1,045,843 |
| 53 | 55 | 94,094·9 | 944,836·9 |
| 54 | 56 | 87,446·5 | 850,742·0 |
| 55 | 57 | 81,063·3 | 763,295·5 |
| 56 | 58 | 74,944·0 | 682,232·2 |
| 57 | 59 | 69,085·0 | 607,288·2 |
| 58 | 60 | 63,481·7 | 538,203·2 |
| 59 | 61 | 58,128·9 | 474,721·5 |
| 60 | 62 | 53,021·9 | 416,592·6 |
| 61 | 63 | 48,156·7 | 363,570·7 |
| 62 | 64 | 43,530·6 | 315,414·0 |
| 63 | 65 | 39,142·2 | 271,883·4 |
| 64 | 66 | 34,991·6 | 232,741·2 |
| 65 | 67 | 31,080·3 | 197,749·6 |
| 66 | 68 | 27,410·7 | 166,669·3 |
| 67 | 69 | 23,986·2 | 139,258·6 |
| 68 | 70 | 20,810·4 | 115,272·4 |
| 69 | 71 | 17,886·4 | 94,462·0 |
| 70 | 72 | 15,216·7 | 76,575·6 |
| 71 | 73 | 12,801·9 | 61,358·9 |
| 72 | 74 | 10,640·8 | 48,557·0 |
| 73 | 75 | 8,729·41 | 37,916·17 |
| 74 | 76 | 7,060·64 | 29,186·76 |
| 75 | 77 | 5,624·40 | 22,126·12 |
| 76 | 78 | 4,407·38 | 16,501·72 |
| 77 | 79 | 3,393·40 | 12,094·34 |
| 78 | 80 | 2,563·89 | 8,700·94 |
| 79 | 81 | 1,898·49 | 6,137·05 |
| 80 | 82 | 1,375·87 | 4,238·56 |
| 81 | 83 | 974·537 | 2,862·690 |
| 82 | 84 | 673·669 | 1,888·153 |
| 83 | 85 | 453·808 | 1,214·484 |
| 84 | 86 | 297·443 | 760·676 |
| 85 | 87 | 189·388 | 463·233 |
| 86 | 88 | 116·951 | 273·845 |
| 87 | 89 | 69·9236 | 156·8939 |
| 88 | 90 | 40·4071 | 86·9703 |
| 89 | 91 | 22·5284 | 46·5632 |
| 90 | 92 | 12·0960 | 24·0348 |
| 91 | 93 | 6·2427 | 11·9388 |
| 92 | 94 | 3·0909 | 5·6961 |
| 93 | 95 | 1·4653 | 2·6052 |
| 94 | 96 | ·6637 | 1·1399 |
| 95 | 97 | ·2867 | ·4762 |
| 96 | 98 | ·1178 | ·1895 |
| 97 | 99 | ·0460 | ·0717 |
| 98 | 100 | ·0170 | ·0257 |
| 99 | 101 | ·0059 | ·0087 |
| 100 | 102 | ·0020 | ·0028 |
| 101 | 103 | ·0006 | ·0008 |
| 102 | 104 | ·0002 | ·0002 |
| 103 | 105 | ·0000 | ·0000 |
| | | **Female 105 Years older.** | |
| 0 | 105 | 8·2374 | 8·2374 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Female 3 Years older than Male.

### Female 104 Years older than Male.

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Female 3 Years older.** | |
| 0 | 3 | 1,871,549 | 29,413,026 |
| 1 | 4 | 1,483,035 | 27,541,477 |
| 2 | 5 | 1,323,440 | 26,058,442 |
| 3 | 6 | 1,222,834 | 24,735,002 |
| 4 | 7 | 1,146,674 | 23,512,168 |
| 5 | 8 | 1,083,510 | 22,365,494 |
| 6 | 9 | 1,029,681 | 21,281,984 |
| 7 | 10 | 982,329 | 20,252,303 |
| 8 | 11 | 939,454 | 19,269,974 |
| 9 | 12 | 900,278 | 18,330,520 |
| 10 | 13 | 863,971 | 17,430,242 |
| 11 | 14 | 829,864 | 16,566,271 |
| 12 | 15 | 797,423 | 15,736,407 |
| 13 | 16 | 766,230 | 14,938,984 |
| 14 | 17 | 735,968 | 14,172,754 |
| 15 | 18 | 706,405 | 13,436,786 |
| 16 | 19 | 677,381 | 12,730,381 |
| 17 | 20 | 648,806 | 12,053,000 |
| 18 | 21 | 620,641 | 11,404,194 |
| 19 | 22 | 593,175 | 10,783,553 |
| 20 | 23 | 566,401 | 10,190,378 |
| 21 | 24 | 540,326 | 9,623,977 |
| 22 | 25 | 515,250 | 9,083,651 |
| 23 | 26 | 491,152 | 8,568,401 |
| 24 | 27 | 468,008 | 8,077,249 |
| 25 | 28 | 445,790 | 7,609,241 |
| 26 | 29 | 424,473 | 7,163,451 |
| 27 | 30 | 404,026 | 6,738,978 |
| 28 | 31 | 384,422 | 6,334,952 |
| 29 | 32 | 365,631 | 5,950,530 |
| 30 | 33 | 347,622 | 5,584,899 |
| 31 | 34 | 330,369 | 5,237,277 |
| 32 | 35 | 313,840 | 4,906,908 |
| 33 | 36 | 298,007 | 4,593,068 |
| 34 | 37 | 282,843 | 4,295,061 |
| 35 | 38 | 268,320 | 4,012,218 |
| 36 | 39 | 254,412 | 3,743,898 |
| 37 | 40 | 241,094 | 3,489,486 |
| 38 | 41 | 228,340 | 3,248,392 |
| 39 | 42 | 216,127 | 3,020,052 |
| 40 | 43 | 204,433 | 2,803,925 |
| 41 | 44 | 193,237 | 2,599,492 |
| 42 | 45 | 182,517 | 2,406,255 |
| 43 | 46 | 172,254 | 2,223,738 |
| 44 | 47 | 162,430 | 2,051,484 |
| 45 | 48 | 153,028 | 1,889,054 |
| 46 | 49 | 144,032 | 1,736,026 |
| 47 | 50 | 135,425 | 1,591,994 |
| 48 | 51 | 127,195 | 1,456,569 |
| 49 | 52 | 119,326 | 1,329,374 |
| 50 | 53 | 111,807 | 1,210,048 |
| 51 | 54 | 104,625 | 1,098,241 |
| 52 | 55 | 97,566·4 | 993,615·5 |
| 53 | 56 | 90,769·3 | 896,049·1 |
| 54 | 57 | 84,238·5 | 805,279·8 |
| 55 | 58 | 77,974·0 | 721,041·3 |
| 56 | 59 | 71,973·4 | 643,067·3 |
| 57 | 60 | 66,232·3 | 571,093·9 |
| 58 | 61 | 60,745·7 | 504,861·6 |
| 59 | 62 | 55,508·6 | 444,115·9 |
| 60 | 63 | 50,516·4 | 388,607·3 |
| 61 | 64 | 45,765·7 | 338,090·9 |
| 62 | 65 | 41,254·5 | 292,325·2 |
| 63 | 66 | 36,982·0 | 251,070·7 |
| 64 | 67 | 32,949·0 | 214,088·7 |
| 65 | 68 | 29,157·5 | 181,139·7 |
| 66 | 69 | 25,610·3 | 151,982·2 |
| 67 | 70 | 22,311·0 | 126,371·9 |
| 68 | 71 | 19,262·8 | 104,060·9 |
| 69 | 72 | 16,468·5 | 84,798·1 |
| 70 | 73 | 13,929·7 | 68,329·6 |
| 71 | 74 | 11,646·0 | 54,399·9 |
| 72 | 75 | 9,614·67 | 42,753·90 |
| 73 | 76 | 7,830·07 | 33,139·23 |
| 74 | 77 | 6,283·53 | 25,309·16 |
| 75 | 78 | 4,963·15 | 19,025·63 |
| 76 | 79 | 3,854·05 | 14,062·48 |
| 77 | 80 | 2,938·67 | 10,208·43 |
| 78 | 81 | 2,197·37 | 7,269·76 |
| 79 | 82 | 1,609·17 | 5,072·39 |
| 80 | 83 | 1,152·53 | 3,463·22 |
| 81 | 84 | 806·179 | 2,310·694 |
| 82 | 85 | 549·928 | 1,504·515 |
| 83 | 86 | 365·270 | 954·587 |
| 84 | 87 | 235·871 | 589·317 |
| 85 | 88 | 147·838 | 353·446 |
| 86 | 89 | 89·7895 | 205·6075 |
| 87 | 90 | 52·7529 | 115·8180 |
| 88 | 91 | 29·9284 | 63·0651 |
| 89 | 92 | 16·3663 | 33·1367 |
| 90 | 93 | 8·6107 | 16·7704 |
| 91 | 94 | 4·3502 | 8·1597 |
| 92 | 95 | 2·1063 | 3·8095 |
| 93 | 96 | ·9755 | 1·7032 |
| 94 | 97 | ·4312 | ·7277 |
| 95 | 98 | ·1815 | ·2965 |
| 96 | 99 | ·0726 | ·1150 |
| 97 | 100 | ·0276 | ·0424 |
| 98 | 101 | ·0099 | ·0148 |
| 99 | 102 | ·0034 | ·0049 |
| 100 | 103 | ·0011 | ·0015 |
| 101 | 104 | ·0003 | ·0004 |
| 102 | 105 | ·0001 | ·0001 |
| | | **Female 104 Years older.** | |
| 0 | 104 | 16·0706 | 22·8593 |
| 1 | 105 | 6·7887 | 6·7887 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Female 4 Years older than Male.
### Female 103 Years older than Male.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 4 Years older.** | |
| 0 | 4 | 1,799,507 | 28,648,822 |
| 1 | 5 | 1,435,440 | 26,849,315 |
| 2 | 6 | 1,286,710 | 25,413,875 |
| 3 | 7 | 1,192,179 | 24,127,165 |
| 4 | 8 | 1,119,593 | 22,934,986 |
| 5 | 9 | 1,059,409 | 21,815,393 |
| 6 | 10 | 1,007,860 | 20,755,984 |
| 7 | 11 | 962,254 | 19,748,124 |
| 8 | 12 | 920,713 | 18,785,870 |
| 9 | 13 | 882,540 | 17,865,157 |
| 10 | 14 | 846,977 | 16,982,617 |
| 11 | 15 | 813,412 | 16,135,640 |
| 12 | 16 | 781,365 | 15,322,228 |
| 13 | 17 | 750,461 | 14,540,863 |
| 14 | 18 | 720,419 | 13,790,402 |
| 15 | 19 | 691,041 | 13,069,983 |
| 16 | 20 | 662,195 | 12,378,942 |
| 17 | 21 | 633,813 | 11,716,747 |
| 18 | 22 | 606,162 | 11,082,934 |
| 19 | 23 | 579,212 | 10,476,772 |
| 20 | 24 | 552,951 | 9,897,560 |
| 21 | 25 | 527,388 | 9,344,609 |
| 22 | 26 | 502,812 | 8,817,221 |
| 23 | 27 | 479,202 | 8,314,409 |
| 24 | 28 | 456,532 | 7,835,207 |
| 25 | 29 | 434,775 | 7,378,675 |
| 26 | 30 | 413,904 | 6,943,900 |
| 27 | 31 | 393,890 | 6,529,996 |
| 28 | 32 | 374,705 | 6,136,106 |
| 29 | 33 | 356,318 | 5,761,401 |
| 30 | 34 | 338,700 | 5,405,083 |
| 31 | 35 | 321,822 | 5,066,383 |
| 32 | 36 | 305,655 | 4,744,561 |
| 33 | 37 | 290,171 | 4,438,906 |
| 34 | 38 | 275,342 | 4,148,735 |
| 35 | 39 | 261,142 | 3,873,393 |
| 36 | 40 | 247,545 | 3,612,251 |
| 37 | 41 | 234,524 | 3,364,706 |
| 38 | 42 | 222,057 | 3,130,182 |
| 39 | 43 | 210,120 | 2,908,125 |
| 40 | 44 | 198,691 | 2,698,005 |
| 41 | 45 | 187,748 | 2,499,314 |
| 42 | 46 | 177,273 | 2,311,566 |
| 43 | 47 | 167,246 | 2,134,293 |
| 44 | 48 | 157,649 | 1,967,047 |
| 45 | 49 | 148,465 | 1,809,398 |
| 46 | 50 | 139,679 | 1,660,933 |
| 47 | 51 | 131,275 | 1,521,254 |
| 48 | 52 | 123,240 | 1,389,979 |
| 49 | 53 | 115,560 | 1,266,739 |
| 50 | 54 | 108,223 | 1,151,179 |
| 51 | 55 | 101,063 | 1,042,956 |
| 52 | 56 | 94,118·2 | 941,892·7 |
| 53 | 57 | 87,439·4 | 847,774·5 |
| 54 | 58 | 81,028·1 | 760,335·1 |
| 55 | 59 | 74,883·3 | 679,307·0 |
| 56 | 60 | 69,001·4 | 604,423·7 |
| 57 | 61 | 63,377·8 | 535,422·3 |
| 58 | 62 | 58,007·4 | 472,044·5 |
| 59 | 63 | 52,885·5 | 414,037·1 |
| 60 | 64 | 48,008·2 | 361,151·6 |
| 61 | 65 | 43,372·7 | 313,143·4 |
| 62 | 66 | 38,977·7 | 269,770·7 |
| 63 | 67 | 34,823·2 | 230,793·0 |
| 64 | 68 | 30,910·6 | 195,969·8 |
| 65 | 69 | 27,242·4 | 165,059·2 |
| 66 | 70 | 23,821·6 | 137,816·8 |
| 67 | 71 | 20,651·8 | 113,995·2 |
| 68 | 72 | 17,735·8 | 93,343·4 |
| 69 | 73 | 15,075·7 | 75,607·6 |
| 70 | 74 | 12,672·0 | 60,531·9 |
| 71 | 75 | 10,522·9 | 47,859·9 |
| 72 | 76 | 8,624·13 | 37,336·98 |
| 73 | 77 | 6,968·27 | 28,712·85 |
| 74 | 78 | 5,544·79 | 21,744·58 |
| 75 | 79 | 4,340·05 | 16,199·79 |
| 76 | 80 | 3,337·59 | 11,859·74 |
| 77 | 81 | 2,518·58 | 8,522·15 |
| 78 | 82 | 1,862·51 | 6,003·57 |
| 79 | 83 | 1,347·96 | 4,141·06 |
| 80 | 84 | 953·419 | 2,793·097 |
| 81 | 85 | 658·098 | 1,839·678 |
| 82 | 86 | 442·637 | 1,181·580 |
| 83 | 87 | 289·657 | 738·943 |
| 84 | 88 | 184·124 | 449·286 |
| 85 | 89 | 113·503 | 265·162 |
| 86 | 90 | 67·7405 | 151·6594 |
| 87 | 91 | 39·0726 | 83·9189 |
| 88 | 92 | 21·7422 | 44·8463 |
| 89 | 93 | 11·6505 | 23·1041 |
| 90 | 94 | 6·0003 | 11·4536 |
| 91 | 95 | 2·9645 | 5·4533 |
| 92 | 96 | 1·4022 | 2·4888 |
| 93 | 97 | ·6337 | 1·0866 |
| 94 | 98 | ·2731 | ·4529 |
| 95 | 99 | ·1119 | ·1798 |
| 96 | 100 | ·0436 | ·0679 |
| 97 | 101 | ·0161 | ·0243 |
| 98 | 102 | ·0056 | ·0082 |
| 99 | 103 | ·0018 | ·0026 |
| 100 | 104 | ·0006 | ·0008 |
| 101 | 105 | ·0002 | ·0002 |
| | | **Female 103 Years older.** | |
| 0 | 103 | 30·3080 | 49·8113 |
| 1 | 104 | 13·2443 | 19·5033 |
| 2 | 105 | 6·2590 | 6·2590 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Female 5 Years older than Male.

### Female 102 Years older than Male.

| Ages |  | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | Female 5 Years older. |  |
| 0 | 5 | 1,741,756 | 27,925,466 |
| 1 | 6 | 1,395,602 | 26,183,710 |
| 2 | 7 | 1,254,454 | 24,788,108 |
| 3 | 8 | 1,164,024 | 23,533,654 |
| 4 | 9 | 1,094,691 | 22,369,630 |
| 5 | 10 | 1,036,959 | 21,274,939 |
| 6 | 11 | 987,264 | 20,237,980 |
| 7 | 12 | 943,058 | 19,250,716 |
| 8 | 13 | 902,572 | 18,307,658 |
| 9 | 14 | 865,180 | 17,405,086 |
| 10 | 15 | 830,186 | 16,539,906 |
| 11 | 16 | 797,032 | 15,709,720 |
| 12 | 17 | 765,284 | 14,912,688 |
| 13 | 18 | 734,606 | 14,147,404 |
| 14 | 19 | 704,750 | 13,412,798 |
| 15 | 20 | 675,548 | 12,708,048 |
| 16 | 21 | 646,892 | 12,032,500 |
| 17 | 22 | 619,027 | 11,385,608 |
| 18 | 23 | 591,893 | 10,766,581 |
| 19 | 24 | 565,458 | 10,174,688 |
| 20 | 25 | 539,711 | 9,609,230 |
| 21 | 26 | 514,656 | 9,069,519 |
| 22 | 27 | 490,577 | 8,554,863 |
| 23 | 28 | 467,451 | 8,064,286 |
| 24 | 29 | 445,251 | 7,596,835 |
| 25 | 30 | 423,950 | 7,151,584 |
| 26 | 31 | 403,521 | 6,727,634 |
| 27 | 32 | 383,934 | 6,324,113 |
| 28 | 33 | 365,161 | 5,940,179 |
| 29 | 34 | 347,172 | 5,575,018 |
| 30 | 35 | 329,937 | 5,227,846 |
| 31 | 36 | 313,429 | 4,897,909 |
| 32 | 37 | 297,618 | 4,584,480 |
| 33 | 38 | 282,476 | 4,286,862 |
| 34 | 39 | 267,976 | 4,004,386 |
| 35 | 40 | 254,093 | 3,736,410 |
| 36 | 41 | 240,799 | 3,482,317 |
| 37 | 42 | 228,071 | 3,241,518 |
| 38 | 43 | 215,884 | 3,013,447 |
| 39 | 44 | 204,217 | 2,797,563 |
| 40 | 45 | 193,047 | 2,593,346 |
| 41 | 46 | 182,355 | 2,400,299 |
| 42 | 47 | 172,119 | 2,217,944 |
| 43 | 48 | 162,323 | 2,045,825 |
| 44 | 49 | 152,948 | 1,883,502 |
| 45 | 50 | 143,979 | 1,730,554 |
| 46 | 51 | 135,399 | 1,586,575 |
| 47 | 52 | 127,194 | 1,451,176 |
| 48 | 53 | 119,350 | 1,323,982 |
| 49 | 54 | 111,855 | 1,204,632 |
| 50 | 55 | 104,537 | 1,092,777 |
| 51 | 56 | 97,490·7 | 988,240·4 |
| 52 | 57 | 90,665·4 | 890,749·7 |
| 53 | 58 | 84,107·0 | 800,084·3 |
| 54 | 59 | 77,816·3 | 715,977·3 |
| 55 | 60 | 71,791·2 | 638,161·0 |
| 56 | 61 | 66,027·6 | 566,369·8 |
| 57 | 62 | 60,520·9 | 500,342·2 |
| 58 | 63 | 55,266·3 | 439,821·3 |
| 59 | 64 | 50,259·7 | 384,555·0 |
| 60 | 65 | 45,498·0 | 334,295·3 |
| 61 | 66 | 40,979·0 | 288,797·3 |
| 62 | 67 | 36,702·4 | 247,818·3 |
| 63 | 68 | 32,668·8 | 211,115·9 |
| 64 | 69 | 28,880·3 | 178,447·1 |
| 65 | 70 | 25,339·7 | 149,566·8 |
| 66 | 71 | 22,050·1 | 124,227·1 |
| 67 | 72 | 19,014·6 | 102,177·0 |
| 68 | 73 | 16,235·7 | 83,162·4 |
| 69 | 74 | 13,714·5 | 66,926·7 |
| 70 | 75 | 11,449·9 | 53,212·2 |
| 71 | 76 | 9,438·81 | 41,762·32 |
| 72 | 77 | 7,674·94 | 32,323·51 |
| 73 | 78 | 6,149·03 | 24,648·57 |
| 74 | 79 | 4,848·66 | 18,499·54 |
| 75 | 80 | 3,758·46 | 13,650·88 |
| 76 | 81 | 2,860·47 | 9,892·42 |
| 77 | 82 | 2,134·77 | 7,031·95 |
| 78 | 83 | 1,560·18 | 4,897·18 |
| 79 | 84 | 1,115·09 | 3,337·00 |
| 80 | 85 | 778·293 | 2,221·912 |
| 81 | 86 | 529·703 | 1,443·619 |
| 82 | 87 | 351·009 | 913·916 |
| 83 | 88 | 226·110 | 562·907 |
| 84 | 89 | 141·362 | 336·797 |
| 85 | 90 | 85·6312 | 195·4350 |
| 86 | 91 | 50·1735 | 109·8038 |
| 87 | 92 | 28·3852 | 59·6303 |
| 88 | 93 | 15·4774 | 31·2451 |
| 89 | 94 | 8·1186 | 15·7677 |
| 90 | 95 | 4·0890 | 7·6491 |
| 91 | 96 | 1·9735 | 3·5601 |
| 92 | 97 | ·9109 | 1·5866 |
| 93 | 98 | ·4013 | ·6757 |
| 94 | 99 | ·1684 | ·2744 |
| 95 | 100 | ·0671 | ·1060 |
| 96 | 101 | ·0254 | ·0389 |
| 97 | 102 | ·0091 | ·0135 |
| 98 | 103 | ·0031 | ·0044 |
| 99 | 104 | ·0010 | ·0013 |
| 100 | 105 | ·0003 | ·0003 |

**Female 102 Years older.**

| $x$ | $y$ | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| 0 | 102 | 55·3246 | 98·4617 |
| 1 | 103 | 24·9779 | 43·1371 |
| 2 | 104 | 12·2109 | 18·1592 |
| 3 | 105 | 5·9483 | 5·9483 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Female 6 Years older than Male.

### Female 101 Years older than Male.

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| | | **Female 6 Years older.** | |
| 0 | 6 | 1,693,416 | 27,231,239 |
| 1 | 7 | 1,360,617 | 25,537,823 |
| 2 | 8 | 1,224,829 | 24,177,206 |
| 3 | 9 | 1,138,133 | 22,952,377 |
| 4 | 10 | 1,071,492 | 21,814,244 |
| 5 | 11 | 1,015,767 | 20,742,752 |
| 6 | 12 | 967,569 | 19,726,985 |
| 7 | 13 | 924,477 | 18,759,416 |
| 8 | 14 | 884,818 | 17,834,939 |
| 9 | 15 | 848,028 | 16,950,121 |
| 10 | 16 | 813,468 | 16,102,093 |
| 11 | 17 | 780,629 | 15,288,625 |
| 12 | 18 | 749,115 | 14,507,996 |
| 13 | 19 | 718,628 | 13,758,881 |
| 14 | 20 | 688,950 | 13,040,253 |
| 15 | 21 | 659,936 | 12,351,303 |
| 16 | 22 | 631,801 | 11,691,367 |
| 17 | 23 | 604,455 | 11,059,566 |
| 18 | 24 | 577,838 | 10,455,111 |
| 19 | 25 | 551,919 | 9,877,273 |
| 20 | 26 | 526,682 | 9,325,354 |
| 21 | 27 | 502,133 | 8,798,672 |
| 22 | 28 | 478,548 | 8,296,539 |
| 23 | 29 | 455,900 | 7,817,991 |
| 24 | 30 | 434,165 | 7,362,091 |
| 25 | 31 | 413,315 | 6,927,926 |
| 26 | 32 | 393,321 | 6,514,611 |
| 27 | 33 | 374,155 | 6,121,290 |
| 28 | 34 | 355,788 | 5,747,135 |
| 29 | 35 | 338,190 | 5,391,347 |
| 30 | 36 | 321,333 | 5,053,157 |
| 31 | 37 | 305,187 | 4,731,824 |
| 32 | 38 | 289,725 | 4,426,637 |
| 33 | 39 | 274,919 | 4,136,912 |
| 34 | 40 | 260,742 | 3,861,993 |
| 35 | 41 | 247,169 | 3,601,251 |
| 36 | 42 | 234,173 | 3,354,082 |
| 37 | 43 | 221,731 | 3,119,909 |
| 38 | 44 | 209,820 | 2,898,178 |
| 39 | 45 | 198,417 | 2,688,358 |
| 40 | 46 | 187,501 | 2,489,941 |
| 41 | 47 | 177,053 | 2,302,440 |
| 42 | 48 | 167,053 | 2,125,387 |
| 43 | 49 | 157,483 | 1,958,334 |
| 44 | 50 | 148,326 | 1,800,851 |
| 45 | 51 | 139,567 | 1,652,525 |
| 46 | 52 | 131,189 | 1,512,958 |
| 47 | 53 | 123,179 | 1,381,769 |
| 48 | 54 | 115,524 | 1,258,590 |
| 49 | 55 | 108,046 | 1,143,066 |
| 50 | 56 | 100,843 | 1,035,020 |
| 51 | 57 | 93,914·2 | 934,177·3 |
| 52 | 58 | 87,210·1 | 840,263·1 |
| 53 | 59 | 80,773·2 | 753,053·0 |
| 54 | 60 | 74,603·1 | 672,279·8 |

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| | | **Female 6 Years older.** | |
| 55 | 61 | 68,697·1 | 597,676·7 |
| 56 | 62 | 63,051·2 | 528,979·6 |
| 57 | 63 | 57,661·0 | 465,928·4 |
| 58 | 64 | 52,522·3 | 408,267·4 |
| 59 | 65 | 47,631·8 | 355,745·1 |
| 60 | 66 | 42,987·0 | 308,113·3 |
| 61 | 67 | 38,586·9 | 265,126·3 |
| 62 | 68 | 34,431·8 | 226,539·4 |
| 63 | 69 | 30,523·1 | 192,107·6 |
| 64 | 70 | 26,863·2 | 161,584·5 |
| 65 | 71 | 23,455·2 | 134,721·3 |
| 66 | 72 | 20,302·1 | 111,266·1 |
| 67 | 73 | 17,406·5 | 90,964·0 |
| 68 | 74 | 14,769·8 | 73,557·5 |
| 69 | 75 | 12,391·9 | 58,787·7 |
| 70 | 76 | 10,270·3 | 46,395·8 |
| 71 | 77 | 8,399·94 | 36,125·54 |
| 72 | 78 | 6,772·61 | 27,725·60 |
| 73 | 79 | 5,377·04 | 20,952·99 |
| 74 | 80 | 4,198·92 | 15,575·95 |
| 75 | 81 | 3,221·18 | 11,377·03 |
| 76 | 82 | 2,424·56 | 8,155·85 |
| 77 | 83 | 1,788·24 | 5,731·29 |
| 78 | 84 | 1,290·64 | 3,943·05 |
| 79 | 85 | 910·269 | 2,652·407 |
| 80 | 86 | 626·449 | 1,742·138 |
| 81 | 87 | 420·053 | 1,115·689 |
| 82 | 88 | 274·002 | 695·636 |
| 83 | 89 | 173·597 | 421·634 |
| 84 | 90 | 106·648 | 248·037 |
| 85 | 91 | 63·4246 | 141·3885 |
| 86 | 92 | 36·4497 | 77·9639 |
| 87 | 93 | 20·2063 | 41·5142 |
| 88 | 94 | 10·7854 | 21·3079 |
| 89 | 95 | 5·5325 | 10·5225 |
| 90 | 96 | 2·7221 | 4·9900 |
| 91 | 97 | 1·2821 | 2·2679 |
| 92 | 98 | ·5769 | ·9858 |
| 93 | 99 | ·2474 | ·4089 |
| 94 | 100 | ·1010 | ·1615 |
| 95 | 101 | ·0391 | ·0605 |
| 96 | 102 | ·0143 | ·0214 |
| 97 | 103 | ·0050 | ·0071 |
| 98 | 104 | ·0016 | ·0021 |
| 99 | 105 | ·0005 | ·0005 |
| | | **Female 101 Years older.** | |
| 0 | 101 | 97·8708 | 183·8207 |
| 1 | 102 | 45·5949 | 85·9499 |
| 2 | 103 | 23·0290 | 40·3550 |
| 3 | 104 | 11·6047 | 17·3260 |
| 4 | 105 | 5·7213 | 5·7213 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

**Female 7 Years older than Male.**

**Female 100 Years older than Male.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 7 Years older.** | |
| 0 | 7 | 1,650,965 | 26,558,455 |
| 1 | 8 | 1,328,484 | 24,907,490 |
| 2 | 9 | 1,197,585 | 23,579,006 |
| 3 | 10 | 1,114,014 | 22,381,421 |
| 4 | 11 | 1,049,595 | 21,267,407 |
| 5 | 12 | 995,504 | 20,217,812 |
| 6 | 13 | 948,505 | 19,222,308 |
| 7 | 14 | 906,292 | 18,273,803 |
| 8 | 15 | 867,277 | 17,367,511 |
| 9 | 16 | 830,951 | 16,500,234 |
| 10 | 17 | 796,726 | 15,669,283 |
| 11 | 18 | 764,136 | 14,872,557 |
| 12 | 19 | 732,823 | 14,108,421 |
| 13 | 20 | 702,517 | 13,375,598 |
| 14 | 21 | 673,029 | 12,673,081 |
| 15 | 22 | 644,541 | 12,000,052 |
| 16 | 23 | 616,928 | 11,355,511 |
| 17 | 24 | 590,102 | 10,738,583 |
| 18 | 25 | 564,002 | 10,148,481 |
| 19 | 26 | 538,595 | 9,584,479 |
| 20 | 27 | 513,867 | 9,045,884 |
| 21 | 28 | 489,820 | 8,532,017 |
| 22 | 29 | 466,723 | 8,042,197 |
| 23 | 30 | 444,549 | 7,575,474 |
| 24 | 31 | 423,273 | 7,130,925 |
| 25 | 32 | 402,867 | 6,707,652 |
| 26 | 33 | 383,303 | 6,304,785 |
| 27 | 34 | 364,551 | 5,921,482 |
| 28 | 35 | 346,583 | 5,556,931 |
| 29 | 36 | 329,370 | 5,210,348 |
| 30 | 37 | 312,883 | 4,880,978 |
| 31 | 38 | 297,094 | 4,568,095 |
| 32 | 39 | 281,974 | 4,271,001 |
| 33 | 40 | 267,498 | 3,989,027 |
| 34 | 41 | 253,637 | 3,721,529 |
| 35 | 42 | 240,367 | 3,467,892 |
| 36 | 43 | 227,664 | 3,227,525 |
| 37 | 44 | 215,502 | 2,999,861 |
| 38 | 45 | 203,860 | 2,784,359 |
| 39 | 46 | 192,717 | 2,580,499 |
| 40 | 47 | 182,050 | 2,387,782 |
| 41 | 48 | 171,842 | 2,205,732 |
| 42 | 49 | 162,072 | 2,033,890 |
| 43 | 50 | 152,724 | 1,871,818 |
| 44 | 51 | 143,781 | 1,719,094 |
| 45 | 52 | 135,227 | 1,575,313 |
| 46 | 53 | 127,048 | 1,440,086 |
| 47 | 54 | 119,231 | 1,313,038 |
| 48 | 55 | 111,590 | 1,193,807 |
| 49 | 56 | 104,228 | 1,082,217 |
| 50 | 57 | 97,143·1 | 977,988·8 |
| 51 | 58 | 90,335·1 | 880,845·7 |
| 52 | 59 | 83,753·3 | 790,510·6 |
| 53 | 60 | 77,437·9 | 706,757·3 |
| 54 | 61 | 71,387·8 | 629,319·4 |

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 7 Years older.** | |
| 55 | 62 | 65,600·3 | 557,931·6 |
| 56 | 63 | 60,071·7 | 492,331·3 |
| 57 | 64 | 54,798·1 | 432,259·6 |
| 58 | 65 | 49,776·0 | 377,461·5 |
| 59 | 66 | 45,003·0 | 327,685·5 |
| 60 | 67 | 40,477·6 | 282,682·5 |
| 61 | 68 | 36,199·7 | 242,204·9 |
| 62 | 69 | 32,170·2 | 206,005·2 |
| 63 | 70 | 28,391·2 | 173,835·0 |
| 64 | 71 | 24,865·5 | 145,443·8 |
| 65 | 72 | 21,595·9 | 120,578·3 |
| 66 | 73 | 18,585·0 | 98,982·4 |
| 67 | 74 | 15,834·8 | 80,397·4 |
| 68 | 75 | 13,345·4 | 64,562·6 |
| 69 | 76 | 11,115·2 | 51,217·2 |
| 70 | 77 | 9,139·93 | 40,101·96 |
| 71 | 78 | 7,412·38 | 30,962·03 |
| 72 | 79 | 5,922·34 | 23,549·65 |
| 73 | 80 | 4,656·49 | 17,627·31 |
| 74 | 81 | 3,598·67 | 12,970·82 |
| 75 | 82 | 2,730·29 | 9,372·15 |
| 76 | 83 | 2,030·99 | 6,641·86 |
| 77 | 84 | 1,479·31 | 4,610·87 |
| 78 | 85 | 1,053·58 | 3,131·56 |
| 79 | 86 | 732·676 | 2,077·984 |
| 80 | 87 | 496·771 | 1,345·308 |
| 81 | 88 | 327·898 | 848·537 |
| 82 | 89 | 210·366 | 520·639 |
| 83 | 90 | 130·968 | 310·273 |
| 84 | 91 | 78·9915 | 179·3049 |
| 85 | 92 | 46·0762 | 100·3134 |
| 86 | 93 | 25·9470 | 54·2372 |
| 87 | 94 | 14·0807 | 28·2902 |
| 88 | 95 | 7·3498 | 14·2095 |
| 89 | 96 | 3·6831 | 6·8597 |
| 90 | 97 | 1·7684 | 3·1766 |
| 91 | 98 | ·8119 | 1·4082 |
| 92 | 99 | ·3557 | ·5963 |
| 93 | 100 | ·1484 | ·2406 |
| 94 | 101 | ·0588 | ·0922 |
| 95 | 102 | ·0221 | ·0334 |
| 96 | 103 | ·0079 | ·0113 |
| 97 | 104 | ·0026 | ·0034 |
| 98 | 105 | ·0008 | ·0008 |
| | | **Female 100 Years older.** | |
| 0 | 100 | 167·993 | 329·274 |
| 1 | 101 | 80·6587 | 161·2805 |
| 2 | 102 | 42·0373 | 80·6218 |
| 3 | 103 | 21·8858 | 38·5845 |
| 4 | 104 | 11·1618 | 16·6987 |
| 5 | 105 | 5·5369 | 5·5369 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Female 8 Years older than Male.

### Female 99 Years older than Male.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 8 Years older.** | |
| 0 | 8 | 1,611,976 | 25,902,434 |
| 1 | 9 | 1,298,934 | 24,290,458 |
| 2 | 10 | 1,172,206 | 22,991,524 |
| 3 | 11 | 1,091,248 | 21,819,318 |
| 4 | 12 | 1,028,656 | 20,728,070 |
| 5 | 13 | 975,890 | 19,699,414 |
| 6 | 14 | 929,847 | 18,723,524 |
| 7 | 15 | 888,325 | 17,793,677 |
| 8 | 16 | 849,812 | 16,905,352 |
| 9 | 17 | 813,850 | 16,055,540 |
| 10 | 18 | 779,893 | 15,241,690 |
| 11 | 19 | 747,517 | 14,461,797 |
| 12 | 20 | 716,393 | 13,714,280 |
| 13 | 21 | 686,282 | 12,997,887 |
| 14 | 22 | 657,328 | 12,311,605 |
| 15 | 23 | 629,369 | 11,654,277 |
| 16 | 24 | 602,279 | 11,024,908 |
| 17 | 25 | 575,972 | 10,422,629 |
| 18 | 26 | 550,387 | 9,846,657 |
| 19 | 27 | 525,490 | 9,296,270 |
| 20 | 28 | 501,266 | 8,770,780 |
| 21 | 29 | 477,717 | 8,269,514 |
| 22 | 30 | 455,103 | 7,791,797 |
| 23 | 31 | 433,397 | 7,336,694 |
| 24 | 32 | 412,574 | 6,903,297 |
| 25 | 33 | 392,606 | 6,490,723 |
| 26 | 34 | 373,464 | 6,098,117 |
| 27 | 35 | 355,120 | 5,724,653 |
| 28 | 36 | 337,545 | 5,369,533 |
| 29 | 37 | 320,709 | 5,031,988 |
| 30 | 38 | 304,586 | 4,711,279 |
| 31 | 39 | 289,146 | 4,406,693 |
| 32 | 40 | 274,363 | 4,117,547 |
| 33 | 41 | 260,208 | 3,843,184 |
| 34 | 42 | 246,658 | 3,582,976 |
| 35 | 43 | 233,686 | 3,336,318 |
| 36 | 44 | 221,268 | 3,102,632 |
| 37 | 45 | 209,382 | 2,881,364 |
| 38 | 46 | 198,004 | 2,671,982 |
| 39 | 47 | 187,114 | 2,473,978 |
| 40 | 48 | 176,692 | 2,286,864 |
| 41 | 49 | 166,718 | 2,110,172 |
| 42 | 50 | 157,174 | 1,943,454 |
| 43 | 51 | 148,044 | 1,786,280 |
| 44 | 52 | 139,311 | 1,638,236 |
| 45 | 53 | 130,959 | 1,498,925 |
| 46 | 54 | 122,976 | 1,367,966 |
| 47 | 55 | 115,170 | 1,244,990 |
| 48 | 56 | 107,646 | 1,129,820 |
| 49 | 57 | 100,404 | 1,022,174 |
| 50 | 58 | 93,441·0 | 921,770·2 |
| 51 | 59 | 86,754·4 | 828,329·2 |
| 52 | 60 | 80,294·9 | 741,574·8 |
| 53 | 61 | 74,100·4 | 661,279·9 |
| 54 | 62 | 68,169·8 | 587,179·5 |

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 8 Years older.** | |
| 55 | 63 | 62,500·4 | 519,009·7 |
| 56 | 64 | 57,089·1 | 456,509·3 |
| 57 | 65 | 51,932·8 | 399,420·2 |
| 58 | 66 | 47,028·9 | 347,487·4 |
| 59 | 67 | 42,376·0 | 300,458·5 |
| 60 | 68 | 37,973·4 | 258,082·5 |
| 61 | 69 | 33,822·0 | 220,109·1 |
| 62 | 70 | 29,923·3 | 186,287·1 |
| 63 | 71 | 26,279·9 | 156,363·8 |
| 64 | 72 | 22,894·3 | 130,083·9 |
| 65 | 73 | 19,769·4 | 107,189·6 |
| 66 | 74 | 16,907·0 | 87,420·2 |
| 67 | 75 | 14,307·7 | 70,513·2 |
| 68 | 76 | 11,970·5 | 56,205·5 |
| 69 | 77 | 9,891·85 | 44,234·99 |
| 70 | 78 | 8,065·37 | 34,343·14 |
| 71 | 79 | 6,481·79 | 26,277·77 |
| 72 | 80 | 5,128·71 | 19,795·98 |
| 73 | 81 | 3,990·83 | 14,667·27 |
| 74 | 82 | 3,050·26 | 10,676·44 |
| 75 | 83 | 2,287·09 | 7,626·18 |
| 76 | 84 | 1,680·12 | 5,339·09 |
| 77 | 85 | 1,207·58 | 3,658·97 |
| 78 | 86 | 848·024 | 2,451·393 |
| 79 | 87 | 581·009 | 1,603·369 |
| 80 | 88 | 387·785 | 1,022·360 |
| 81 | 89 | 251·745 | 634·575 |
| 82 | 90 | 158·708 | 382·830 |
| 83 | 91 | 97·0041 | 224·1223 |
| 84 | 92 | 57·3852 | 127·1182 |
| 85 | 93 | 32·7998 | 69·7330 |
| 86 | 94 | 18·0811 | 36·9332 |
| 87 | 95 | 9·5954 | 18·8521 |
| 88 | 96 | 4·8928 | 9·2567 |
| 89 | 97 | 2·3927 | 4·3639 |
| 90 | 98 | 1·1198 | 1 9712 |
| 91 | 99 | ·5006 | ·8514 |
| 92 | 100 | ·2133 | ·3508 |
| 93 | 101 | ·0865 | ·1375 |
| 94 | 102 | ·0333 | ·0510 |
| 95 | 103 | ·0121 | ·0177 |
| 96 | 104 | ·0042 | ·0056 |
| 97 | 105 | ·0014 | ·0014 |

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 99 Years older.** | |
| 0 | 99 | 280·125 | 570·124 |
| 1 | 100 | 138·449 | 289·999 |
| 2 | 101 | 74·3652 | 151·5497 |
| 3 | 102 | 39·9505 | 77·1845 |
| 4 | 103 | 21·0504 | 37·2340 |
| 5 | 104 | 10·8021 | 16·1836 |
| 6 | 105 | 5·3815 | 5·3815 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Female 9 Years older than Male.
### Female 98 Years older than Male.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | Female 9 Years older. | |
| 0 | 9 | 1,576,120 | 25,260,762 |
| 1 | 10 | 1,271,408 | 23,684,642 |
| 2 | 11 | 1,148,251 | 22,413,234 |
| 3 | 12 | 1,069,478 | 21,264,983 |
| 4 | 13 | 1,008,389 | 20,195,505 |
| 5 | 14 | 956,694 | 19,187,116 |
| 6 | 15 | 911,414 | 18,230,422 |
| 7 | 16 | 870,437 | 17,319,008 |
| 8 | 17 | 832,323 | 16,448,571 |
| 9 | 18 | 796,655 | 15,616,248 |
| 10 | 19 | 762,931 | 14,819,593 |
| 11 | 20 | 730,758 | 14,056,662 |
| 12 | 21 | 699,838 | 13,325,904 |
| 13 | 22 | 670,272 | 12,626,066 |
| 14 | 23 | 641,855 | 11,955,794 |
| 15 | 24 | 614,424 | 11,313,939 |
| 16 | 25 | 587,857 | 10,699,515 |
| 17 | 26 | 562,068 | 10,111,658 |
| 18 | 27 | 536,995 | 9,549,590 |
| 19 | 28 | 512,604 | 9,012,595 |
| 20 | 29 | 488,880 | 8,499,991 |
| 21 | 30 | 465,823 | 8,011,111 |
| 22 | 31 | 443,686 | 7,545,288 |
| 23 | 32 | 422,442 | 7,101,602 |
| 24 | 33 | 402,066 | 6,679,160 |
| 25 | 34 | 382,529 | 6,277,094 |
| 26 | 35 | 363,802 | 5,894,565 |
| 27 | 36 | 345,859 | 5,530,763 |
| 28 | 37 | 328,669 | 5,184,904 |
| 29 | 38 | 312,205 | 4,856,235 |
| 30 | 39 | 296,438 | 4,544,030 |
| 31 | 40 | 281,341 | 4,247,592 |
| 32 | 41 | 266,886 | 3,966,251 |
| 33 | 42 | 253,048 | 3,699,365 |
| 34 | 43 | 239,802 | 3,446,317 |
| 35 | 44 | 227,121 | 3,206,515 |
| 36 | 45 | 214,984 | 2,979,394 |
| 37 | 46 | 203,366 | 2,764,410 |
| 38 | 47 | 192,247 | 2,561,044 |
| 39 | 48 | 181,606 | 2,368,797 |
| 40 | 49 | 171,423 | 2,187,191 |
| 41 | 50 | 161,680 | 2,015,768 |
| 42 | 51 | 152,358 | 1,854,088 |
| 43 | 52 | 143,441 | 1,701,730 |
| 44 | 53 | 134,914 | 1,558,289 |
| 45 | 54 | 126,761 | 1,423,375 |
| 46 | 55 | 118,788 | 1,296,614 |
| 47 | 56 | 111,100 | 1,177,826 |
| 48 | 57 | 103,697 | 1,066,726 |
| 49 | 58 | 96,577·5 | 963,028·7 |
| 50 | 59 | 89,737·2 | 866,451·2 |
| 51 | 60 | 83,172·1 | 776,714·0 |
| 52 | 61 | 76,834·3 | 693,541·9 |
| 53 | 62 | 70,760·1 | 616,707·6 |
| 54 | 63 | 64,948·5 | 545,947·5 |
| 55 | 64 | 59,397·2 | 480,999·0 |
| 56 | 65 | 54,104·1 | 421,601·8 |
| 57 | 66 | 49,066·7 | 367,497·7 |
| 58 | 67 | 44,283·6 | 318,431·0 |
| 59 | 68 | 39,754·4 | 274,147·4 |
| 60 | 69 | 35,479·3 | 234,393·0 |
| 61 | 70 | 31,459·8 | 198,913·7 |
| 62 | 71 | 27,698·0 | 167,453·9 |
| 63 | 72 | 24,196·6 | 139,755·9 |
| 64 | 73 | 20,958·0 | 115,559·3 |
| 65 | 74 | 17,984·4 | 94,601·3 |
| 66 | 75 | 15,276·5 | 76,616·9 |
| 67 | 76 | 12,833·7 | 61,340·4 |
| 68 | 77 | 10,653·0 | 48,506·7 |
| 69 | 78 | 8,728·89 | 37,853·68 |
| 70 | 79 | 7,052·80 | 29,124·79 |
| 71 | 80 | 5,613·19 | 22,071·99 |
| 72 | 81 | 4,395·55 | 16,458·80 |
| 73 | 82 | 3,382·66 | 12,063·25 |
| 74 | 83 | 2,555·12 | 8,680·59 |
| 75 | 84 | 1,891·98 | 6,125·47 |
| 76 | 85 | 1,371·51 | 4,233·49 |
| 77 | 86 | 971·984 | 2,861·975 |
| 78 | 87 | 672·479 | 1,889·991 |
| 79 | 88 | 453·542 | 1,217·512 |
| 80 | 89 | 297·723 | 763·970 |
| 81 | 90 | 189·926 | 466·247 |
| 82 | 91 | 117·550 | 276·321 |
| 83 | 92 | 70·4709 | 158·7711 |
| 84 | 93 | 40·8501 | 88·3002 |
| 85 | 94 | 22·8564 | 47·4501 |
| 86 | 95 | 12·3215 | 24·5937 |
| 87 | 96 | 6·3878 | 12·2722 |
| 88 | 97 | 3·1786 | 5·8844 |
| 89 | 98 | 1·5152 | 2·7058 |
| 90 | 99 | ·6905 | 1·1906 |
| 91 | 100 | ·3002 | ·5001 |
| 92 | 101 | ·1243 | ·1999 |
| 93 | 102 | ·0489 | ·0756 |
| 94 | 103 | ·0182 | ·0267 |
| 95 | 104 | ·0064 | ·0085 |
| 96 | 105 | ·0021 | ·0021 |
| | | Female 98 Years older. | |
| 0 | 98 | 454·299 | 958·021 |
| 1 | 99 | 230·861 | 503·722 |
| 2 | 100 | 127·646 | 272·861 |
| 3 | 101 | 70·6735 | 145·2151 |
| 4 | 102 | 38·4256 | 74·5416 |
| 5 | 103 | 20·3719 | 36·1160 |
| 6 | 104 | 10·4989 | 15·7441 |
| 7 | 105 | 5·2452 | 5·2452 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Female 10 Years older than Male.

### Female 97 Years older than Male.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 10 Years older.** | |
| 0 | 10 | 1,542,720 | 24,631,144 |
| 1 | 11 | 1,245,425 | 23,088,424 |
| 2 | 12 | 1,125,344 | 21,842,999 |
| 3 | 13 | 1,048,407 | 20,717,655 |
| 4 | 14 | 988,554 | 19,669,248 |
| 5 | 15 | 937,728 | 18,680,694 |
| 6 | 16 | 893,060 | 17,742,966 |
| 7 | 17 | 852,522 | 16,849,906 |
| 8 | 18 | 814,738 | 15,997,384 |
| 9 | 19 | 779,328 | 15,182,646 |
| 10 | 20 | 745,827 | 14,403,318 |
| 11 | 21 | 713,870 | 13,657,491 |
| 12 | 22 | 683,511 | 12,943,621 |
| 13 | 23 | 654,494 | 12,260,110 |
| 14 | 24 | 626,614 | 11,605,616 |
| 15 | 25 | 599,711 | 10,979,002 |
| 16 | 26 | 573,666 | 10,379,291 |
| 17 | 27 | 548,391 | 9,805,625 |
| 18 | 28 | 523,827 | 9,257,234 |
| 19 | 29 | 499,938 | 8,733,407 |
| 20 | 30 | 476,708 | 8,233,469 |
| 21 | 31 | 454,137 | 7,756,761 |
| 22 | 32 | 432,471 | 7,302,624 |
| 23 | 33 | 411,682 | 6,870,153 |
| 24 | 34 | 391,745 | 6,458,471 |
| 25 | 35 | 372,632 | 6,066,726 |
| 26 | 36 | 354,315 | 5,694,094 |
| 27 | 37 | 336,764 | 5,339,779 |
| 28 | 38 | 319,953 | 5,003,015 |
| 29 | 39 | 303,852 | 4,683,062 |
| 30 | 40 | 288,435 | 4,379,210 |
| 31 | 41 | 273,674 | 4,090,775 |
| 32 | 42 | 259,542 | 3,817,101 |
| 33 | 43 | 246,014 | 3,557,559 |
| 34 | 44 | 233,065 | 3,311,545 |
| 35 | 45 | 220,671 | 3,078,480 |
| 36 | 46 | 208,808 | 2,857,809 |
| 37 | 47 | 197,454 | 2,649,001 |
| 38 | 48 | 186,589 | 2,451,547 |
| 39 | 49 | 176,191 | 2,264,958 |
| 40 | 50 | 166,243 | 2,088,767 |
| 41 | 51 | 156,725 | 1,922,524 |
| 42 | 52 | 147,621 | 1,765,799 |
| 43 | 53 | 138,914 | 1,618,178 |
| 44 | 54 | 130,589 | 1,479,264 |
| 45 | 55 | 122,445 | 1,348,675 |
| 46 | 56 | 114,590 | 1,226,230 |
| 47 | 57 | 107,024 | 1,111,640 |
| 48 | 58 | 99,745·3 | 1,004,615·7 |
| 49 | 59 | 92,749·4 | 904,870·4 |
| 50 | 60 | 86,031·7 | 812,121·0 |
| 51 | 61 | 79,587·5 | 726,089·3 |
| 52 | 62 | 73,370·8 | 646,501·8 |
| 53 | 63 | 67,416·4 | 573,131·0 |
| 54 | 64 | 61,723·7 | 505,714·6 |
| 55 | 65 | 56,291·5 | 443,990·9 |
| 56 | 66 | 51,118·1 | 387,699·4 |
| 57 | 67 | 46,202·4 | 336,581·3 |
| 58 | 68 | 41,544·0 | 290,378·9 |
| 59 | 69 | 37,143·2 | 248,834·9 |
| 60 | 70 | 33,001·3 | 211,691·7 |
| 61 | 71 | 29,120·2 | 178,690·4 |
| 62 | 72 | 25,502·3 | 149,570·2 |
| 63 | 73 | 22,150·1 | 124,067·9 |
| 64 | 74 | 19,065·7 | 101,917·8 |
| 65 | 75 | 16,250·0 | 82,852·1 |
| 66 | 76 | 13,702·7 | 66,602·1 |
| 67 | 77 | 11,421·2 | 52,899·4 |
| 68 | 78 | 9,400·57 | 41,478·21 |
| 69 | 79 | 7,633·01 | 32,077·64 |
| 70 | 80 | 6,107·68 | 24,444·63 |
| 71 | 81 | 4,810·77 | 18,336·95 |
| 72 | 82 | 3,725·70 | 13,526·18 |
| 73 | 83 | 2,833·56 | 9,800·48 |
| 74 | 84 | 2,113·71 | 6,966·92 |
| 75 | 85 | 1,544·46 | 4,853·21 |
| 76 | 86 | 1,103·93 | 3,308·75 |
| 77 | 87 | 770·780 | 2,204·822 |
| 78 | 88 | 524·944 | 1,434·042 |
| 79 | 89 | 348·209 | 909·098 |
| 80 | 90 | 224·614 | 560·889 |
| 81 | 91 | 140·672 | 336·275 |
| 82 | 92 | 85·3972 | 195·6032 |
| 83 | 93 | 50·1653 | 110·2060 |
| 84 | 94 | 28·4663 | 60·0407 |
| 85 | 95 | 15·5757 | 31·5744 |
| 86 | 96 | 8·2026 | 15·9987 |
| 87 | 97 | 4·1498 | 7·7961 |
| 88 | 98 | 2·0129 | 3·6463 |
| 89 | 99 | ·9343 | 1·6334 |
| 90 | 100 | ·4141 | ·6991 |
| 91 | 101 | ·1749 | ·2850 |
| 92 | 102 | ·0703 | ·1101 |
| 93 | 103 | ·0268 | ·0398 |
| 94 | 104 | ·0097 | ·0130 |
| 95 | 105 | ·0033 | ·0033 |
| | | **Female 97 Years older.** | |
| 0 | 97 | 717·393 | 1,566·271 |
| 1 | 98 | 374·403 | 848·878 |
| 2 | 99 | 212·848 | 474·475 |
| 3 | 100 | 121·310 | 261·627 |
| 4 | 101 | 67·9759 | 140·3172 |
| 5 | 102 | 37·1871 | 72·3413 |
| 6 | 103 | 19·8003 | 35·1542 |
| 7 | 104 | 10·2330 | 15·3539 |
| 8 | 105 | 5·1209 | 5·1209 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Female 11 Years older than Male.

### Female 96 Years older than Male.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 11 Years older.** | |
| 0 | 11 | 1,511,193 | 24,011,816 |
| 1 | 12 | 1,220,580 | 22,500,623 |
| 2 | 13 | 1,103,172 | 21,280,043 |
| 3 | 14 | 1,027,784 | 20,176,871 |
| 4 | 15 | 968,956 | 19,149,087 |
| 5 | 16 | 918,844 | 18,180,131 |
| 6 | 17 | 874,680 | 17,261,287 |
| 7 | 18 | 834,511 | 16,386,607 |
| 8 | 19 | 797,018 | 15,552,096 |
| 9 | 20 | 761,856 | 14,755,078 |
| 10 | 21 | 728,591 | 13,993,222 |
| 11 | 22 | 697,217 | 13,264,631 |
| 12 | 23 | 667,421 | 12,567,414 |
| 13 | 24 | 638,953 | 11,899,993 |
| 14 | 25 | 611,609 | 11,261,040 |
| 15 | 26 | 585,234 | 10,649,431 |
| 16 | 27 | 559,708 | 10,064,197 |
| 17 | 28 | 534,944 | 9,504,489 |
| 18 | 29 | 510,883 | 8,969,545 |
| 19 | 30 | 487,490 | 8,458,662 |
| 20 | 31 | 464,749 | 7,971,172 |
| 21 | 32 | 442,658 | 7,506,423 |
| 22 | 33 | 421,455 | 7,063,765 |
| 23 | 34 | 401,115 | 6,642,310 |
| 24 | 35 | 381,611 | 6,241,195 |
| 25 | 36 | 362,914 | 5,859,584 |
| 26 | 37 | 344,998 | 5,496,670 |
| 27 | 38 | 327,834 | 5,151,672 |
| 28 | 39 | 311,393 | 4,823,838 |
| 29 | 40 | 295,650 | 4,512,445 |
| 30 | 41 | 280,575 | 4,216,795 |
| 31 | 42 | 266,143 | 3,936,220 |
| 32 | 43 | 252,328 | 3,670,077 |
| 33 | 44 | 239,103 | 3,417,749 |
| 34 | 45 | 226,446 | 3,178,646 |
| 35 | 46 | 214,331 | 2,952,200 |
| 36 | 47 | 202,737 | 2,737,869 |
| 37 | 48 | 191,642 | 2,535,132 |
| 38 | 49 | 181,025 | 2,343,490 |
| 39 | 50 | 170,867 | 2,162,465 |
| 40 | 51 | 161,148 | 1,991,598 |
| 41 | 52 | 151,852 | 1,830,450 |
| 42 | 53 | 142,962 | 1,678,598 |
| 43 | 54 | 134,461 | 1,535,636 |
| 44 | 55 | 126,142 | 1,401,175 |
| 45 | 56 | 118,117 | 1,275,033 |
| 46 | 57 | 110,386 | 1,156,916 |
| 47 | 58 | 102,945 | 1,046,530 |
| 48 | 59 | 95,791·6 | 943,585·1 |
| 49 | 60 | 88,919·5 | 847,793·5 |
| 50 | 61 | 82,323·9 | 758,874·0 |
| 51 | 62 | 75,999·9 | 676,550·1 |
| 52 | 63 | 69,903·7 | 600,550·2 |
| 53 | 64 | 64,069·1 | 530,646·5 |
| 54 | 65 | 58,496·3 | 466,577·4 |
| 55 | 66 | 53,184·8 | 408,081·1 |
| 56 | 67 | 48,134·1 | 354,896·3 |
| 57 | 68 | 43,344·1 | 306,762·2 |
| 58 | 69 | 38,815·3 | 263,418·1 |
| 59 | 70 | 34,549·0 | 224,602·8 |
| 60 | 71 | 30,547·1 | 190,053·8 |
| 61 | 72 | 26,811·8 | 159,506·7 |
| 62 | 73 | 23,345·5 | 132,694·9 |
| 63 | 74 | 20,150·2 | 109,349·4 |
| 64 | 75 | 17,227·0 | 89,199·2 |
| 65 | 76 | 14,575·9 | 71,972·2 |
| 66 | 77 | 12,194·5 | 57,396·3 |
| 67 | 78 | 10,078·4 | 45,201·8 |
| 68 | 79 | 8,220·37 | 35,123·36 |
| 69 | 80 | 6,610·15 | 26,902·99 |
| 70 | 81 | 5,234·57 | 20,292·84 |
| 71 | 82 | 4,077·65 | 15,058·27 |
| 72 | 83 | 3,120·92 | 10,980·62 |
| 73 | 84 | 2,344·05 | 7,859·70 |
| 74 | 85 | 1,725·46 | 5,515·65 |
| 75 | 86 | 1,243·14 | 3,790·19 |
| 76 | 87 | 875·411 | 2,547·051 |
| 77 | 88 | 601·679 | 1,671·640 |
| 78 | 89 | 403·028 | 1,069·961 |
| 79 | 90 | 262·701 | 666·933 |
| 80 | 91 | 166·365 | 404·232 |
| 81 | 92 | 102·195 | 237·867 |
| 82 | 93 | 60·7907 | 135·6718 |
| 83 | 94 | 34·9575 | 74·8811 |
| 84 | 95 | 19·3986 | 39·9236 |
| 85 | 96 | 10·3690 | 20·5250 |
| 86 | 97 | 5·3287 | 10·1560 |
| 87 | 98 | 2·6279 | 4·8273 |
| 88 | 99 | 1·2412 | 2·1994 |
| 89 | 100 | ·5603 | ·9582 |
| 90 | 101 | ·2413 | ·3979 |
| 91 | 102 | ·0989 | ·1566 |
| 92 | 103 | ·0385 | ·0577 |
| 93 | 104 | ·0142 | ·0192 |
| 94 | 105 | ·0050 | ·0050 |
| | | **Female 96 Years older.** | |
| 0 | 96 | 1,104·29 | 2,495·89 |
| 1 | 97 | 591·228 | 1,391·603 |
| 2 | 98 | 345·190 | 800·375 |
| 3 | 99 | 202·281 | 455·185 |
| 4 | 100 | 116·679 | 252·904 |
| 5 | 101 | 65·7851 | 136·2251 |
| 6 | 102 | 36·1436 | 70·4400 |
| 7 | 103 | 19·2987 | 34·2964 |
| 8 | 104 | 9·9905 | 14·9977 |
| 9 | 105 | 5·0072 | 5·0072 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

**Female 12 Years older than Male.**

**Female 95 Years older than Male.**

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 12 Years older.** | |
| 0 | 12 | 1,481,046 | 23,401,446 |
| 1 | 13 | 1,196,531 | 21,920,400 |
| 2 | 14 | 1,081,472 | 20,723,869 |
| 3 | 15 | 1,007,409 | 19,642,397 |
| 4 | 16 | 949,444 | 18,634,988 |
| 5 | 17 | 899,934 | 17,685,544 |
| 6 | 18 | 856,200 | 16,785,610 |
| 7 | 19 | 816,361 | 15,929,410 |
| 8 | 20 | 779,149 | 15,113,049 |
| 9 | 21 | 744,251 | 14,333,900 |
| 10 | 22 | 711,594 | 13,589,649 |
| 11 | 23 | 680,804 | 12,878,055 |
| 12 | 24 | 651,573 | 12,197,251 |
| 13 | 25 | 623,653 | 11,545,678 |
| 14 | 26 | 596,845 | 10,922,025 |
| 15 | 27 | 570,994 | 10,325,180 |
| 16 | 28 | 545,983 | 9,754,186 |
| 17 | 29 | 521,725 | 9,208,203 |
| 18 | 30 | 498,163 | 8,686,478 |
| 19 | 31 | 475,261 | 8,188,315 |
| 20 | 32 | 453,001 | 7,713,054 |
| 21 | 33 | 431,383 | 7,260,053 |
| 22 | 34 | 410,637 | 6,828,670 |
| 23 | 35 | 390,738 | 6,418,033 |
| 24 | 36 | 371,658 | 6,027,295 |
| 25 | 37 | 353,371 | 5,655,637 |
| 26 | 38 | 335,849 | 5,302,266 |
| 27 | 39 | 319,063 | 4,966,417 |
| 28 | 40 | 302,987 | 4,647,354 |
| 29 | 41 | 287,593 | 4,344,367 |
| 30 | 42 | 272,855 | 4,056,774 |
| 31 | 43 | 258,745 | 3,783,919 |
| 32 | 44 | 245,240 | 3,525,174 |
| 33 | 45 | 232,312 | 3,279,934 |
| 34 | 46 | 219,940 | 3,047,622 |
| 35 | 47 | 208,100 | 2,827,682 |
| 36 | 48 | 196,769 | 2,619,582 |
| 37 | 49 | 185,928 | 2,422,813 |
| 38 | 50 | 175,554 | 2,236,885 |
| 39 | 51 | 165,631 | 2,061,331 |
| 40 | 52 | 156,138 | 1,895,700 |
| 41 | 53 | 147,059 | 1,739,562 |
| 42 | 54 | 138,379 | 1,592,503 |
| 43 | 55 | 129,882 | 1,454,124 |
| 44 | 56 | 121,684 | 1,324,242 |
| 45 | 57 | 113,784 | 1,202,558 |
| 46 | 58 | 106,179 | 1,088,774 |
| 47 | 59 | 98,864·9 | 982,595·3 |
| 48 | 60 | 91,836·1 | 883,730·4 |
| 49 | 61 | 85,087·2 | 791,894·3 |
| 50 | 62 | 78,612·9 | 706,807·1 |
| 51 | 63 | 72,408·5 | 628,194·2 |
| 52 | 64 | 66,432·9 | 555,785·7 |
| 53 | 65 | 60,719·1 | 489,352·8 |
| 54 | 66 | 55,268·0 | 428,633·7 |
| 55 | 67 | 50,080·2 | 373,365·7 |
| 56 | 68 | 45,156·3 | 323,285·5 |
| 57 | 69 | 40,497·2 | 278,129·2 |
| 58 | 70 | 36,104·3 | 237,632·0 |
| 59 | 71 | 31,979·7 | 201,527·7 |
| 60 | 72 | 28,125·5 | 169,548·0 |
| 61 | 73 | 24,544·1 | 141,422·5 |
| 62 | 74 | 21,237·5 | 116,878·4 |
| 63 | 75 | 18,206·9 | 95,640·9 |
| 64 | 76 | 15,452·3 | 77,434·0 |
| 65 | 77 | 12,971·6 | 61,981·7 |
| 66 | 78 | 10,760·8 | 49,010·1 |
| 67 | 79 | 8,813·11 | 38,249·25 |
| 68 | 80 | 7,118·79 | 29,436·14 |
| 69 | 81 | 5,665·21 | 22,317·35 |
| 70 | 82 | 4,436·87 | 16,652·14 |
| 71 | 83 | 3,415·74 | 12,215·27 |
| 72 | 84 | 2,581·76 | 8,799·53 |
| 73 | 85 | 1,913·49 | 6,217·77 |
| 74 | 86 | 1,388·82 | 4,304·28 |
| 75 | 87 | 985·802 | 2,915·458 |
| 76 | 88 | 683·355 | 1,929·656 |
| 77 | 89 | 461·942 | 1,246·301 |
| 78 | 90 | 304·059 | 784·359 |
| 79 | 91 | 194·575 | 480·300 |
| 80 | 92 | 120·859 | 285·725 |
| 81 | 93 | 72·7482 | 164·8660 |
| 82 | 94 | 42·3618 | 92·1178 |
| 83 | 95 | 23·8221 | 49·7560 |
| 84 | 96 | 12·9139 | 25·9339 |
| 85 | 97 | 6·7361 | 13·0200 |
| 86 | 98 | 3·3745 | 6·2839 |
| 87 | 99 | 1·6204 | 2·9094 |
| 88 | 100 | ·7443 | 1·2890 |
| 89 | 101 | ·3264 | ·5447 |
| 90 | 102 | ·1364 | ·2183 |
| 91 | 103 | ·0542 | ·0819 |
| 92 | 104 | ·0204 | ·0277 |
| 93 | 105 | ·0073 | ·0073 |

**Female 95 Years older.**

| $x$ | $y$ | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| 0 | 95 | 1,658·81 | 3,882·20 |
| 1 | 96 | 910·084 | 2,223·393 |
| 2 | 97 | 545·097 | 1,313·309 |
| 3 | 98 | 328·054 | 768·212 |
| 4 | 99 | 194·560 | 440·158 |
| 5 | 100 | 112·919 | 245·598 |
| 6 | 101 | 63·9391 | 132·6792 |
| 7 | 102 | 35·2280 | 68·7401 |
| 8 | 103 | 18·8414 | 33·5121 |
| 9 | 104 | 9·7688 | 14·6707 |
| 10 | 105 | 4·9019 | 4·9019 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Female 13 Years older than Male.

### Female 94 Years older than Male.

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 13 Years older.** | |
| 0 | 13 | 1,451,865 | 22,799,090 |
| 1 | 14 | 1,172,995 | 21,347,225 |
| 2 | 15 | 1,060,032 | 20,174,230 |
| 3 | 16 | 987,122 | 19,114,198 |
| 4 | 17 | 929,904 | 18,127,076 |
| 5 | 18 | 880,920 | 17,197,172 |
| 6 | 19 | 837,579 | 16,316,252 |
| 7 | 20 | 798,059 | 15,478,673 |
| 8 | 21 | 761,144 | 14,680,614 |
| 9 | 22 | 726,888 | 13,919,470 |
| 10 | 23 | 694,843 | 13,192,582 |
| 11 | 24 | 664,638 | 12,497,739 |
| 12 | 25 | 635,971 | 11,833,101 |
| 13 | 26 | 608,598 | 11,197,130 |
| 14 | 27 | 582,322 | 10,588,532 |
| 15 | 28 | 556,992 | 10,006,210 |
| 16 | 29 | 532,492 | 9,449,218 |
| 17 | 30 | 508,736 | 8,916,726 |
| 18 | 31 | 485,666 | 8,407,990 |
| 19 | 32 | 463,248 | 7,922,324 |
| 20 | 33 | 441,463 | 7,459,076 |
| 21 | 34 | 420,310 | 7,017,613 |
| 22 | 35 | 400,014 | 6,597,303 |
| 23 | 36 | 380,548 | 6,197,289 |
| 24 | 37 | 361,886 | 5,816,741 |
| 25 | 38 | 344,000 | 5,454,855 |
| 26 | 39 | 326,864 | 5,110,855 |
| 27 | 40 | 310,450 | 4,783,991 |
| 28 | 41 | 294,731 | 4,473,541 |
| 29 | 42 | 279,680 | 4,178,810 |
| 30 | 43 | 265,270 | 3,899,130 |
| 31 | 44 | 251,477 | 3,633,860 |
| 32 | 45 | 238,274 | 3,382,383 |
| 33 | 46 | 225,638 | 3,144,109 |
| 34 | 47 | 213,546 | 2,918,471 |
| 35 | 48 | 201,974 | 2,704,925 |
| 36 | 49 | 190,902 | 2,502,951 |
| 37 | 50 | 180,309 | 2,312,049 |
| 38 | 51 | 170,175 | 2,131,740 |
| 39 | 52 | 160,481 | 1,961,565 |
| 40 | 53 | 151,210 | 1,801,084 |
| 41 | 54 | 142,345 | 1,649,874 |
| 42 | 55 | 133,666 | 1,507,529 |
| 43 | 56 | 125,291 | 1,373,863 |
| 44 | 57 | 117,220 | 1,248,572 |
| 45 | 58 | 109,447 | 1,131,352 |
| 46 | 59 | 101,970 | 1,021,905 |
| 47 | 60 | 94,782·5 | 919,934·8 |
| 48 | 61 | 87,878·1 | 825,152·3 |
| 49 | 62 | 81,251·7 | 737,274·2 |
| 50 | 63 | 74,898·1 | 656,022·5 |
| 51 | 64 | 68,813·4 | 581,124·4 |
| 52 | 65 | 62,959·3 | 512,311·0 |
| 53 | 66 | 57,368·1 | 449,351·7 |
| 54 | 67 | 52,041·7 | 391,983·6 |
| 55 | 68 | 46,981·9 | 339,941·9 |
| 56 | 69 | 42,190·3 | 292,960·0 |
| 57 | 70 | 37,668·7 | 250,769·7 |
| 58 | 71 | 33,419·4 | 213,101·0 |
| 59 | 72 | 29,444·6 | 179,681·6 |
| 60 | 73 | 25,746·8 | 150,237·0 |
| 61 | 74 | 22,328·0 | 124,490·2 |
| 62 | 75 | 19,189·5 | 102,162·2 |
| 63 | 76 | 16,331·2 | 82,972·7 |
| 64 | 77 | 13,751·5 | 66,641·5 |
| 65 | 78 | 11,446·6 | 52,890·0 |
| 66 | 79 | 9,409·85 | 41,443·44 |
| 67 | 80 | 7,632·11 | 32,033·59 |
| 68 | 81 | 6,101·14 | 24,401·48 |
| 69 | 82 | 4,801·88 | 18,300·34 |
| 70 | 83 | 3,716·64 | 13,498·46 |
| 71 | 84 | 2,825·64 | 9,781·82 |
| 72 | 85 | 2,107·54 | 6,956·18 |
| 73 | 86 | 1,540·17 | 4,848·64 |
| 74 | 87 | 1,101·33 | 3,308·47 |
| 75 | 88 | 769·527 | 2,207·139 |
| 76 | 89 | 524·649 | 1,437·612 |
| 77 | 90 | 348·506 | 912·963 |
| 78 | 91 | 225·208 | 564·457 |
| 79 | 92 | 141·354 | 339·249 |
| 80 | 93 | 86·0350 | 197·8954 |
| 81 | 94 | 50·6943 | 111·8604 |
| 82 | 95 | 28·8678 | 61·1661 |
| 83 | 96 | 15·8587 | 32·2983 |
| 84 | 97 | 8·3894 | 16·4396 |
| 85 | 98 | 4·2657 | 8·0502 |
| 86 | 99 | 2·0807 | 3·7845 |
| 87 | 100 | ·9718 | 1·7038 |
| 88 | 101 | ·4336 | ·7320 |
| 89 | 102 | ·1845 | ·2984 |
| 90 | 103 | ·0747 | ·1139 |
| 91 | 104 | ·0287 | ·0392 |
| 92 | 105 | ·0105 | ·0105 |

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 94 Years older.** | |
| 0 | 94 | 2,434·20 | 5,901·47 |
| 1 | 95 | 1,367·08 | 3,467·27 |
| 2 | 96 | 839·075 | 2,100·186 |
| 3 | 97 | 518·037 | 1,261·111 |
| 4 | 98 | 315·532 | 743·074 |
| 5 | 99 | 188·290 | 427·542 |
| 6 | 100 | 109·750 | 239·252 |
| 7 | 101 | 62·3193 | 129·5018 |
| 8 | 102 | 34·3933 | 67·1825 |
| 9 | 103 | 18·4232 | 32·7892 |
| 10 | 104 | 9·5632 | 14·3660 |
| 11 | 105 | 4·8028 | 4·8028 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

**Female 14 Years older than Male.**

**Female 93 Years older than Male.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 14 Years older.** | |
| 0 | 14 | 1,423,307 | 22,204,126 |
| 1 | 15 | 1,149,741 | 20,780,819 |
| 2 | 16 | 1,038,686 | 19,631,078 |
| 3 | 17 | 966,807 | 18,592,392 |
| 4 | 18 | 910,257 | 17,625,585 |
| 5 | 19 | 861,761 | 16,715,328 |
| 6 | 20 | 818,801 | 15,853,567 |
| 7 | 21 | 779,616 | 15,034,766 |
| 8 | 22 | 743,387 | 14,255,150 |
| 9 | 23 | 709,777 | 13,511,763 |
| 10 | 24 | 678,344 | 12,801,986 |
| 11 | 25 | 648,723 | 12,123,642 |
| 12 | 26 | 620,619 | 11,474,919 |
| 13 | 27 | 593,789 | 10,854,300 |
| 14 | 28 | 568,043 | 10,260,511 |
| 15 | 29 | 543,229 | 9,692,468 |
| 16 | 30 | 519,234 | 9,149,239 |
| 17 | 31 | 495,973 | 8,630,005 |
| 18 | 32 | 473,390 | 8,134,032 |
| 19 | 33 | 451,448 | 7,660,642 |
| 20 | 34 | 430,131 | 7,209,194 |
| 21 | 35 | 409,436 | 6,779,063 |
| 22 | 36 | 389,582 | 6,369,627 |
| 23 | 37 | 370,541 | 5,980,045 |
| 24 | 38 | 352,289 | 5,609,504 |
| 25 | 39 | 334,798 | 5,257,215 |
| 26 | 40 | 318,041 | 4,922,417 |
| 27 | 41 | 301,990 | 4,604,376 |
| 28 | 42 | 286,621 | 4,302,386 |
| 29 | 43 | 271,906 | 4,015,765 |
| 30 | 44 | 257,818 | 3,743,859 |
| 31 | 45 | 244,334 | 3,486,041 |
| 32 | 46 | 231,429 | 3,241,707 |
| 33 | 47 | 219,079 | 3,010,278 |
| 34 | 48 | 207,260 | 2,791,199 |
| 35 | 49 | 195,952 | 2,583,939 |
| 36 | 50 | 185,133 | 2,387,987 |
| 37 | 51 | 174,784 | 2,202,854 |
| 38 | 52 | 164,884 | 2,028,070 |
| 39 | 53 | 155,416 | 1,863,186 |
| 40 | 54 | 146,363 | 1,707,770 |
| 41 | 55 | 137,498 | 1,561,407 |
| 42 | 56 | 128,942 | 1,423,909 |
| 43 | 57 | 120,695 | 1,294,967 |
| 44 | 58 | 112,752 | 1,174,272 |
| 45 | 59 | 105,109 | 1,061,520 |
| 46 | 60 | 97,759·7 | 956,410·9 |
| 47 | 61 | 90,697·5 | 858,651·2 |
| 48 | 62 | 83,916·8 | 767,953·7 |
| 49 | 63 | 77,412·1 | 684,036·9 |
| 50 | 64 | 71,179·3 | 606,624·8 |
| 51 | 65 | 65,215·3 | 535,445·5 |
| 52 | 66 | 59,484·6 | 470,230·2 |
| 53 | 67 | 54,019·2 | 410,745·6 |
| 54 | 68 | 48,822·1 | 356,726·4 |
| 55 | 69 | 43,896·1 | 307,904·3 |
| 56 | 70 | 39,243·6 | 264,008·2 |
| 57 | 71 | 34,867·4 | 224,764·6 |
| 58 | 72 | 30,770·1 | 189,897·2 |
| 59 | 73 | 26,954·3 | 159,127·1 |
| 60 | 74 | 23,422·1 | 132,172·8 |
| 61 | 75 | 20,174·7 | 108,750·7 |
| 62 | 76 | 17,212·5 | 88,576·0 |
| 63 | 77 | 14,533·7 | 71,363·5 |
| 64 | 78 | 12,134·8 | 56,829·8 |
| 65 | 79 | 10,009·5 | 44,695·0 |
| 66 | 80 | 8,148·88 | 34,685·51 |
| 67 | 81 | 6,541·08 | 26,536·63 |
| 68 | 82 | 5,171·38 | 19,995·55 |
| 69 | 83 | 4,022·40 | 14,824·17 |
| 70 | 84 | 3,074·57 | 10,801·77 |
| 71 | 85 | 2,306·62 | 7,727·20 |
| 72 | 86 | 1,696·36 | 5,420·58 |
| 73 | 87 | 1,221·35 | 3,724·22 |
| 74 | 88 | 859·709 | 2,502·869 |
| 75 | 89 | 590·808 | 1,643·160 |
| 76 | 90 | 395·815 | 1,052·352 |
| 77 | 91 | 258·128 | 656·537 |
| 78 | 92 | 163·608 | 398·409 |
| 79 | 93 | 100·624 | 234·801 |
| 80 | 94 | 59·9532 | 134·1768 |
| 81 | 95 | 34·5460 | 74·2236 |
| 82 | 96 | 19·2177 | 39·6776 |
| 83 | 97 | 10·3025 | 20·4599 |
| 84 | 98 | 5·3127 | 10·1574 |
| 85 | 99 | 2·6303 | 4·8447 |
| 86 | 100 | 1·2478 | 2·2144 |
| 87 | 101 | ·5661 | ·9666 |
| 88 | 102 | ·2451 | ·4005 |
| 89 | 103 | ·1011 | ·1554 |
| 90 | 104 | ·0396 | ·0543 |
| 91 | 105 | ·0147 | ·0147 |

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 93 Years older.** | |
| 0 | 93 | 3,493·17 | 8,777·30 |
| 1 | 94 | 2,006·11 | 5,284·13 |
| 2 | 95 | 1,260·41 | 3,278·02 |
| 3 | 96 | 797·420 | 2,017·610 |
| 4 | 97 | 498·264 | 1,220·190 |
| 5 | 98 | 305·363 | 721·926 |
| 6 | 99 | 183·006 | 416·563 |
| 7 | 100 | 106·970 | 233·557 |
| 8 | 101 | 60·8427 | 126·5867 |
| 9 | 102 | 33·6300 | 65·7440 |
| 10 | 103 | 18·0356 | 32·1140 |
| 11 | 104 | 9·3700 | 14·0784 |
| 12 | 105 | 4·7084 | 4·7084 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Female 15 Years older than Male.

### Female 92 Years older than Male.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | Female 15 Years older. | |
| 0 | 15 | 1,395,090 | 21,616,211 |
| 1 | 16 | 1,126,588 | 20,221,121 |
| 2 | 17 | 1,017,309 | 19,094,533 |
| 3 | 18 | 946,380 | 18,077,224 |
| 4 | 19 | 890,460 | 17,130,844 |
| 5 | 20 | 842,441 | 16,240,384 |
| 6 | 21 | 799,879 | 15,397,943 |
| 7 | 22 | 761,428 | 14,598,064 |
| 8 | 23 | 725,888 | 13,836,636 |
| 9 | 24 | 692,923 | 13,110,748 |
| 10 | 25 | 662,101 | 12,417,825 |
| 11 | 26 | 633,063 | 11,755,724 |
| 12 | 27 | 605,518 | 11,122,661 |
| 13 | 28 | 579,229 | 10,517,143 |
| 14 | 29 | 554,007 | 9,937,914 |
| 15 | 30 | 529,704 | 9,383,907 |
| 16 | 31 | 506,208 | 8,854,203 |
| 17 | 32 | 483,437 | 8,347,995 |
| 18 | 33 | 461,332 | 7,864,558 |
| 19 | 34 | 439,861 | 7,403,226 |
| 20 | 35 | 419,004 | 6,963,365 |
| 21 | 36 | 398,759 | 6,544,361 |
| 22 | 37 | 379,338 | 6,145,602 |
| 23 | 38 | 360,715 | 5,766,264 |
| 24 | 39 | 342,864 | 5,405,549 |
| 25 | 40 | 325,760 | 5,062,685 |
| 26 | 41 | 309,374 | 4,736,925 |
| 27 | 42 | 293,681 | 4,427,551 |
| 28 | 43 | 278,654 | 4,133,870 |
| 29 | 44 | 264,267 | 3,855,216 |
| 30 | 45 | 250,496 | 3,590,949 |
| 31 | 46 | 237,315 | 3,340,453 |
| 32 | 47 | 224,701 | 3,103,138 |
| 33 | 48 | 212,630 | 2,878,437 |
| 34 | 49 | 201,080 | 2,665,807 |
| 35 | 50 | 190,030 | 2,464,727 |
| 36 | 51 | 179,460 | 2,274,697 |
| 37 | 52 | 169,349 | 2,095,237 |
| 38 | 53 | 159,680 | 1,925,888 |
| 39 | 54 | 150,434 | 1,766,208 |
| 40 | 55 | 141,379 | 1,615,774 |
| 41 | 56 | 132,638 | 1,474,395 |
| 42 | 57 | 124,212 | 1,341,757 |
| 43 | 58 | 116,095 | 1,217,545 |
| 44 | 59 | 108,283 | 1,101,450 |
| 45 | 60 | 100,769 | 993,167 |
| 46 | 61 | 93,546·4 | 892,397·7 |
| 47 | 62 | 86,609·1 | 798,851·3 |
| 48 | 63 | 79,951·3 | 712,242·2 |
| 49 | 64 | 73,568·6 | 632,290·9 |
| 50 | 65 | 67,457·5 | 558,722·3 |
| 51 | 66 | 61,616·1 | 491,264·8 |
| 52 | 67 | 56,012·2 | 429,648·7 |
| 53 | 68 | 50,677·3 | 373,636·5 |
| 54 | 69 | 45,615·4 | 322,959·2 |
| 55 | 70 | 40,830·2 | 277,343·8 |
| 56 | 71 | 36,325·2 | 236,513·6 |
| 57 | 72 | 32,103·4 | 200,188·4 |
| 58 | 73 | 28,167·7 | 168,085·0 |
| 59 | 74 | 24,520·5 | 139,917·3 |
| 60 | 75 | 21,163·3 | 115,396·8 |
| 61 | 76 | 18,096·3 | 94,233·5 |
| 62 | 77 | 15,318·0 | 76,137·2 |
| 63 | 78 | 12,825·0 | 60,819·2 |
| 64 | 79 | 10,611·3 | 47,994·2 |
| 65 | 80 | 8,668·17 | 37,382·88 |
| 66 | 81 | 6,983·97 | 28,714·71 |
| 67 | 82 | 5,544·27 | 21,730·74 |
| 68 | 83 | 4,331·93 | 16,186·47 |
| 69 | 84 | 3,327·50 | 11,854·54 |
| 70 | 85 | 2,509·82 | 8,527·04 |
| 71 | 86 | 1,856·60 | 6,017·22 |
| 72 | 87 | 1,345·20 | 4,160·62 |
| 73 | 88 | 953·395 | 2,815·415 |
| 74 | 89 | 660·045 | 1,862·020 |
| 75 | 90 | 445·727 | 1,201·975 |
| 76 | 91 | 293·169 | 756·248 |
| 77 | 92 | 187·523 | 463·079 |
| 78 | 93 | 116·466 | 275·556 |
| 79 | 94 | 70·1195 | 159·0901 |
| 80 | 95 | 40·8555 | 88·9706 |
| 81 | 96 | 22·9978 | 48·1151 |
| 82 | 97 | 12·4846 | 25·1173 |
| 83 | 98 | 6·5242 | 12·6327 |
| 84 | 99 | 3·2759 | 6·1085 |
| 85 | 100 | 1·5774 | 2·8326 |
| 86 | 101 | ·7270 | 1·2552 |
| 87 | 102 | ·3200 | ·5282 |
| 88 | 103 | ·1343 | ·2082 |
| 89 | 104 | ·0536 | ·0739 |
| 90 | 105 | ·0203 | ·0203 |

**Female 92 Years older.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 0 | 92 | 4,907·11 | 12,786·05 |
| 1 | 93 | 2,878·84 | 7,878·94 |
| 2 | 94 | 1,849·58 | 5,000·10 |
| 3 | 95 | 1,197·84 | 3,150·52 |
| 4 | 96 | 766·983 | 1,952·676 |
| 5 | 97 | 482·205 | 1,185·693 |
| 6 | 98 | 296·794 | 703·488 |
| 7 | 99 | 178·370 | 406·694 |
| 8 | 100 | 104·435 | 228·324 |
| 9 | 101 | 59·4924 | 123·8890 |
| 10 | 102 | 32·9224 | 64·3966 |
| 11 | 103 | 17·6712 | 31·4742 |
| 12 | 104 | 9·1858 | 13·8030 |
| 13 | 105 | 4·6172 | 4·6172 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

**Female 16 Years older than Male.**
**Female 91 Years older than Male.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Female 16 Years older.** | |
| 0 | 16 | 1,366,997 | 21,035,266 |
| 1 | 17 | 1,103,402 | 19,668,269 |
| 2 | 18 | 995,816 | 18,564,867 |
| 3 | 19 | 925,797 | 17,569,051 |
| 4 | 20 | 870,496 | 16,643,254 |
| 5 | 21 | 822,973 | 15,772,758 |
| 6 | 22 | 781,219 | 14,949,785 |
| 7 | 23 | 743,540 | 14,168,566 |
| 8 | 24 | 708,651 | 13,425,026 |
| 9 | 25 | 676,331 | 12,716,375 |
| 10 | 26 | 646,117 | 12,040,044 |
| 11 | 27 | 617,659 | 11,393,927 |
| 12 | 28 | 590,669 | 10,776,268 |
| 13 | 29 | 564,916 | 10,185,599 |
| 14 | 30 | 540,213 | 9,620,683 |
| 15 | 31 | 516,416 | 9,080,470 |
| 16 | 32 | 493,413 | 8,564,054 |
| 17 | 33 | 471,123 | 8,070,641 |
| 18 | 34 | 449,491 | 7,599,518 |
| 19 | 35 | 428,481 | 7,150,027 |
| 20 | 36 | 408,076 | 6,721,546 |
| 21 | 37 | 388,273 | 6,313,470 |
| 22 | 38 | 369,278 | 5,925,197 |
| 23 | 39 | 351,065 | 5,555,919 |
| 24 | 40 | 333,609 | 5,204,854 |
| 25 | 41 | 316,883 | 4,871,245 |
| 26 | 42 | 300,861 | 4,554,362 |
| 27 | 43 | 285,517 | 4,253,501 |
| 28 | 44 | 270,826 | 3,967,984 |
| 29 | 45 | 256,761 | 3,697,158 |
| 30 | 46 | 243,300 | 3,440,397 |
| 31 | 47 | 230,416 | 3,197,097 |
| 32 | 48 | 218,087 | 2,966,681 |
| 33 | 49 | 206,290 | 2,748,594 |
| 34 | 50 | 195,004 | 2,542,304 |
| 35 | 51 | 184,207 | 2,347,300 |
| 36 | 52 | 173,880 | 2,163,093 |
| 37 | 53 | 164,004 | 1,989,213 |
| 38 | 54 | 154,561 | 1,825,209 |
| 39 | 55 | 145,311 | 1,670,648 |
| 40 | 56 | 136,382 | 1,525,337 |
| 41 | 57 | 127,772 | 1,388,955 |
| 42 | 58 | 119,478 | 1,261,183 |
| 43 | 59 | 111,493 | 1,141,705 |
| 44 | 60 | 103,812 | 1,030,212 |
| 45 | 61 | 96,426·0 | 926,399·6 |
| 46 | 62 | 89,329·5 | 829,973·6 |
| 47 | 63 | 82,516·4 | 740,644·1 |
| 48 | 64 | 75,981·7 | 658,127·7 |
| 49 | 65 | 69,721·8 | 582,146·0 |
| 50 | 66 | 63,734·6 | 512,424·2 |
| 51 | 67 | 58,019·3 | 448,689·6 |
| 52 | 68 | 52,547·0 | 390,670·3 |
| 53 | 69 | 47,348·7 | 338,123·3 |
| 54 | 70 | 42,429·5 | 290,774·6 |
| 55 | 71 | 37,793·8 | 248,345·1 |
| 56 | 72 | 33,445·6 | 210,551·3 |
| 57 | 73 | 29,388·2 | 177,105·7 |
| 58 | 74 | 25,624·4 | 147,717·5 |
| 59 | 75 | 22,155·8 | 122,093·1 |
| 60 | 76 | 18,983·0 | 99,937·3 |
| 61 | 77 | 16,104·5 | 80,954·3 |
| 62 | 78 | 13,517·1 | 64,849·8 |
| 63 | 79 | 11,214·9 | 51,332·7 |
| 64 | 80 | 9,189·35 | 40,117·83 |
| 65 | 81 | 7,429·03 | 30,928·48 |
| 66 | 82 | 5,919·67 | 23,499·45 |
| 67 | 83 | 4,644·29 | 17,579·78 |
| 68 | 84 | 3,583·55 | 12,935·49 |
| 69 | 85 | 2,716·30 | 9,351·94 |
| 70 | 86 | 2,020·16 | 6,635·64 |
| 71 | 87 | 1,472·28 | 4,615·48 |
| 72 | 88 | 1,050·08 | 3,143·20 |
| 73 | 89 | 731·973 | 2,093·120 |
| 74 | 90 | 497·962 | 1,361·147 |
| 75 | 91 | 330·138 | 863·185 |
| 76 | 92 | 212·979 | 533·047 |
| 77 | 93 | 133·490 | 320·068 |
| 78 | 94 | 81·1586 | 186·5778 |
| 79 | 95 | 47·7834 | 105·4192 |
| 80 | 96 | 27·1981 | 57·6358 |
| 81 | 97 | 14·9403 | 30·4377 |
| 82 | 98 | 7·9060 | 15·4974 |
| 83 | 99 | 4·0229 | 7·5914 |
| 84 | 100 | 1·9646 | 3·5685 |
| 85 | 101 | ·9190 | 1·6039 |
| 86 | 102 | ·4109 | ·6849 |
| 87 | 103 | ·1753 | ·2740 |
| 88 | 104 | ·0712 | ·0987 |
| 89 | 105 | ·0275 | ·0275 |

**Female 91 Years older.**

| x | y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 0 | 91 | 6,754·70 | 18,260·75 |
| 1 | 92 | 4,044·12 | 11,506·05 |
| 2 | 93 | 2,654·22 | 7,461·93 |
| 3 | 94 | 1,757·76 | 4,807·71 |
| 4 | 95 | 1,152·12 | 3,049·95 |
| 5 | 96 | 742·264 | 1,897·833 |
| 6 | 97 | 468·674 | 1,155·569 |
| 7 | 98 | 289·276 | 686·895 |
| 8 | 99 | 174·144 | 397·619 |
| 9 | 100 | 102·117 | 223·475 |
| 10 | 101 | 58·2406 | 121·3577 |
| 11 | 102 | 32·2572 | 63·1171 |
| 12 | 103 | 17·3239 | 30·8599 |
| 13 | 104 | 9·0079 | 13·5360 |
| 14 | 105 | 4·5281 | 4·5281 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

**Female 17 Years older than Male.**

**Female 90 Years older than Male.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 17 Years older.** | |
| 0 | 17 | 1,338,863 | 20,461,274 |
| 1 | 18 | 1,080,090 | 19,122,411 |
| 2 | 19 | 974,157 | 18,042,321 |
| 3 | 20 | 905,041 | 17,068,164 |
| 4 | 21 | 850,380 | 16,163,123 |
| 5 | 22 | 803,774 | 15,312,743 |
| 6 | 23 | 762,829 | 14,508,969 |
| 7 | 24 | 725,849 | 13,746,140 |
| 8 | 25 | 691,682 | 13,020,291 |
| 9 | 26 | 660,004 | 12,328,609 |
| 10 | 27 | 630,396 | 11,668,605 |
| 11 | 28 | 602,513 | 11,038,209 |
| 12 | 29 | 576,074 | 10,435,696 |
| 13 | 30 | 550,851 | 9,859,622 |
| 14 | 31 | 526,661 | 9,308,771 |
| 15 | 32 | 503,362 | 8,782,110 |
| 16 | 33 | 480,845 | 8,278,748 |
| 17 | 34 | 459,030 | 7,797,903 |
| 18 | 35 | 437,862 | 7,338,873 |
| 19 | 36 | 417,306 | 6,901,011 |
| 20 | 37 | 397,346 | 6,483,705 |
| 21 | 38 | 377,977 | 6,086,359 |
| 22 | 39 | 359,399 | 5,708,382 |
| 23 | 40 | 341,588 | 5,348,983 |
| 24 | 41 | 324,518 | 5,007,395 |
| 25 | 42 | 308,163 | 4,682,877 |
| 26 | 43 | 292,498 | 4,374,714 |
| 27 | 44 | 277,497 | 4,082,216 |
| 28 | 45 | 263,134 | 3,804,719 |
| 29 | 46 | 249,385 | 3,541,585 |
| 30 | 47 | 236,226 | 3,292,200 |
| 31 | 48 | 223,633 | 3,055,974 |
| 32 | 49 | 211,584 | 2,832,341 |
| 33 | 50 | 200,056 | 2,620,757 |
| 34 | 51 | 189,028 | 2,420,701 |
| 35 | 52 | 178,480 | 2,231,673 |
| 36 | 53 | 168,392 | 2,053,193 |
| 37 | 54 | 158,747 | 1,884,801 |
| 38 | 55 | 149,298 | 1,726,054 |
| 39 | 56 | 140,175 | 1,576,756 |
| 40 | 57 | 131,379 | 1,436,581 |
| 41 | 58 | 122,903 | 1,305,202 |
| 42 | 59 | 114,742 | 1,182,299 |
| 43 | 60 | 106,890 | 1,067,557 |
| 44 | 61 | 99,337·7 | 960,666·9 |
| 45 | 62 | 92,079·3 | 861,329·2 |
| 46 | 63 | 85,108·3 | 769,249·9 |
| 47 | 64 | 78,419·4 | 684,141·6 |
| 48 | 65 | 72,008·8 | 605,722·2 |
| 49 | 66 | 65,874·0 | 533,713·4 |
| 50 | 67 | 60,014·1 | 467,839·4 |
| 51 | 68 | 54,429·9 | 407,825·3 |
| 52 | 69 | 49,095·6 | 353,395·4 |
| 53 | 70 | 44,041·7 | 304,299·8 |
| 54 | 71 | 39,274·1 | 260,258·1 |
| 55 | 72 | 34,797·8 | 220,984·0 |
| 56 | 73 | 30,616·9 | 186,186·2 |
| 57 | 74 | 26,734·7 | 155,569·3 |
| 58 | 75 | 23,153·2 | 128,834·6 |
| 59 | 76 | 19,873·3 | 105,681·4 |
| 60 | 77 | 16,893·7 | 85,808·1 |
| 61 | 78 | 14,211·2 | 68,914·4 |
| 62 | 79 | 11,820·1 | 54,703·2 |
| 63 | 80 | 9,712·05 | 42,883·13 |
| 64 | 81 | 7,875·71 | 33,171·08 |
| 65 | 82 | 6,296·90 | 25,295·37 |
| 66 | 83 | 4,958·75 | 18,998·47 |
| 67 | 84 | 3,841·51 | 14,039·72 |
| 68 | 85 | 2,925·32 | 10,198·21 |
| 69 | 86 | 2,186·35 | 7,272·89 |
| 70 | 87 | 1,601·98 | 5,086·54 |
| 71 | 88 | 1,149·28 | 3,484·56 |
| 72 | 89 | 806·204 | 2,335·281 |
| 73 | 90 | 552·228 | 1,529·077 |
| 74 | 91 | 368·827 | 976·849 |
| 75 | 92 | 239·836 | 608·022 |
| 76 | 93 | 151·611 | 368·186 |
| 77 | 94 | 93·0221 | 216·5746 |
| 78 | 95 | 55·3062 | 123·5525 |
| 79 | 96 | 31·8101 | 68·2463 |
| 80 | 97 | 17·6690 | 36·4362 |
| 81 | 98 | 9·4612 | 18·7672 |
| 82 | 99 | 4·8749 | 9·3060 |
| 83 | 100 | 2·4125 | 4·4311 |
| 84 | 101 | 1·1445 | 2·0186 |
| 85 | 102 | ·5195 | ·8741 |
| 86 | 103 | ·2251 | ·3546 |
| 87 | 104 | ·0930 | ·1295 |
| 88 | 105 | ·0365 | ·0365 |

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 90 Years older.** | |
| 0 | 90 | 9,119·70 | 25,593·02 |
| 1 | 91 | 5,566·78 | 16,473·32 |
| 2 | 92 | 3,728·58 | 10,906·54 |
| 3 | 93 | 2,522·45 | 7,177·96 |
| 4 | 94 | 1,690·67 | 4,655·51 |
| 5 | 95 | 1,114·99 | 2,964·84 |
| 6 | 96 | 721·435 | 1,849·854 |
| 7 | 97 | 456·801 | 1,128·419 |
| 8 | 98 | 282·421 | 671·618 |
| 9 | 99 | 170·279 | 389·197 |
| 10 | 100 | 99·9688 | 218·9181 |
| 11 | 101 | 57·0639 | 118·9493 |
| 12 | 102 | 31·6231 | 61·8854 |
| 13 | 103 | 16·9883 | 30·2623 |
| 14 | 104 | 8·8340 | 13·2740 |
| 15 | 105 | 4·4400 | 4·4400 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Female 18 Years older than Male.

### Female 89 Years older than Male.

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | Female 18 Years older. | |
| 0 | 18 | 1,310,576 | 19,894,578 |
| 1 | 19 | 1,056,599 | 18,584,002 |
| 2 | 20 | 952,318 | 17,527,403 |
| 3 | 21 | 884,127 | 16,575,085 |
| 4 | 22 | 830,541 | 15,690,958 |
| 5 | 23 | 784,853 | 14,860,417 |
| 6 | 24 | 744,715 | 14,075,564 |
| 7 | 25 | 708,469 | 13,330,849 |
| 8 | 26 | 674,985 | 12,622,380 |
| 9 | 27 | 643,945 | 11,947,395 |
| 10 | 28 | 614,938 | 11,303,450 |
| 11 | 29 | 587,625 | 10,688,512 |
| 12 | 30 | 561,731 | 10,100,887 |
| 13 | 31 | 537,032 | 9,539,156 |
| 14 | 32 | 513,349 | 9,002,124 |
| 15 | 33 | 490,541 | 8,488,775 |
| 16 | 34 | 468,503 | 7,998,234 |
| 17 | 35 | 447,155 | 7,529,731 |
| 18 | 36 | 426,443 | 7,082,576 |
| 19 | 37 | 406,333 | 6,656,133 |
| 20 | 38 | 386,809 | 6,249,800 |
| 21 | 39 | 367,865 | 5,862,991 |
| 22 | 40 | 349,697 | 5,495,126 |
| 23 | 41 | 332,280 | 5,145,429 |
| 24 | 42 | 315,588 | 4,813,149 |
| 25 | 43 | 299,597 | 4,497,561 |
| 26 | 44 | 284,281 | 4,197,964 |
| 27 | 45 | 269,615 | 3,913,683 |
| 28 | 46 | 255,574 | 3,644,068 |
| 29 | 47 | 242,135 | 3,388,494 |
| 30 | 48 | 229,273 | 3,146,359 |
| 31 | 49 | 216,965 | 2,917,086 |
| 32 | 50 | 205,190 | 2,700,121 |
| 33 | 51 | 193,925 | 2,494,931 |
| 34 | 52 | 183,151 | 2,301,006 |
| 35 | 53 | 172,847 | 2,117,855 |
| 36 | 54 | 162,994 | 1,945,008 |
| 37 | 55 | 153,341 | 1,782,014 |
| 38 | 56 | 144,021 | 1,628,673 |
| 39 | 57 | 135,033 | 1,484,652 |
| 40 | 58 | 126,372 | 1,349,619 |
| 41 | 59 | 118,031 | 1,223,247 |
| 42 | 60 | 110,004 | 1,105,216 |
| 43 | 61 | 102,283 | 995,212 |
| 44 | 62 | 94,859·7 | 892,929·3 |
| 45 | 63 | 87,728·2 | 798,069·6 |
| 46 | 64 | 80,882·6 | 710,341·4 |
| 47 | 65 | 74,319·0 | 629,458·8 |
| 48 | 66 | 68,034·7 | 555,139·8 |
| 49 | 67 | 62,028·6 | 487,105·1 |
| 50 | 68 | 56,301·3 | 425,076·5 |
| 51 | 69 | 50,854·8 | 368,775·2 |
| 52 | 70 | 45,666·6 | 317,920·4 |
| 53 | 71 | 40,766·5 | 272,253·8 |
| 54 | 72 | 36,160·8 | 231,487·3 |
| 55 | 73 | 31,854·7 | 195,326·5 |
| 56 | 74 | 27,852·4 | 163,471·8 |
| 57 | 75 | 24,156·5 | 135,619·4 |
| 58 | 76 | 20,767·9 | 111,462·9 |
| 59 | 77 | 17,686·0 | 90,695·0 |
| 60 | 78 | 14,907·5 | 73,009·0 |
| 61 | 79 | 12,427·0 | 58,101·5 |
| 62 | 80 | 10,236·1 | 45,674·5 |
| 63 | 81 | 8,323·69 | 35,438·43 |
| 64 | 82 | 6,675·51 | 27,114·74 |
| 65 | 83 | 5,274·75 | 20,439·23 |
| 66 | 84 | 4,102·09 | 15,164·48 |
| 67 | 85 | 3,136·25 | 11,062·39 |
| 68 | 86 | 2,354·59 | 7,926·14 |
| 69 | 87 | 1,733·77 | 5,571·55 |
| 70 | 88 | 1,250·52 | 3,837·78 |
| 71 | 89 | 882·361 | 2,587·257 |
| 72 | 90 | 608·230 | 1,704·896 |
| 73 | 91 | 409·019 | 1,096·666 |
| 74 | 92 | 267·943 | 687·647 |
| 75 | 93 | 170·729 | 419·704 |
| 76 | 94 | 105·650 | 248·975 |
| 77 | 95 | 63·3906 | 143·3245 |
| 78 | 96 | 36·8181 | 79·9339 |
| 79 | 97 | 20·6652 | 43·1158 |
| 80 | 98 | 11·1892 | 22·4506 |
| 81 | 99 | 5·8338 | 11·2614 |
| 82 | 100 | 2·9235 | 5·4276 |
| 83 | 101 | 1·4055 | 2·5041 |
| 84 | 102 | ·6470 | 1·0986 |
| 85 | 103 | ·2846 | ·4516 |
| 86 | 104 | ·1194 | ·1670 |
| 87 | 105 | ·0476 | ·0476 |

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | Female 89 Years older. | |
| 0 | 89 | 12,088·1 | 35,232·5 |
| 1 | 90 | 7,515·86 | 23,144·38 |
| 2 | 91 | 5,132·43 | 15,628·52 |
| 3 | 92 | 3,543·48 | 10,496·09 |
| 4 | 93 | 2,426·17 | 6,952·61 |
| 5 | 94 | 1,636·18 | 4,526·44 |
| 6 | 95 | 1,083·70 | 2,890·26 |
| 7 | 96 | 703·159 | 1,806·561 |
| 8 | 97 | 445·977 | 1,103·402 |
| 9 | 98 | 276·153 | 657·425 |
| 10 | 99 | 166·696 | 381·272 |
| 11 | 100 | 97·9490 | 214·5763 |
| 12 | 101 | 55·9422 | 116·6273 |
| 13 | 102 | 31·0106 | 60·6851 |
| 14 | 103 | 16·6602 | 29·6745 |
| 15 | 104 | 8·6621 | 13·0143 |
| 16 | 105 | 4·3522 | 4·3522 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Female 19 Years older than Male.

### Female 88 Years older than Male.

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 19 Years older.** | |
| 0 | 19 | 1,282,072 | 19,335,487 |
| 1 | 20 | 1,032,910 | 18,053,415 |
| 2 | 21 | 930,310 | 17,020,505 |
| 3 | 22 | 863,501 | 16,090,195 |
| 4 | 23 | 810,990 | 15,226,694 |
| 5 | 24 | 766,216 | 14,415,704 |
| 6 | 25 | 726,883 | 13,649,488 |
| 7 | 26 | 691,366 | 12,922,605 |
| 8 | 27 | 658,561 | 12,231,239 |
| 9 | 28 | 628,154 | 11,572,678 |
| 10 | 29 | 599,743 | 10,944,524 |
| 11 | 30 | 572,995 | 10,344,781 |
| 12 | 31 | 547,639 | 9,771,786 |
| 13 | 32 | 523,457 | 9,224,147 |
| 14 | 33 | 500,273 | 8,700,690 |
| 15 | 34 | 477,950 | 8,200,417 |
| 16 | 35 | 456,382 | 7,722,467 |
| 17 | 36 | 435,493 | 7,266,085 |
| 18 | 37 | 415,230 | 6,830,592 |
| 19 | 38 | 395,558 | 6,415,362 |
| 20 | 39 | 376,461 | 6,019,804 |
| 21 | 40 | 357,934 | 5,643,343 |
| 22 | 41 | 340,168 | 5,285,409 |
| 23 | 42 | 323,137 | 4,945,241 |
| 24 | 43 | 306,816 | 4,622,104 |
| 25 | 44 | 291,181 | 4,315,288 |
| 26 | 45 | 276,207 | 4,024,107 |
| 27 | 46 | 261,870 | 3,747,900 |
| 28 | 47 | 248,144 | 3,486,030 |
| 29 | 48 | 235,008 | 3,237,886 |
| 30 | 49 | 222,437 | 3,002,878 |
| 31 | 50 | 210,409 | 2,780,441 |
| 32 | 51 | 198,902 | 2,570,032 |
| 33 | 52 | 187,896 | 2,371,130 |
| 34 | 53 | 177,370 | 2,183,234 |
| 35 | 54 | 167,306 | 2,005,864 |
| 36 | 55 | 157,444 | 1,838,558 |
| 37 | 56 | 147,922 | 1,681,114 |
| 38 | 57 | 138,737 | 1,533,192 |
| 39 | 58 | 129,887 | 1,394,455 |
| 40 | 59 | 121,363 | 1,264,568 |
| 41 | 60 | 113,157 | 1,143,205 |
| 42 | 61 | 105,263 | 1,030,048 |
| 43 | 62 | 97,672·1 | 924,784·7 |
| 44 | 63 | 90,377·2 | 827,112·6 |
| 45 | 64 | 83,372·4 | 736,735·4 |
| 46 | 65 | 76,653·4 | 653,363·0 |
| 47 | 66 | 70,217·4 | 576,709·6 |
| 48 | 67 | 64,063·2 | 506,492·2 |
| 49 | 68 | 58,191·1 | 442,429·0 |
| 50 | 69 | 52,603·3 | 384,237·9 |
| 51 | 70 | 47,303·0 | 331,634·6 |
| 52 | 71 | 42,270·5 | 284,331·6 |
| 53 | 72 | 37,534·8 | 242,061·1 |
| 54 | 73 | 33,102·4 | 204,526·3 |
| 55 | 74 | 28,978·5 | 171,423·9 |
| 56 | 75 | 25,166·4 | 142,445·4 |
| 57 | 76 | 21,667·8 | 117,279·0 |
| 58 | 77 | 18,482·1 | 95,611·2 |
| 59 | 78 | 15,606·7 | 77,129·1 |
| 60 | 79 | 13,035·9 | 61,522·4 |
| 61 | 80 | 10,761·7 | 48,486·5 |
| 62 | 81 | 8,772·86 | 37,724·83 |
| 63 | 82 | 7,055·22 | 28,951·97 |
| 64 | 83 | 5,591·90 | 21,896·75 |
| 65 | 84 | 4,363·50 | 16,304·85 |
| 66 | 85 | 3,348·61 | 11,941·35 |
| 67 | 86 | 2,524·37 | 8,592·74 |
| 68 | 87 | 1,867·18 | 6,068·37 |
| 69 | 88 | 1,353·40 | 4,201·19 |
| 70 | 89 | 960·093 | 2,847·792 |
| 71 | 90 | 665·686 | 1,887·699 |
| 72 | 91 | 450·499 | 1,222·013 |
| 73 | 92 | 297·142 | 771·514 |
| 74 | 93 | 190·737 | 474·372 |
| 75 | 94 | 118·972 | 283·635 |
| 76 | 95 | 71·9957 | 164·6629 |
| 77 | 96 | 42·2000 | 92·6672 |
| 78 | 97 | 23·9186 | 50·4672 |
| 79 | 98 | 13·0865 | 26·5486 |
| 80 | 99 | 6·8993 | 13·4621 |
| 81 | 100 | 3·4986 | 6·5628 |
| 82 | 101 | 1·7032 | 3·0642 |
| 83 | 102 | ·7945 | 1·3610 |
| 84 | 103 | ·3544 | ·5665 |
| 85 | 104 | ·1509 | ·2121 |
| 86 | 105 | ·0612 | ·0612 |

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 88 Years older.** | |
| 0 | 88 | 15,744·7 | 47,683·3 |
| 1 | 89 | 9,962·21 | 31,938·63 |
| 2 | 90 | 6,929·43 | 21,976·42 |
| 3 | 91 | 4,877·64 | 15,046·99 |
| 4 | 92 | 3,408·22 | 10,169·35 |
| 5 | 93 | 2,347·98 | 6,761·13 |
| 6 | 94 | 1,590·27 | 4,413·15 |
| 7 | 95 | 1,056·25 | 2,822·88 |
| 8 | 96 | 686·498 | 1,766·633 |
| 9 | 97 | 436·079 | 1,080·135 |
| 10 | 98 | 270·343 | 644·056 |
| 11 | 99 | 163·328 | 373·713 |
| 12 | 100 | 96·0236 | 210·3852 |
| 13 | 101 | 54·8587 | 114·3616 |
| 14 | 102 | 30·4117 | 59·5029 |
| 15 | 103 | 16·3361 | 29·0912 |
| 16 | 104 | 8·4909 | 12·7551 |
| 17 | 105 | 4·2642 | 4·2642 |

## JOINT LIVES :—Male and Female Life.

**Female 20 Years older than Male.**

**Female 87 Years older than Male.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 20 Years older.** | |
| 0 | 20 | 1,253,329 | 18,784,433 |
| 1 | 21 | 1,009,041 | 17,531,104 |
| 2 | 22 | 908,607 | 16,522,063 |
| 3 | 23 | 843,174 | 15,613,456 |
| 4 | 24 | 791,733 | 14,770,282 |
| 5 | 25 | 747,869 | 13,978,549 |
| 6 | 26 | 709,335 | 13,230,680 |
| 7 | 27 | 674,544 | 12,521,345 |
| 8 | 28 | 642,412 | 11,846,801 |
| 9 | 29 | 612,633 | 11,204,389 |
| 10 | 30 | 584,810 | 10,591,756 |
| 11 | 31 | 558,620 | 10,006,946 |
| 12 | 32 | 533,797 | 9,448,326 |
| 13 | 33 | 510,124 | 8,914,529 |
| 14 | 34 | 487,432 | 8,404,405 |
| 15 | 35 | 465,585 | 7,916,973 |
| 16 | 36 | 444,480 | 7,451,388 |
| 17 | 37 | 424,042 | 7,006,908 |
| 18 | 38 | 404,218 | 6,582,866 |
| 19 | 39 | 384,976 | 6,178,648 |
| 20 | 40 | 366,298 | 5,793,672 |
| 21 | 41 | 348,181 | 5,427,374 |
| 22 | 42 | 330,807 | 5,079,193 |
| 23 | 43 | 314,154 | 4,748,386 |
| 24 | 44 | 298,197 | 4,434,232 |
| 25 | 45 | 282,911 | 4,136,035 |
| 26 | 46 | 268,272 | 3,853,124 |
| 27 | 47 | 254,256 | 3,584,852 |
| 28 | 48 | 240,840 | 3,330,596 |
| 29 | 49 | 228,000 | 3,089,756 |
| 30 | 50 | 215,715 | 2,861,756 |
| 31 | 51 | 203,961 | 2,646,041 |
| 32 | 52 | 192,718 | 2,442,080 |
| 33 | 53 | 181,966 | 2,249,362 |
| 34 | 54 | 171,684 | 2,067,396 |
| 35 | 55 | 161,608 | 1,895,712 |
| 36 | 56 | 151,879 | 1,734,104 |
| 37 | 57 | 142,495 | 1,582,225 |
| 38 | 58 | 133,450 | 1,439,730 |
| 39 | 59 | 124,738 | 1,306,280 |
| 40 | 60 | 116,351 | 1,181,542 |
| 41 | 61 | 108,281 | 1,065,191 |
| 42 | 62 | 100,518 | 956,910 |
| 43 | 63 | 93,056·7 | 856,391·5 |
| 44 | 64 | 85,889·9 | 763,334·8 |
| 45 | 65 | 79,013·0 | 677,444·9 |
| 46 | 66 | 72,423·0 | 598,431·9 |
| 47 | 67 | 66,118·5 | 526,008·9 |
| 48 | 68 | 60,099·9 | 459,890·4 |
| 49 | 69 | 54,369·0 | 399,790·5 |
| 50 | 70 | 48,929·4 | 345,421·5 |
| 51 | 71 | 43,785·2 | 296,492·1 |
| 52 | 72 | 38,919·6 | 252,706·9 |
| 53 | 73 | 34,360·3 | 213,787·3 |
| 54 | 74 | 30,113·5 | 179,427·0 |
| 55 | 75 | 26,183·9 | 149,313·5 |
| 56 | 76 | 22,573·7 | 123,129·6 |
| 57 | 77 | 19,283·0 | 100,555·9 |
| 58 | 78 | 16,309·2 | 81,272·9 |
| 59 | 79 | 13,647·3 | 64,963·7 |
| 60 | 80 | 11,289·0 | 51,316·4 |
| 61 | 81 | 9,223·31 | 40,027·40 |
| 62 | 82 | 7,435·95 | 30,804·09 |
| 63 | 83 | 5,909·97 | 23,368·14 |
| 64 | 84 | 4,625·86 | 17,458·17 |
| 65 | 85 | 3,562·00 | 12,832·31 |
| 66 | 86 | 2,695·30 | 9,270·31 |
| 67 | 87 | 2,001·82 | 6,575·01 |
| 68 | 88 | 1,457·54 | 4,573·19 |
| 69 | 89 | 1,039·08 | 3,115·65 |
| 70 | 90 | 724·329 | 2,076·570 |
| 71 | 91 | 493·055 | 1,352·241 |
| 72 | 92 | 327·275 | 859·186 |
| 73 | 93 | 211·523 | 531·911 |
| 74 | 94 | 132·915 | 320·388 |
| 75 | 95 | 81·0745 | 187·4732 |
| 76 | 96 | 47·9286 | 106·3987 |
| 77 | 97 | 27·4149 | 58·4701 |
| 78 | 98 | 15·1468 | 31·0552 |
| 79 | 99 | 8·0693 | 15·9084 |
| 80 | 100 | 4·1376 | 7·8391 |
| 81 | 101 | 2·0382 | 3·7015 |
| 82 | 102 | ·9628 | 1·6633 |
| 83 | 103 | ·4353 | ·7005 |
| 84 | 104 | ·1879 | ·2652 |
| 85 | 105 | ·0773 | ·0773 |
| | | **Female 87 Years older.** | |
| 0 | 87 | 20,169·8 | 63,498·5 |
| 1 | 88 | 12,975·8 | 43,328·7 |
| 2 | 89 | 9,184·91 | 30,352·93 |
| 3 | 90 | 6,585·43 | 21,168·02 |
| 4 | 91 | 4,691·46 | 14,582·59 |
| 5 | 92 | 3,298·38 | 9,891·13 |
| 6 | 93 | 2,282·09 | 6,592·75 |
| 7 | 94 | 1,549·98 | 4,310·66 |
| 8 | 95 | 1,031·22 | 2,760·68 |
| 9 | 96 | 671·262 | 1,729·455 |
| 10 | 97 | 426·904 | 1,058·193 |
| 11 | 98 | 264·881 | 631·289 |
| 12 | 99 | 160·117 | 366·408 |
| 13 | 100 | 94·1637 | 206·2910 |
| 14 | 101 | 53·7992 | 112·1273 |
| 15 | 102 | 29·8201 | 58·3281 |
| 16 | 103 | 16·0132 | 28·5080 |
| 17 | 104 | 8·3192 | 12·4948 |
| 18 | 105 | 4·1756 | 4·1756 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Female 21 Years older than Male.

### Female 86 Years older than Male.

**Female 21 Years older.**

| Ages *x* | Ages *y* | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 0 | 21 | 1,224,365 | 18,241,916 |
| 1 | 22 | 985,501 | 17,017,551 |
| 2 | 23 | 887,219 | 16,032,050 |
| 3 | 24 | 823,152 | 15,144,831 |
| 4 | 25 | 772,775 | 14,321,679 |
| 5 | 26 | 729,815 | 13,548,904 |
| 6 | 27 | 692,076 | 12,819,089 |
| 7 | 28 | 658,003 | 12,127,013 |
| 8 | 29 | 626,538 | 11,469,010 |
| 9 | 30 | 597,379 | 10,842,472 |
| 10 | 31 | 570,140 | 10,245,093 |
| 11 | 32 | 544,500 | 9,674,953 |
| 12 | 33 | 520,200 | 9,130,453 |
| 13 | 34 | 497,031 | 8,610,253 |
| 14 | 35 | 474,822 | 8,113,222 |
| 15 | 36 | 453,443 | 7,638,400 |
| 16 | 37 | 432,792 | 7,184,957 |
| 17 | 38 | 412,797 | 6,752,165 |
| 18 | 39 | 393,404 | 6,339,368 |
| 19 | 40 | 374,583 | 5,945,964 |
| 20 | 41 | 356,317 | 5,571,381 |
| 21 | 42 | 338,600 | 5,215,064 |
| 22 | 43 | 321,612 | 4,876,464 |
| 23 | 44 | 305,329 | 4,554,852 |
| 24 | 45 | 289,727 | 4,249,523 |
| 25 | 46 | 274,783 | 3,959,796 |
| 26 | 47 | 260,473 | 3,685,013 |
| 27 | 48 | 246,772 | 3,424,540 |
| 28 | 49 | 233,659 | 3,177,768 |
| 29 | 50 | 221,110 | 2,944,109 |
| 30 | 51 | 209,104 | 2,722,999 |
| 31 | 52 | 197,619 | 2,513,895 |
| 32 | 53 | 186,635 | 2,316,276 |
| 33 | 54 | 176,132 | 2,129,641 |
| 34 | 55 | 165,838 | 1,953,509 |
| 35 | 56 | 155,897 | 1,787,671 |
| 36 | 57 | 146,307 | 1,631,774 |
| 37 | 58 | 137,064 | 1,485,467 |
| 38 | 59 | 128,161 | 1,348,403 |
| 39 | 60 | 119,587 | 1,220,242 |
| 40 | 61 | 111,337 | 1,100,655 |
| 41 | 62 | 103,399 | 989,318 |
| 42 | 63 | 95,768·3 | 885,918·8 |
| 43 | 64 | 88,436·4 | 790,150·5 |
| 44 | 65 | 81,398·9 | 701,714·1 |
| 45 | 66 | 74,652·4 | 620,315·2 |
| 46 | 67 | 68,195·3 | 545,662·8 |
| 47 | 68 | 62,028·0 | 477,467·5 |
| 48 | 69 | 56,152·4 | 415,439·5 |
| 49 | 70 | 50,571·7 | 359,287·1 |
| 50 | 71 | 45,290·6 | 308,715·4 |
| 51 | 72 | 40,314·2 | 263,424·8 |
| 52 | 73 | 35,628·0 | 223,110·6 |
| 53 | 74 | 31,257·8 | 187,482·6 |
| 54 | 75 | 27,209·5 | 156,224·8 |
| 55 | 76 | 23,486·3 | 129,015·3 |
| 56 | 77 | 20,089·2 | 105,529·0 |
| 57 | 78 | 17,015·9 | 85,439·8 |
| 58 | 79 | 14,261·7 | 68,423·9 |
| 59 | 80 | 11,818·5 | 54,162·2 |
| 60 | 81 | 9,675·25 | 42,343·74 |
| 61 | 82 | 7,817·75 | 32,668·49 |
| 62 | 83 | 6,228·89 | 24,850·74 |
| 63 | 84 | 4,888·98 | 18,621·85 |
| 64 | 85 | 3,776·17 | 13,732·87 |
| 65 | 86 | 2,867·06 | 9,956·70 |
| 66 | 87 | 2,137·36 | 7,089·64 |
| 67 | 88 | 1,562·64 | 4,952·28 |
| 68 | 89 | 1,119·03 | 3,389·64 |
| 69 | 90 | 783·918 | 2,270·614 |
| 70 | 91 | 536·490 | 1,486·696 |
| 71 | 92 | 358·191 | 950·206 |
| 72 | 93 | 232·974 | 592·015 |
| 73 | 94 | 147·399 | 359·041 |
| 74 | 95 | 90·5757 | 211·6415 |
| 75 | 96 | 53·9725 | 121·0658 |
| 76 | 97 | 31·1364 | 67·0933 |
| 77 | 98 | 17·3609 | 35·9569 |
| 78 | 99 | 9·3396 | 18·5960 |
| 79 | 100 | 4·8392 | 9·2564 |
| 80 | 101 | 2·4105 | 4·4172 |
| 81 | 102 | 1·1522 | 2·0067 |
| 82 | 103 | ·5274 | ·8545 |
| 83 | 104 | ·2308 | ·3271 |
| 84 | 105 | ·0963 | ·0963 |

**Female 86 Years older.**

| Ages *x* | Ages *y* | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 0 | 86 | 25,434·9 | 83,270·1 |
| 1 | 87 | 16,622·6 | 57,835·2 |
| 2 | 88 | 11,963·3 | 41,212·6 |
| 3 | 89 | 8,728·94 | 29,249·32 |
| 4 | 90 | 6,334·07 | 20,520·38 |
| 5 | 91 | 4,540·26 | 14,186·31 |
| 6 | 92 | 3,205·82 | 9,646·05 |
| 7 | 93 | 2,224·28 | 6,440·23 |
| 8 | 94 | 1,513·26 | 4,215·95 |
| 9 | 95 | 1,008·33 | 2,702·69 |
| 10 | 96 | 657·138 | 1,694·358 |
| 11 | 97 | 418·279 | 1,037·220 |
| 12 | 98 | 259·674 | 618·941 |
| 13 | 99 | 157·016 | 359·267 |
| 14 | 100 | 92·3453 | 202·2506 |
| 15 | 101 | 52·7527 | 109·9053 |
| 16 | 102 | 29·2307 | 57·1526 |
| 17 | 103 | 15·6895 | 27·9219 |
| 18 | 104 | 8·1463 | 12·2324 |
| 19 | 105 | 4·0861 | 4·0861 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Female 22 Years older than Male.

### Female 85 Years older than Male.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 22 Years older.** | |
| 0 | 22 | 1,195,802 | 17,708,524 |
| 1 | 23 | 962,302 | 16,512,722 |
| 2 | 24 | 866,151 | 15,550,420 |
| 3 | 25 | 803,442 | 14,684,269 |
| 4 | 26 | 754,120 | 13,880,827 |
| 5 | 27 | 712,057 | 13,126,707 |
| 6 | 28 | 675,105 | 12,414,650 |
| 7 | 29 | 641,744 | 11,739,545 |
| 8 | 30 | 610,939 | 11,097,801 |
| 9 | 31 | 582,393 | 10,486,862 |
| 10 | 32 | 555,728 | 9,904,469 |
| 11 | 33 | 530,631 | 9,348,741 |
| 12 | 34 | 506,848 | 8,818,110 |
| 13 | 35 | 484,172 | 8,311,262 |
| 14 | 36 | 462,439 | 7,827,090 |
| 15 | 37 | 441,520 | 7,364,651 |
| 16 | 38 | 421,315 | 6,923,131 |
| 17 | 39 | 401,754 | 6,501,816 |
| 18 | 40 | 382,784 | 6,100,062 |
| 19 | 41 | 364,376 | 5,717,278 |
| 20 | 42 | 346,512 | 5,352,902 |
| 21 | 43 | 329,188 | 5,006,390 |
| 22 | 44 | 312,577 | 4,677,202 |
| 23 | 45 | 296,657 | 4,364,625 |
| 24 | 46 | 281,404 | 4,067,968 |
| 25 | 47 | 266,795 | 3,786,564 |
| 26 | 48 | 252,806 | 3,519,769 |
| 27 | 49 | 239,414 | 3,266,963 |
| 28 | 50 | 226,598 | 3,027,549 |
| 29 | 51 | 214,334 | 2,800,951 |
| 30 | 52 | 202,603 | 2,586,617 |
| 31 | 53 | 191,382 | 2,384,014 |
| 32 | 54 | 180,652 | 2,192,632 |
| 33 | 55 | 170,134 | 2,011,980 |
| 34 | 56 | 159,977 | 1,841,846 |
| 35 | 57 | 150,178 | 1,681,869 |
| 36 | 58 | 140,732 | 1,531,691 |
| 37 | 59 | 131,631 | 1,390,959 |
| 38 | 60 | 122,868 | 1,259,328 |
| 39 | 61 | 114,433 | 1,136,460 |
| 40 | 62 | 106,318 | 1,022,027 |
| 41 | 63 | 98,513·4 | 915,708·5 |
| 42 | 64 | 91,013·3 | 817,195·1 |
| 43 | 65 | 83,812·2 | 726,181·8 |
| 44 | 66 | 76,906·5 | 642,369·6 |
| 45 | 67 | 70,294·5 | 565,463·1 |
| 46 | 68 | 63,976·4 | 495,168·6 |
| 47 | 69 | 57,953·9 | 431,192·2 |
| 48 | 70 | 52,230·5 | 373,238·3 |
| 49 | 71 | 46,810·9 | 321,007·8 |
| 50 | 72 | 41,700·3 | 274,196·9 |
| 51 | 73 | 36,904·6 | 232,496·6 |
| 52 | 74 | 32,411·0 | 195,592·0 |
| 53 | 75 | 28,243·4 | 163,181·0 |
| 54 | 76 | 24,406·3 | 134,937·6 |
| 55 | 77 | 20,901·4 | 110,531·3 |
| 56 | 78 | 17,727·3 | 89,629·9 |
| 57 | 79 | 14,879·6 | 71,902·6 |
| 58 | 80 | 12,350·5 | 57,023·0 |
| 59 | 81 | 10,129·0 | 44,672·5 |
| 60 | 82 | 8,200·82 | 34,543·46 |
| 61 | 83 | 6,548·72 | 26,342·64 |
| 62 | 84 | 5,152·81 | 19,793·92 |
| 63 | 85 | 3,990·96 | 14,641·11 |
| 64 | 86 | 3,039·44 | 10,650·15 |
| 65 | 87 | 2,273·56 | 7,610·71 |
| 66 | 88 | 1,668·45 | 5,337·15 |
| 67 | 89 | 1,199·72 | 3,668·70 |
| 68 | 90 | 844·240 | 2,468·981 |
| 69 | 91 | 580·626 | 1,624·741 |
| 70 | 92 | 389·746 | 1,044·115 |
| 71 | 93 | 254·981 | 654·369 |
| 72 | 94 | 162·347 | 399·388 |
| 73 | 95 | 100·446 | 237·041 |
| 74 | 96 | 60·2975 | 136·5947 |
| 75 | 97 | 35·0627 | 76·2972 |
| 76 | 98 | 19·7175 | 41·2345 |
| 77 | 99 | 10·7049 | 21·5170 |
| 78 | 100 | 5·6010 | 10·8121 |
| 79 | 101 | 2·8193 | 5·2111 |
| 80 | 102 | 1·3626 | 2·3918 |
| 81 | 103 | ·6312 | 1·0292 |
| 82 | 104 | ·2797 | ·3980 |
| 83 | 105 | ·1183 | ·1183 |

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 85 Years older.** | |
| 0 | 85 | 31,600·1 | 107,619·2 |
| 1 | 86 | 20,961·8 | 76,019·1 |
| 2 | 87 | 15,325·6 | 55,057·3 |
| 3 | 88 | 11,369·4 | 39,731·7 |
| 4 | 89 | 8,395·75 | 28,362·29 |
| 5 | 90 | 6,129·93 | 19,966·54 |
| 6 | 91 | 4,412·86 | 13,836·61 |
| 7 | 92 | 3,124·61 | 9,423·75 |
| 8 | 93 | 2,171·58 | 6,299·14 |
| 9 | 94 | 1,479·67 | 4,127·56 |
| 10 | 95 | 987·117 | 2,647·891 |
| 11 | 96 | 643·861 | 1,660·774 |
| 12 | 97 | 410·056 | 1,016·913 |
| 13 | 98 | 254·644 | 606·857 |
| 14 | 99 | 153·984 | 352·213 |
| 15 | 100 | 90·5488 | 198·2294 |
| 16 | 101 | 51·7099 | 107·6806 |
| 17 | 102 | 28·6397 | 55·9707 |
| 18 | 103 | 15·3634 | 27·3310 |
| 19 | 104 | 7·9718 | 11·9676 |
| 20 | 105 | 3·9958 | 3·9958 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Female 23 Years older than Male.

### Female 84 Years older than Male.

| Ages $x$ | Ages $y$ | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| | | **Female 23 Years older.** | |
| 0 | 23 | 1,167,652 | 17,184,213 |
| 1 | 24 | 939,452 | 16,016,561 |
| 2 | 25 | 845,411 | 15,077,109 |
| 3 | 26 | 784,047 | 14,231,698 |
| 4 | 27 | 735,770 | 13,447,651 |
| 5 | 28 | 694,596 | 12,711,881 |
| 6 | 29 | 658,423 | 12,017,285 |
| 7 | 30 | 625,766 | 11,358,862 |
| 8 | 31 | 595,612 | 10,733,096 |
| 9 | 32 | 567,672 | 10,137,484 |
| 10 | 33 | 541,573 | 9,569,812 |
| 11 | 34 | 517,011 | 9,028,239 |
| 12 | 35 | 493,735 | 8,511,228 |
| 13 | 36 | 471,545 | 8,017,493 |
| 14 | 37 | 450,279 | 7,545,948 |
| 15 | 38 | 429,811 | 7,095,669 |
| 16 | 39 | 410,044 | 6,665,858 |
| 17 | 40 | 390,908 | 6,255,814 |
| 18 | 41 | 372,354 | 5,864,906 |
| 19 | 42 | 354,350 | 5,492,552 |
| 20 | 43 | 336,880 | 5,138,202 |
| 21 | 44 | 319,940 | 4,801,322 |
| 22 | 45 | 303,699 | 4,481,382 |
| 23 | 46 | 288,135 | 4,177,683 |
| 24 | 47 | 273,223 | 3,889,548 |
| 25 | 48 | 258,941 | 3,616,325 |
| 26 | 49 | 245,268 | 3,357,384 |
| 27 | 50 | 232,179 | 3,112,116 |
| 28 | 51 | 219,654 | 2,879,937 |
| 29 | 52 | 207,671 | 2,660,283 |
| 30 | 53 | 196,208 | 2,452,612 |
| 31 | 54 | 185,247 | 2,256,404 |
| 32 | 55 | 174,501 | 2,071,157 |
| 33 | 56 | 164,121 | 1,896,656 |
| 34 | 57 | 154,108 | 1,732,535 |
| 35 | 58 | 144,454 | 1,578,427 |
| 36 | 59 | 135,153 | 1,433,973 |
| 37 | 60 | 126,196 | 1,298,820 |
| 38 | 61 | 117,573 | 1,172,624 |
| 39 | 62 | 109,275 | 1,055,051 |
| 40 | 63 | 101,294 | 945,776 |
| 41 | 64 | 93,622·2 | 844,482·4 |
| 42 | 65 | 86,254·4 | 750,860·2 |
| 43 | 66 | 79,186·7 | 664,605·8 |
| 44 | 67 | 72,417·2 | 585,419·1 |
| 45 | 68 | 65,945·7 | 513,001·9 |
| 46 | 69 | 59,774·3 | 447,056·2 |
| 47 | 70 | 53,906·2 | 387,281·9 |
| 48 | 71 | 48,346·3 | 333,375·7 |
| 49 | 72 | 43,100·0 | 285,029·4 |
| 50 | 73 | 38,173·5 | 241,929·4 |
| 51 | 74 | 33,572·4 | 203,755·9 |
| 52 | 75 | 29,285·4 | 170,183·5 |
| 53 | 76 | 25,333·7 | 140,898·1 |
| 54 | 77 | 21,720·0 | 115,564·4 |
| 55 | 78 | 18,444·0 | 93,844·4 |
| 56 | 79 | 15,501·7 | 75,400·4 |
| 57 | 80 | 12,885·7 | 59,898·7 |
| 58 | 81 | 10,585·0 | 47,013·0 |
| 59 | 82 | 8,585·43 | 36,427·96 |
| 60 | 83 | 6,869·61 | 27,842·53 |
| 61 | 84 | 5,417·38 | 20,972·92 |
| 62 | 85 | 4,206·33 | 15,555·54 |
| 63 | 86 | 3,212·33 | 11,349·21 |
| 64 | 87 | 2,410·26 | 8,136·88 |
| 65 | 88 | 1,774·77 | 5,726·62 |
| 66 | 89 | 1,280·96 | 3,951·85 |
| 67 | 90 | 905·115 | 2,670·892 |
| 68 | 91 | 625·305 | 1,765·777 |
| 69 | 92 | 421·809 | 1,140·472 |
| 70 | 93 | 277·444 | 718·663 |
| 71 | 94 | 177·683 | 441·219 |
| 72 | 95 | 110·633 | 263·536 |
| 73 | 96 | 66·8684 | 152·9034 |
| 74 | 97 | 39·1718 | 86·0350 |
| 75 | 98 | 22·2040 | 46·8632 |
| 76 | 99 | 12·1580 | 24·6592 |
| 77 | 100 | 6·4198 | 12·5012 |
| 78 | 101 | 3·2631 | 6·0814 |
| 79 | 102 | 1·5937 | 2·8183 |
| 80 | 103 | ·7465 | 1·2246 |
| 81 | 104 | ·3347 | ·4781 |
| 82 | 105 | ·1434 | ·1434 |
| | | **Female 84 Years older.** | |
| 0 | 84 | 38,710·5 | 137,181·8 |
| 1 | 85 | 26,042·7 | 98,471·3 |
| 2 | 86 | 19,326·2 | 72,428·6 |
| 3 | 87 | 14,564·8 | 53,102·4 |
| 4 | 88 | 10,935·5 | 38,537·6 |
| 5 | 89 | 8,125·17 | 27,602·05 |
| 6 | 90 | 5,957·91 | 19,476·88 |
| 7 | 91 | 4,301·07 | 13,518·97 |
| 8 | 92 | 3,050·57 | 9,217·90 |
| 9 | 93 | 2,123·38 | 6,167·33 |
| 10 | 94 | 1,448·54 | 4,043·95 |
| 11 | 95 | 967·173 | 2,595·409 |
| 12 | 96 | 631·205 | 1,628·236 |
| 13 | 97 | 402·114 | 997·031 |
| 14 | 98 | 249·727 | 594·917 |
| 15 | 99 | 150·988 | 345·190 |
| 16 | 100 | 88·7590 | 194·2022 |
| 17 | 101 | 50·6644 | 105·4432 |
| 18 | 102 | 28·0445 | 54·7788 |
| 19 | 103 | 15·0343 | 26·7343 |
| 20 | 104 | 7·7955 | 11·7000 |
| 21 | 105 | 3·9045 | 3·9045 |

## JOINT LIVES:—Male and Female Life.

### Female 24 Years older than Male.

### Female 83 Years older than Male.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 24 Years older.** | |
| 0 | 24 | 1,139,926 | 16,668,943 |
| 1 | 25 | 916,957 | 15,529,017 |
| 2 | 26 | 825,002 | 14,612,060 |
| 3 | 27 | 764,969 | 13,787,058 |
| 4 | 28 | 717,728 | 13,022,089 |
| 5 | 29 | 677,433 | 12,304,361 |
| 6 | 30 | 642,030 | 11,626,928 |
| 7 | 31 | 610,067 | 10,984,898 |
| 8 | 32 | 580,557 | 10,374,831 |
| 9 | 33 | 553,213 | 9,794,274 |
| 10 | 34 | 527,672 | 9,241,061 |
| 11 | 35 | 503,635 | 8,713,389 |
| 12 | 36 | 480,859 | 8,209,754 |
| 13 | 37 | 459,146 | 7,728,895 |
| 14 | 38 | 438,338 | 7,269,749 |
| 15 | 39 | 418,313 | 6,831,411 |
| 16 | 40 | 398,975 | 6,413,098 |
| 17 | 41 | 380,256 | 6,014,123 |
| 18 | 42 | 362,108 | 5,633,867 |
| 19 | 43 | 344,500 | 5,271,759 |
| 20 | 44 | 327,416 | 4,927,259 |
| 21 | 45 | 310,853 | 4,599,843 |
| 22 | 46 | 294,975 | 4,288,990 |
| 23 | 47 | 279,758 | 3,994,015 |
| 24 | 48 | 265,181 | 3,714,257 |
| 25 | 49 | 251,221 | 3,449,076 |
| 26 | 50 | 237,856 | 3,197,855 |
| 27 | 51 | 225,064 | 2,959,999 |
| 28 | 52 | 212,825 | 2,734,935 |
| 29 | 53 | 201,116 | 2,522,110 |
| 30 | 54 | 189,919 | 2,320,994 |
| 31 | 55 | 178,939 | 2,131,075 |
| 32 | 56 | 168,333 | 1,952,136 |
| 33 | 57 | 158,100 | 1,783,803 |
| 34 | 58 | 148,235 | 1,625,703 |
| 35 | 59 | 138,728 | 1,477,468 |
| 36 | 60 | 129,573 | 1,338,740 |
| 37 | 61 | 120,757 | 1,209,167 |
| 38 | 62 | 112,273 | 1,088,410 |
| 39 | 63 | 104,111 | 976,137 |
| 40 | 64 | 96,264·5 | 872,026·3 |
| 41 | 65 | 88,726·9 | 775,761·8 |
| 42 | 66 | 81,494·1 | 687,034·9 |
| 43 | 67 | 74,564·2 | 605,540·8 |
| 44 | 68 | 67,937·0 | 530,976·6 |
| 45 | 69 | 61,614·3 | 463,039·6 |
| 46 | 70 | 55,599·5 | 401,425·3 |
| 47 | 71 | 49,897·4 | 345,825·8 |
| 48 | 72 | 44,513·8 | 295,928·4 |
| 49 | 73 | 39,454·8 | 251,414·6 |
| 50 | 74 | 34,726·7 | 211,959·8 |
| 51 | 75 | 30,334·8 | 177,233·1 |
| 52 | 76 | 26,268·3 | 146,898·3 |
| 53 | 77 | 22,545·4 | 120,630·0 |
| 54 | 78 | 19,166·5 | 98,084·6 |
| 55 | 79 | 16,128·5 | 78,918·1 |
| 56 | 80 | 13,424.4 | 62,789·6 |
| 57 | 81 | 11,043·6 | 49,365·2 |
| 58 | 82 | 8,971·92 | 38,321·60 |
| 59 | 83 | 7,191·78 | 29,349·68 |
| 60 | 84 | 5,682·83 | 22,157·90 |
| 61 | 85 | 4,422·31 | 16,475·07 |
| 62 | 86 | 3,385·68 | 12,052·76 |
| 63 | 87 | 2,547·36 | 8,667·08 |
| 64 | 88 | 1,881·48 | 6,119·72 |
| 65 | 89 | 1,362·59 | 4,238·24 |
| 66 | 90 | 966·400 | 2,875·651 |
| 67 | 91 | 670·393 | 1,909·251 |
| 68 | 92 | 454·267 | 1,238·858 |
| 69 | 93 | 300·268 | 784·591 |
| 70 | 94 | 193·336 | 484·323 |
| 71 | 95 | 121·083 | 290·987 |
| 72 | 96 | 73·6497 | 169·9040 |
| 73 | 97 | 43·4405 | 96·2543 |
| 74 | 98 | 24·8061 | 52·8138 |
| 75 | 99 | 13·6912 | 28·0077 |
| 76 | 100 | 7·2913 | 14·3165 |
| 77 | 101 | 3·7401 | 7·0252 |
| 78 | 102 | 1·8446 | 3·2851 |
| 79 | 103 | ·8731 | 1·4405 |
| 80 | 104 | ·3958 | ·5674 |
| 81 | 105 | ·1716 | ·1716 |

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Female 83 Years older.** | |
| 0 | 83 | 46,794·6 | 172,595·3 |
| 1 | 84 | 31,902·6 | 125,800·7 |
| 2 | 85 | 24,010·7 | 93,898·1 |
| 3 | 86 | 18,366·8 | 69,887·4 |
| 4 | 87 | 14,008·9 | 51,520·6 |
| 5 | 88 | 10,583·0 | 37,511·7 |
| 6 | 89 | 7,897·16 | 26,928·66 |
| 7 | 90 | 5,806·98 | 19,031·50 |
| 8 | 91 | 4,199·16 | 13,224·52 |
| 9 | 92 | 2,982·87 | 9,025·36 |
| 10 | 93 | 2,078·70 | 6,042·49 |
| 11 | 94 | 1,419·27 | 3,963·79 |
| 12 | 95 | 948·161 | 2,544·516 |
| 13 | 96 | 618·979 | 1,596·355 |
| 14 | 97 | 394·349 | 977·376 |
| 15 | 98 | 244·869 | 583·027 |
| 16 | 99 | 148·004 | 338·158 |
| 17 | 100 | 86·9645 | 190·1536 |
| 18 | 101 | 49·6115 | 103·1891 |
| 19 | 102 | 27·4437 | 53·5776 |
| 20 | 103 | 14·7017 | 26·1339 |
| 21 | 104 | 7·6175 | 11·4322 |
| 22 | 105 | 3·8147 | 3·8147 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

**Female 25 Years older than Male.**

**Female 82 Years older than Male.**

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 25 Years older.** | |
| 0 | 25 | 1,112,631 | 16,162,648 |
| 1 | 26 | 894,821 | 15,050,017 |
| 2 | 27 | 804,928 | 14,155,196 |
| 3 | 28 | 746,211 | 13,350,268 |
| 4 | 29 | 699,993 | 12,604,057 |
| 5 | 30 | 660,566 | 11,904,064 |
| 6 | 31 | 625,924 | 11,243,498 |
| 7 | 32 | 594,647 | 10,617,574 |
| 8 | 33 | 565,770 | 10,022,927 |
| 9 | 34 | 539,013 | 9,457,157 |
| 10 | 35 | 514,021 | 8,918,144 |
| 11 | 36 | 490,501 | 8,404,123 |
| 12 | 37 | 468,215 | 7,913,622 |
| 13 | 38 | 446,970 | 7,445,407 |
| 14 | 39 | 426,612 | 6,998,437 |
| 15 | 40 | 407,020 | 6,571,825 |
| 16 | 41 | 388,103 | 6,164,805 |
| 17 | 42 | 369,793 | 5,776,702 |
| 18 | 43 | 352,042 | 5,406,909 |
| 19 | 44 | 334,822 | 5,054,867 |
| 20 | 45 | 318,117 | 4,720,045 |
| 21 | 46 | 301,923 | 4,401,928 |
| 22 | 47 | 286,399 | 4,100,005 |
| 23 | 48 | 271,523 | 3,813,606 |
| 24 | 49 | 257,274 | 3,542,083 |
| 25 | 50 | 243,629 | 3,284,809 |
| 26 | 51 | 230,567 | 3,041,180 |
| 27 | 52 | 218,067 | 2,810,613 |
| 28 | 53 | 206,107 | 2,592,546 |
| 29 | 54 | 194,669 | 2,386,439 |
| 30 | 55 | 183,451 | 2,191,770 |
| 31 | 56 | 172,615 | 2,008,319 |
| 32 | 57 | 162,158 | 1,835,704 |
| 33 | 58 | 152,075 | 1,673,546 |
| 34 | 59 | 142,359 | 1,521,471 |
| 35 | 60 | 133,000 | 1,379,112 |
| 36 | 61 | 123,988 | 1,246,112 |
| 37 | 62 | 115,314 | 1,122,124 |
| 38 | 63 | 106,968 | 1,006,810 |
| 39 | 64 | 98,942·1 | 899,841·7 |
| 40 | 65 | 91,231·1 | 800,899·6 |
| 41 | 66 | 83,830·1 | 709,668·5 |
| 42 | 67 | 76,736·9 | 625,838·4 |
| 43 | 68 | 69,951·2 | 549,101·5 |
| 44 | 69 | 63,474·8 | 479,150·3 |
| 45 | 70 | 57,311·0 | 415,675·5 |
| 46 | 71 | 51,464·7 | 358,364·5 |
| 47 | 72 | 45,941·9 | 306,899·8 |
| 48 | 73 | 40,749·0 | 260,957·9 |
| 49 | 74 | 35,892·3 | 220,208·9 |
| 50 | 75 | 31,377·8 | 184,316·6 |
| 51 | 76 | 27,209·6 | 152,938·8 |
| 52 | 77 | 23,377·1 | 125,729·2 |
| 53 | 78 | 19,894·7 | 102,352·1 |
| 54 | 79 | 16,760·2 | 82,457·4 |
| 55 | 80 | 13,967·2 | 65,697·2 |
| 56 | 81 | 11,505·4 | 51,730·0 |
| 57 | 82 | 9,360·67 | 40,224·58 |
| 58 | 83 | 7,515·54 | 30,863·91 |
| 59 | 84 | 5,949·35 | 23,348·37 |
| 60 | 85 | 4,639·00 | 17,399·02 |
| 61 | 86 | 3,559·52 | 12,760·02 |
| 62 | 87 | 2,684·83 | 9,200·50 |
| 63 | 88 | 1,988·50 | 6,515·67 |
| 64 | 89 | 1,444·51 | 4,527·17 |
| 65 | 90 | 1,027·98 | 3,082·66 |
| 66 | 91 | 715·785 | 2,054·680 |
| 67 | 92 | 487·023 | 1,338·895 |
| 68 | 93 | 323·374 | 851·872 |
| 69 | 94 | 209·241 | 528·498 |
| 70 | 95 | 131·750 | 319·257 |
| 71 | 96 | 80·6069 | 187·5067 |
| 72 | 97 | 47·8459 | 106·8998 |
| 73 | 98 | 27·5093 | 59·0539 |
| 74 | 99 | 15·2956 | 31·5446 |
| 75 | 100 | 8·2107 | 16·2490 |
| 76 | 101 | 4·2478 | 8·0383 |
| 77 | 102 | 2·1142 | 3·7905 |
| 78 | 103 | 1·0105 | 1·6763 |
| 79 | 104 | ·4629 | ·6658 |
| 80 | 105 | ·2029 | ·2029 |
| | | **Female 82 Years older.** | |
| 0 | 82 | 55,862·6 | 214,484·2 |
| 1 | 83 | 38,565·0 | 158,621·6 |
| 2 | 84 | 29,413·4 | 120,056·6 |
| 3 | 85 | 22,818·7 | 90,643·2 |
| 4 | 86 | 17,665·7 | 67,824·5 |
| 5 | 87 | 13,557·4 | 50,158·8 |
| 6 | 88 | 10,286·1 | 36,601·4 |
| 7 | 89 | 7,697·11 | 26,315·27 |
| 8 | 90 | 5,669·39 | 18,618·16 |
| 9 | 91 | 4,105·96 | 12,948·77 |
| 10 | 92 | 2,920·11 | 8,842·81 |
| 11 | 93 | 2,036·71 | 5,922·70 |
| 12 | 94 | 1,391·37 | 3,885·99 |
| 13 | 95 | 929·796 | 2,494·615 |
| 14 | 96 | 607·025 | 1,564·819 |
| 15 | 97 | 386·677 | 957·794 |
| 16 | 98 | 240·029 | 571·117 |
| 17 | 99 | 145·011 | 331·088 |
| 18 | 100 | 85·1572 | 186·0769 |
| 19 | 101 | 48·5486 | 100·9197 |
| 20 | 102 | 26·8367 | 52·3711 |
| 21 | 103 | 14·3660 | 25·5344 |
| 22 | 104 | 7·4422 | 11·1684 |
| 23 | 105 | 3·7262 | 3·7262 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Female 26 Years older than Male.

### Female 81 Years older than Male.

**Female 26 Years older.**

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 0 | 26 | 1,085,771 | 15,665,249 |
| 1 | 27 | 873,048 | 14,579,478 |
| 2 | 28 | 785,190 | 13,706,430 |
| 3 | 29 | 727,772 | 12,921,240 |
| 4 | 30 | 682,565 | 12,193,468 |
| 5 | 31 | 643,995 | 11,510,903 |
| 6 | 32 | 610,102 | 10,866,908 |
| 7 | 33 | 579,501 | 10,256,806 |
| 8 | 34 | 551,248 | 9,677,305 |
| 9 | 35 | 525,068 | 9,126,057 |
| 10 | 36 | 500,615 | 8,600,989 |
| 11 | 37 | 477,603 | 8,100,374 |
| 12 | 38 | 455,798 | 7,622,771 |
| 13 | 39 | 435,012 | 7,166,973 |
| 14 | 40 | 415,095 | 6,731,961 |
| 15 | 41 | 395,929 | 6,316,866 |
| 16 | 42 | 377,424 | 5,920,937 |
| 17 | 43 | 359,513 | 5,543,513 |
| 18 | 44 | 342,153 | 5,184,000 |
| 19 | 45 | 325,312 | 4,841,847 |
| 20 | 46 | 308,978 | 4,516,535 |
| 21 | 47 | 293,145 | 4,207,557 |
| 22 | 48 | 277,969 | 3,914,412 |
| 23 | 49 | 263,427 | 3,636,443 |
| 24 | 50 | 249,499 | 3,373,016 |
| 25 | 51 | 236,163 | 3,123,517 |
| 26 | 52 | 223,398 | 2,887,354 |
| 27 | 53 | 211,184 | 2,663,956 |
| 28 | 54 | 199,500 | 2,452,772 |
| 29 | 55 | 188,040 | 2,253,272 |
| 30 | 56 | 176,967 | 2,065,232 |
| 31 | 57 | 166,282 | 1,888,265 |
| 32 | 58 | 155,978 | 1,721,983 |
| 33 | 59 | 146,047 | 1,566,005 |
| 34 | 60 | 136,481 | 1,419,958 |
| 35 | 61 | 127,268 | 1,283,477 |
| 36 | 62 | 118,399 | 1,156,209 |
| 37 | 63 | 109,865 | 1,037,810 |
| 38 | 64 | 101,657 | 927,945 |
| 39 | 65 | 93,768·6 | 826,287·6 |
| 40 | 66 | 86,196·1 | 732,519·0 |
| 41 | 67 | 78,936·5 | 646,322·9 |
| 42 | 68 | 71,989·5 | 567,386·4 |
| 43 | 69 | 65,356·7 | 495,396·9 |
| 44 | 70 | 59,041·5 | 430,040·2 |
| 45 | 71 | 53,048·9 | 370,998·7 |
| 46 | 72 | 47,385·0 | 317,949·8 |
| 47 | 73 | 42,056·3 | 270,564·8 |
| 48 | 74 | 37,069·7 | 228,508·5 |
| 49 | 75 | 32,431·0 | 191,438·8 |
| 50 | 76 | 28,145·1 | 159,007·8 |
| 51 | 77 | 24,214·8 | 130,862·7 |
| 52 | 78 | 20,628·7 | 106,647·9 |
| 53 | 79 | 17,397·0 | 86,019·2 |
| 54 | 80 | 14,514·2 | 68,622·2 |

**Female 26 Years older.**

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 55 | 81 | 11,970·5 | 54,108·0 |
| 56 | 82 | 9,752·03 | 42,137·49 |
| 57 | 83 | 7,841·19 | 32,385·46 |
| 58 | 84 | 6,217·18 | 24,544·27 |
| 59 | 85 | 4,856·56 | 18,327·09 |
| 60 | 86 | 3,733·93 | 13,470·53 |
| 61 | 87 | 2,822·68 | 9,736·60 |
| 62 | 88 | 2,095·81 | 6,913·92 |
| 63 | 89 | 1,526·68 | 4,818·11 |
| 64 | 90 | 1,089·79 | 3,291·43 |
| 65 | 91 | 761·399 | 2,201·644 |
| 66 | 92 | 519·999 | 1,440·245 |
| 67 | 93 | 346·691 | 920·246 |
| 68 | 94 | 225·342 | 573·555 |
| 69 | 95 | 142·589 | 348·213 |
| 70 | 96 | 87·7080 | 205·6240 |
| 71 | 97 | 52·3656 | 117·9160 |
| 72 | 98 | 30·2990 | 65·5504 |
| 73 | 99 | 16·9625 | 35·2514 |
| 74 | 100 | 9·1729 | 18·2889 |
| 75 | 101 | 4·7835 | 9·1160 |
| 76 | 102 | 2·4012 | 4·3325 |
| 77 | 103 | 1·1582 | 1·9313 |
| 78 | 104 | ·5358 | ·7731 |
| 79 | 105 | ·2373 | ·2373 |

**Female 81 Years older.**

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 0 | 81 | 65,906·2 | 263,445·6 |
| 1 | 82 | 46,038·3 | 197,539·4 |
| 2 | 83 | 35,556·0 | 151,501·1 |
| 3 | 84 | 27,953·3 | 115,945·1 |
| 4 | 85 | 21,947·7 | 87,991·8 |
| 5 | 86 | 17,096·4 | 66,044·1 |
| 6 | 87 | 13,176·9 | 48,947·7 |
| 7 | 88 | 10,025·5 | 35,770·8 |
| 8 | 89 | 7,514·73 | 25,745·30 |
| 9 | 90 | 5,543·56 | 18,230·57 |
| 10 | 91 | 4,019·57 | 12,687·01 |
| 11 | 92 | 2,861·11 | 8,667·44 |
| 12 | 93 | 1,996·67 | 5,806·33 |
| 13 | 94 | 1,364·42 | 3,809·66 |
| 14 | 95 | 911·840 | 2,445·240 |
| 15 | 96 | 595·217 | 1,533·400 |
| 16 | 97 | 379·034 | 938·183 |
| 17 | 98 | 235·175 | 559·149 |
| 18 | 99 | 141·998 | 323·974 |
| 19 | 100 | 83·3327 | 181·9756 |
| 20 | 101 | 47·4748 | 98·6429 |
| 21 | 102 | 26·2239 | 51·1681 |
| 22 | 103 | 14·0354 | 24·9442 |
| 23 | 104 | 7·2696 | 10·9088 |
| 24 | 105 | 3·6392 | 3·6392 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Female 27 Years older than Male.

### Female 80 Years older than Male.

**Female 27 Years older.**

| Ages $x$ | Ages $y$ | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| 0 | 27 | 1,059,352 | 15,176,679 |
| 1 | 28 | 851,639 | 14,117,327 |
| 2 | 29 | 765,788 | 13,265,688 |
| 3 | 30 | 709,652 | 12,499,900 |
| 4 | 31 | 665,442 | 11,790,248 |
| 5 | 32 | 627,717 | 11,124,806 |
| 6 | 33 | 594,562 | 10,497,089 |
| 7 | 34 | 564,626 | 9,902,527 |
| 8 | 35 | 536,986 | 9,337,901 |
| 9 | 36 | 511,375 | 8,800,915 |
| 10 | 37 | 487,452 | 8,289,540 |
| 11 | 38 | 464,938 | 7,802,088 |
| 12 | 39 | 443,605 | 7,337,150 |
| 13 | 40 | 423,269 | 6,893,545 |
| 14 | 41 | 403,784 | 6,470,276 |
| 15 | 42 | 385,034 | 6,066,492 |
| 16 | 43 | 366,932 | 5,681,458 |
| 17 | 44 | 349,414 | 5,314,526 |
| 18 | 45 | 332,435 | 4,965,112 |
| 19 | 46 | 315,967 | 4,632,677 |
| 20 | 47 | 299,995 | 4,316,710 |
| 21 | 48 | 284,517 | 4,016,715 |
| 22 | 49 | 269,681 | 3,732,198 |
| 23 | 50 | 255,466 | 3,462,517 |
| 24 | 51 | 241,853 | 3,207,051 |
| 25 | 52 | 228,820 | 2,965,198 |
| 26 | 53 | 216,347 | 2,736,378 |
| 27 | 54 | 204,414 | 2,520,031 |
| 28 | 55 | 192,706 | 2,315,617 |
| 29 | 56 | 181,394 | 2,122,911 |
| 30 | 57 | 170,475 | 1,941,517 |
| 31 | 58 | 159,945 | 1,771,042 |
| 32 | 59 | 149,795 | 1,611,097 |
| 33 | 60 | 140,017 | 1,461,302 |
| 34 | 61 | 130,599 | 1,321,285 |
| 35 | 62 | 121,531 | 1,190,686 |
| 36 | 63 | 112,804 | 1,069,155 |
| 37 | 64 | 104,410 | 956,351 |
| 38 | 65 | 96,341·2 | 851,941·2 |
| 39 | 66 | 88,593·6 | 755,600·0 |
| 40 | 67 | 81,164·4 | 667,006·4 |
| 41 | 68 | 74,053·1 | 585,842·0 |
| 42 | 69 | 67,261·1 | 511,788·9 |
| 43 | 70 | 60,792·0 | 444,527·8 |
| 44 | 71 | 54,650·8 | 383,735·8 |
| 45 | 72 | 48,843·6 | 329,085·0 |
| 46 | 73 | 43,377·3 | 280,241·4 |
| 47 | 74 | 38,259·0 | 236,864·1 |
| 48 | 75 | 33,494·8 | 198,605·1 |
| 49 | 76 | 29,089·8 | 165,110·3 |
| 50 | 77 | 25,047·4 | 136,020·5 |
| 51 | 78 | 21,367·9 | 110,973·1 |
| 52 | 79 | 18,038·9 | 89,605·2 |
| 53 | 80 | 15,065·7 | 71,566·3 |
| 54 | 81 | 12,439·4 | 56,500·6 |
| 55 | 82 | 10,146·3 | 44,061·2 |
| 56 | 83 | 8,169·02 | 33,914·87 |
| 57 | 84 | 6,486·56 | 25,745·85 |
| 58 | 85 | 5,075·19 | 19,259·29 |
| 59 | 86 | 3,909·05 | 14,184·10 |
| 60 | 87 | 2,960·99 | 10,275·05 |
| 61 | 88 | 2,203·42 | 7,314·06 |
| 62 | 89 | 1,609·06 | 5,110·64 |
| 63 | 90 | 1,151·78 | 3,501·58 |
| 64 | 91 | 807·179 | 2,349·804 |
| 65 | 92 | 553·136 | 1,542·625 |
| 66 | 93 | 370·166 | 989·489 |
| 67 | 94 | 241·591 | 619·323 |
| 68 | 95 | 153·561 | 377·732 |
| 69 | 96 | 94·9235 | 224·1707 |
| 70 | 97 | 56·9787 | 129·2472 |
| 71 | 98 | 33·1612 | 72·2685 |
| 72 | 99 | 18·6827 | 39·1073 |
| 73 | 100 | 10·1725 | 20·4246 |
| 74 | 101 | 5·3440 | 10·2521 |
| 75 | 102 | 2·7040 | 4·9081 |
| 76 | 103 | 1·3154 | 2·2041 |
| 77 | 104 | ·6141 | ·8887 |
| 78 | 105 | ·2746 | ·2746 |

**Female 80 Years older.**

| Ages $x$ | Ages $y$ | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| 0 | 80 | 76,899·1 | 320,036·1 |
| 1 | 81 | 54,315·5 | 243,137·0 |
| 2 | 82 | 42,446·1 | 188,821.5 |
| 3 | 83 | 33,790·9 | 146,375·4 |
| 4 | 84 | 26,886·3 | 112,584·5 |
| 5 | 85 | 21,240·4 | 85,698·2 |
| 6 | 86 | 16,616·6 | 64,457·8 |
| 7 | 87 | 12,843·1 | 47,841·2 |
| 8 | 88 | 9,787·94 | 34,998·14 |
| 9 | 89 | 7,347·95 | 25,210·20 |
| 10 | 90 | 5,426·92 | 17,862·25 |
| 11 | 91 | 3,938·36 | 12,435·33 |
| 12 | 92 | 2,804·87 | 8,496·97 |
| 13 | 93 | 1,958·00 | 5,692·10 |
| 14 | 94 | 1,338·07 | 3,734·10 |
| 15 | 95 | 894·102 | 2,396·027 |
| 16 | 96 | 583·451 | 1,501·925 |
| 17 | 97 | 371·371 | 918·474 |
| 18 | 98 | 230·283 | 547·103 |
| 19 | 99 | 138·956 | 316·820 |
| 20 | 100 | 81·4895 | 177·8640 |
| 21 | 101 | 46·3908 | 96·3745 |
| 22 | 102 | 25·6204 | 49·9837 |
| 23 | 103 | 13·7100 | 24·3633 |
| 24 | 104 | 7·0998 | 10·6533 |
| 25 | 105 | 3·5535 | 3·5535 |

## JOINT LIVES:—Male and Female Life.

**Female 28 Years older than Male.**

**Female 79 Years older than Male.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 28 Years older.** | |
| 0 | 28 | 1,033,375 | 14,696,846 |
| 1 | 29 | 830,596 | 13,663,471 |
| 2 | 30 | 746,722 | 12,832,875 |
| 3 | 31 | 691,850 | 12,086,153 |
| 4 | 32 | 648,621 | 11,394,303 |
| 5 | 33 | 611,728 | 10,745,682 |
| 6 | 34 | 579,301 | 10,133,954 |
| 7 | 35 | 550,019 | 9,554,653 |
| 8 | 36 | 522,982 | 9,004,634 |
| 9 | 37 | 497,928 | 8,481,652 |
| 10 | 38 | 474,525 | 7,983,724 |
| 11 | 39 | 452,500 | 7,509,199 |
| 12 | 40 | 431,629 | 7,056,699 |
| 13 | 41 | 411,735 | 6,625,070 |
| 14 | 42 | 392,673 | 6,213,335 |
| 15 | 43 | 374,331 | 5,820,662 |
| 16 | 44 | 356,624 | 5,446,331 |
| 17 | 45 | 339,490 | 5,089,707 |
| 18 | 46 | 322,885 | 4,750,217 |
| 19 | 47 | 306,781 | 4,427,332 |
| 20 | 48 | 291,165 | 4,120,551 |
| 21 | 49 | 276,033 | 3,829,386 |
| 22 | 50 | 261,531 | 3,553,353 |
| 23 | 51 | 247,638 | 3,291,822 |
| 24 | 52 | 234,334 | 3,044,184 |
| 25 | 53 | 221,598 | 2,809,850 |
| 26 | 54 | 209,412 | 2,588,252 |
| 27 | 55 | 197,453 | 2,378,840 |
| 28 | 56 | 185,896 | 2,181,387 |
| 29 | 57 | 174,739 | 1,995,491 |
| 30 | 58 | 163,978 | 1,820,752 |
| 31 | 59 | 153,605 | 1,656,774 |
| 32 | 60 | 143,610 | 1,503,169 |
| 33 | 61 | 133,982 | 1,359,559 |
| 34 | 62 | 124,711 | 1,225,577 |
| 35 | 63 | 115,788 | 1,100,866 |
| 36 | 64 | 107,203 | 985,078 |
| 37 | 65 | 98,950·4 | 877,874·8 |
| 38 | 66 | 91,024·2 | 778,924·4 |
| 39 | 67 | 83,422·0 | 687,900·2 |
| 40 | 68 | 76,143·2 | 604,478·2 |
| 41 | 69 | 69,189·1 | 528,335·0 |
| 42 | 70 | 62,563·4 | 459,145·9 |
| 43 | 71 | 56,271·1 | 396,582·5 |
| 44 | 72 | 50,318·4 | 340,311·4 |
| 45 | 73 | 44,712·6 | 289,993·0 |
| 46 | 74 | 39,460·7 | 245,280·4 |
| 47 | 75 | 34,569·4 | 205,819·7 |
| 48 | 76 | 30,044·0 | 171,250·3 |
| 49 | 77 | 25,888·1 | 141,206·3 |
| 50 | 78 | 22,102·6 | 115,318·2 |
| 51 | 79 | 18,685·3 | 93,215·6 |
| 52 | 80 | 15,621·6 | 74,530·3 |
| 53 | 81 | 12,912·1 | 58,908·7 |
| 54 | 82 | 10,543·7 | 45,996·6 |
| 55 | 83 | 8,499·29 | 35,452·92 |
| 56 | 84 | 6,757·76 | 26,953·63 |
| 57 | 85 | 5,295·10 | 20,195·87 |
| 58 | 86 | 4,085·02 | 14,900·77 |
| 59 | 87 | 3,099·86 | 10,815·75 |
| 60 | 88 | 2,311·38 | 7,715·89 |
| 61 | 89 | 1,691·68 | 5,404·51 |
| 62 | 90 | 1,213·94 | 3,712·83 |
| 63 | 91 | 853·092 | 2,498·893 |
| 64 | 92 | 586·394 | 1,645·801 |
| 65 | 93 | 393·755 | 1,059·407 |
| 66 | 94 | 257·949 | 665·652 |
| 67 | 95 | 164·634 | 407·703 |
| 68 | 96 | 102·228 | 243·069 |
| 69 | 97 | 61·6662 | 140·8413 |
| 70 | 98 | 36·0826 | 79·1751 |
| 71 | 99 | 20·4475 | 43·0925 |
| 72 | 100 | 11·2041 | 22·6450 |
| 73 | 101 | 5·9264 | 11·4409 |
| 74 | 102 | 3·0209 | 5·5145 |
| 75 | 103 | 1·4813 | 2·4936 |
| 76 | 104 | ·6975 | 1·0123 |
| 77 | 105 | ·3148 | ·3148 |

**Female 79 Years older.**

| $x$ | $y$ | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 0 | 79 | 88,798·6 | 384,761·9 |
| 1 | 80 | 63,375·2 | 295,963·3 |
| 2 | 81 | 50,077·5 | 232,588·1 |
| 3 | 82 | 40,339·0 | 182,510·6 |
| 4 | 83 | 32,501·1 | 142,171·6 |
| 5 | 84 | 26,019·8 | 109,670·5 |
| 6 | 85 | 20,644·4 | 83,650·7 |
| 7 | 86 | 16,195·7 | 63,006·3 |
| 8 | 87 | 12,538·8 | 46,810·6 |
| 9 | 88 | 9,570·70 | 34,271·76 |
| 10 | 89 | 7,193·34 | 24,701·06 |
| 11 | 90 | 5,317·28 | 17,507·72 |
| 12 | 91 | 3,860·94 | 12,190·44 |
| 13 | 92 | 2,750·54 | 8,329·50 |
| 14 | 93 | 1,920·18 | 5,578·96 |
| 15 | 94 | 1,312·04 | 3,658·78 |
| 16 | 95 | 876·429 | 2,346·743 |
| 17 | 96 | 571·655 | 1,470·314 |
| 18 | 97 | 363·653 | 898·659 |
| 19 | 98 | 225·354 | 535·006 |
| 20 | 99 | 135·882 | 309·652 |
| 21 | 100 | 79·6289 | 173·7701 |
| 22 | 101 | 45·3232 | 94·1412 |
| 23 | 102 | 25·0263 | 48·8180 |
| 24 | 103 | 13·3897 | 23·7917 |
| 25 | 104 | 6·9327 | 10·4020 |
| 26 | 105 | 3·4693 | 3·4693 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Female 29 Years older than Male.

### Female 78 Years older than Male.

| Ages x | Ages y | $D_{x,\ y}$ | $N_{x,\ y}$ |
|---|---|---|---|
| | | **Female 29 Years older.** | |
| 0 | 29 | 1,007,841 | 14,225,660 |
| 1 | 30 | 809,916 | 13,217,819 |
| 2 | 31 | 727,989 | 12,407.903 |
| 3 | 32 | 674,362 | 11,679,914 |
| 4 | 33 | 632,100 | 11,005,552 |
| 5 | 34 | 596,027 | 10,373,452 |
| 6 | 35 | 564,314 | 9,777,425 |
| 7 | 36 | 535,675 | 9,213,111 |
| 8 | 37 | 509,230 | 8,677,436 |
| 9 | 38 | 484,724 | 8,168,206 |
| 10 | 39 | 461,831 | 7,683,482 |
| 11 | 40 | 440,284 | 7,221,651 |
| 12 | 41 | 419,868 | 6,781,367 |
| 13 | 42 | 400,405 | 6,361,499 |
| 14 | 43 | 381,758 | 5,961,094 |
| 15 | 44 | 363,816 | 5,579,336 |
| 16 | 45 | 346,496 | 5,215,520 |
| 17 | 46 | 329,737 | 4,869,024 |
| 18 | 47 | 313,497 | 4,539,287 |
| 19 | 48 | 297,751 | 4,225,790 |
| 20 | 49 | 282,483 | 3,928,039 |
| 21 | 50 | 267,692 | 3,645,556 |
| 22 | 51 | 253,516 | 3,377,864 |
| 23 | 52 | 239,938 | 3,124.348 |
| 24 | 53 | 226,938 | 2,884,410 |
| 25 | 54 | 214,495 | 2,657,472 |
| 26 | 55 | 202,281 | 2,442,977 |
| 27 | 56 | 190,475 | 2,240,696 |
| 28 | 57 | 179,076 | 2,050,221 |
| 29 | 58 | 168,080 | 1,871,145 |
| 30 | 59 | 157,479 | 1,703,065 |
| 31 | 60 | 147,262 | 1,545,586 |
| 32 | 61 | 137,421 | 1,398,324 |
| 33 | 62 | 127,942 | 1,260.903 |
| 34 | 63 | 118,818 | 1,132,961 |
| 35 | 64 | 110,039 | 1,014.143 |
| 36 | 65 | 101,598 | 904,104 |
| 37 | 66 | 93,489·4 | 802,506·2 |
| 38 | 67 | 85,710·7 | 709,016·8 |
| 39 | 68 | 78,261·1 | 623,306·1 |
| 40 | 69 | 71,141·9 | 545,045·0 |
| 41 | 70 | 64,356·8 | 473,903·1 |
| 42 | 71 | 57,910·7 | 409,546·3 |
| 43 | 72 | 51,810·3 | 351,635·6 |
| 44 | 73 | 46,062·7 | 299,825·3 |
| 45 | 74 | 40,675·4 | 253,762·6 |
| 46 | 75 | 35,655·2 | 213,087·2 |
| 47 | 76 | 31,007·9 | 177,432·0 |
| 48 | 77 | 26,737·3 | 146,424·1 |
| 49 | 78 | 22,844·5 | 119,686·8 |
| 50 | 79 | 19,327·7 | 96,842·3 |
| 51 | 80 | 16,181·4 | 77,514·6 |
| 52 | 81 | 13,388·4 | 61,333·2 |
| 53 | 82 | 10,944·4 | 47,944·8 |
| 54 | 83 | 8,832·19 | 37,000·43 |
| 55 | 84 | 7,030·98 | 28,168·24 |
| 56 | 85 | 5,516·48 | 21,137·26 |
| 57 | 86 | 4,262·03 | 15,620·78 |
| 58 | 87 | 3,239·41 | 11,358·75 |
| 59 | 88 | 2,419·78 | 8,119·34 |
| 60 | 89 | 1,774·57 | 5,699·56 |
| 61 | 90 | 1,276·27 | 3,924·99 |
| 62 | 91 | 899·128 | 2,648·722 |
| 63 | 92 | 619·749 | 1,749·594 |
| 64 | 93 | 417·429 | 1,129·845 |
| 65 | 94 | 274·387 | 712·416 |
| 66 | 95 | 175·781 | 438·029 |
| 67 | 96 | 109·599 | 262·248 |
| 68 | 97 | 66·4114 | 152·6491 |
| 69 | 98 | 39·0510 | 86·2377 |
| 70 | 99 | 22·2488 | 47·1867 |
| 71 | 100 | 12·2625 | 24·9379 |
| 72 | 101 | 6·5274 | 12·6754 |
| 73 | 102 | 3·3501 | 6·1480 |
| 74 | 103 | 1·6549 | 2·7979 |
| 75 | 104 | ·7855 | 1·1430 |
| 76 | 105 | ·3575 | ·3575 |

**Female 78 Years older.**

| Ages x | Ages y | $D_{x,\ y}$ | $N_{x,\ y}$ |
|---|---|---|---|
| 0 | 78 | 101,547 | 458,067 |
| 1 | 79 | 73,181·9 | 356,519·8 |
| 2 | 80 | 58,430·3 | 283,337·9 |
| 3 | 81 | 47,591·5 | 224,907·6 |
| 4 | 82 | 38,799·2 | 177,316·1 |
| 5 | 83 | 31,453·6 | 138,516·9 |
| 6 | 84 | 25,289·6 | 107,063·3 |
| 7 | 85 | 20,121·4 | 81,773·7 |
| 8 | 86 | 15,812·0 | 61,652·3 |
| 9 | 87 | 12,260·5 | 45,840·3 |
| 10 | 88 | 9.369·33 | 33,579·84 |
| 11 | 89 | 7,048·01 | 24,210·51 |
| 12 | 90 | 5,212·75 | 17,162·50 |
| 13 | 91 | 3,786·15 | 11,949·75 |
| 14 | 92 | 2,697·42 | 8,163·60 |
| 15 | 93 | 1,882·83 | 5,466·18 |
| 16 | 94 | 1,286·11 | 3,583·35 |
| 17 | 95 | 858·709 | 2,297·235 |
| 18 | 96 | 559·775 | 1,438·526 |
| 19 | 97 | 355·862 | 878·751 |
| 20 | 98 | 220·370 | 522·889 |
| 21 | 99 | 132·779 | 302·519 |
| 22 | 100 | 77·7963 | 169·7399 |
| 23 | 101 | 44·2722 | 91·9436 |
| 24 | 102 | 24·4417 | 47·6714 |
| 25 | 103 | 13·0747 | 23·2297 |
| 26 | 104 | 6·7685 | 10·1550 |
| 27 | 105 | 3·3865 | 3·3865 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Female 30 Years older than Male.

### Female 77 Years older than Male.

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 30 Years older.** | |
| 0 | 30 | 982,747 | 13,763,013 |
| 1 | 31 | 789.598 | 12,780,266 |
| 2 | 32 | 709.588 | 11,990,668 |
| 3 | 33 | 657,185 | 11,281,080 |
| 4 | 34 | 615,876 | 10,623,895 |
| 5 | 35 | 580,607 | 10,008,019 |
| 6 | 36 | 549.597 | 9,427.412 |
| 7 | 37 | 521,589 | 8,877,815 |
| 8 | 38 | 495.726 | 8,356,226 |
| 9 | 39 | 471,756 | 7,860,500 |
| 10 | 40 | 449.363 | 7,388,744 |
| 11 | 41 | 428,286 | 6,939,381 |
| 12 | 42 | 408.314 | 6,511,095 |
| 13 | 43 | 389,275 | 6,102,781 |
| 14 | 44 | 371,034 | 5.713.506 |
| 15 | 45 | 353.483 | 5.342,472 |
| 16 | 46 | 336.541 | 4,988,989 |
| 17 | 47 | 320,151 | 4,652,448 |
| 18 | 48 | 304,270 | 4.332,297 |
| 19 | 49 | 288,873 | 4,028,027 |
| 20 | 50 | 273,947 | 3.739.154 |
| 21 | 51 | 259,488 | 3,465,207 |
| 22 | 52 | 245.634 | 3,205.719 |
| 23 | 53 | 232,365 | 2,960,085 |
| 24 | 54 | 219,663 | 2,727,720 |
| 25 | 55 | 207,190 | 2.508,057 |
| 26 | 56 | 195,132 | 2,300,867 |
| 27 | 57 | 183.487 | 2,105,735 |
| 28 | 58 | 172,251 | 1,922,248 |
| 29 | 59 | 161,418 | 1,749,997 |
| 30 | 60 | 150,976 | 1,588,579 |
| 31 | 61 | 140,916 | 1,437,603 |
| 32 | 62 | 131,226 | 1,296,687 |
| 33 | 63 | 121,897 | 1,165,461 |
| 34 | 64 | 112,919 | 1,043,564 |
| 35 | 65 | 104,285 | 930,645 |
| 36 | 66 | 95,990·8 | 826,359·9 |
| 37 | 67 | 88,032·0 | 730,369·1 |
| 38 | 68 | 80,408·2 | 642,337·1 |
| 39 | 69 | 73,120·7 | 561,928·9 |
| 40 | 70 | 66,173·2 | 488,808·2 |
| 41 | 71 | 59,570·7 | 422,635·0 |
| 42 | 72 | 53,320·0 | 363,064·3 |
| 43 | 73 | 47,428·4 | 309,744·3 |
| 44 | 74 | 41,903·6 | 262,315·9 |
| 45 | 75 | 36,752·8 | 220,412·3 |
| 46 | 76 | 31,981·9 | 183,659·5 |
| 47 | 77 | 27,595·1 | 151,677·6 |
| 48 | 78 | 23,593·8 | 124,082·5 |
| 49 | 79 | 19,976·5 | 100,488·7 |
| 50 | 80 | 16,737·7 | 80,512·2 |
| 51 | 81 | 13,868·2 | 63,774·5 |
| 52 | 82 | 11,348·1 | 49,906·3 |
| 53 | 83 | 9,167·80 | 38,558·17 |
| 54 | 84 | 7,306·37 | 29,390·37 |
| 55 | 85 | 5,739·51 | 22,084·00 |
| 56 | 86 | 4,440·22 | 16,344·49 |
| 57 | 87 | 3,379·77 | 11,904·27 |
| 58 | 88 | 2,528·72 | 8,524·50 |
| 59 | 89 | 1,857·80 | 5,995·78 |
| 60 | 90 | 1,338·80 | 4,137·98 |
| 61 | 91 | 945·295 | 2,799·176 |
| 62 | 92 | 653·193 | 1,853·881 |
| 63 | 93 | 441·174 | 1,200·688 |
| 64 | 94 | 290·884 | 759·514 |
| 65 | 95 | 186·983 | 468·630 |
| 66 | 96 | 117·020 | 281·647 |
| 67 | 97 | 71·2001 | 164·6272 |
| 68 | 98 | 42·0559 | 93·4271 |
| 69 | 99 | 24·0792 | 51·3712 |
| 70 | 100 | 13·3428 | 27·2920 |
| 71 | 101 | 7·1440 | 13·9492 |
| 72 | 102 | 3·6898 | 6·8052 |
| 73 | 103 | 1·8353 | 3·1154 |
| 74 | 104 | ·8775 | 1·2801 |
| 75 | 105 | ·4026 | ·4026 |
| | | **Female 77 Years older.** | |
| 0 | 77 | 115,077 | 540,332 |
| 1 | 78 | 83,688·7 | 425,254·7 |
| 2 | 79 | 67,471·9 | 341,566·0 |
| 3 | 80 | 55,529·6 | 274,094·1 |
| 4 | 81 | 45,775·0 | 218,564·5 |
| 5 | 82 | 37,548·8 | 172,789·5 |
| 6 | 83 | 30,571·0 | 135,240·7 |
| 7 | 84 | 24,649·0 | 104,669·7 |
| 8 | 85 | 19,644·6 | 80,020·7 |
| 9 | 86 | 15,461·0 | 60,376·1 |
| 10 | 87 | 12,002·6 | 44,915·1 |
| 11 | 88 | 9,180·03 | 32,912·46 |
| 12 | 89 | 6,909·46 | 23,732·43 |
| 13 | 90 | 5,111·79 | 16,822·97 |
| 14 | 91 | 3,713·04 | 11,711·18 |
| 15 | 92 | 2,644·95 | 7,998·14 |
| 16 | 93 | 1,845·61 | 5,353·19 |
| 17 | 94 | 1,260·11 | 3,507·58 |
| 18 | 95 | 840·863 | 2,247·471 |
| 19 | 96 | 547·782 | 1,406·608 |
| 20 | 97 | 347·990 | 858·826 |
| 21 | 98 | 215·338 | 510·836 |
| 22 | 99 | 129·724 | 295·498 |
| 23 | 100 | 75·9923 | 165·7738 |
| 24 | 101 | 43·2380 | 89·7815 |
| 25 | 102 | 23·8666 | 46·5435 |
| 26 | 103 | 12·7649 | 22·6769 |
| 27 | 104 | 6·6069 | 9·9120 |
| 28 | 105 | 3·3051 | 3·3051 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Female 31 Years older than Male.
### Female 76 Years older than Male.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 31 Years older.** | |
| 0 | 31 | 958,094 | 13,308,808 |
| 1 | 32 | 769,639 | 12,350,714 |
| 2 | 33 | 691,514 | 11,581,075 |
| 3 | 34 | 640,316 | 10,889,561 |
| 4 | 35 | 599,942 | 10,249,245 |
| 5 | 36 | 565,465 | 9,649,303 |
| 6 | 37 | 535,145 | 9,083,838 |
| 7 | 38 | 507,757 | 8,548,693 |
| 8 | 39 | 482,464 | 8,040,936 |
| 9 | 40 | 459,021 | 7,558,472 |
| 10 | 41 | 437,118 | 7,099,451 |
| 11 | 42 | 416,501 | 6,662,333 |
| 12 | 43 | 396,964 | 6,245,832 |
| 13 | 44 | 378,340 | 5,848,868 |
| 14 | 45 | 360,495 | 5,470,528 |
| 15 | 46 | 343,328 | 5,110,033 |
| 16 | 47 | 326,757 | 4,766,705 |
| 17 | 48 | 310,727 | 4,439,948 |
| 18 | 49 | 295,197 | 4,129,221 |
| 19 | 50 | 280,143 | 3,834,024 |
| 20 | 51 | 265,552 | 3,553,881 |
| 21 | 52 | 251,421 | 3,288,329 |
| 22 | 53 | 237,882 | 3,036,908 |
| 23 | 54 | 224,917 | 2,799,026 |
| 24 | 55 | 212,182 | 2,574,109 |
| 25 | 56 | 199,868 | 2,361,927 |
| 26 | 57 | 187,973 | 2,162,059 |
| 27 | 58 | 176,494 | 1,974,086 |
| 28 | 59 | 165,424 | 1,797,592 |
| 29 | 60 | 154,752 | 1,632,168 |
| 30 | 61 | 144,469 | 1,477,416 |
| 31 | 62 | 134,563 | 1,332,947 |
| 32 | 63 | 125,025 | 1,198,384 |
| 33 | 64 | 115,844 | 1,073,359 |
| 34 | 65 | 107,015 | 957,515 |
| 35 | 66 | 98,530·0 | 850,499·8 |
| 36 | 67 | 90,387·3 | 751,969·8 |
| 37 | 68 | 82,585·8 | 661,582·5 |
| 38 | 69 | 75,126·8 | 578,996·7 |
| 39 | 70 | 68,013·7 | 503,869·9 |
| 40 | 71 | 61,252·0 | 435,856·2 |
| 41 | 72 | 54,848·4 | 374,604·2 |
| 42 | 73 | 48,810·4 | 319,755·8 |
| 43 | 74 | 43,146·0 | 270,945·4 |
| 44 | 75 | 37,862·6 | 227,799·4 |
| 45 | 76 | 32,966·4 | 189,936·8 |
| 46 | 77 | 28,461·9 | 156,970·4 |
| 47 | 78 | 24,350·8 | 128,508·5 |
| 48 | 79 | 20,631·7 | 104,157·7 |
| 49 | 80 | 17,299·5 | 83,526·0 |
| 50 | 81 | 14,345·0 | 66,226·5 |
| 51 | 82 | 11,754·8 | 51,881·5 |
| 52 | 83 | 9,506·04 | 40,126·66 |
| 53 | 84 | 7,584·00 | 30,620·62 |
| 54 | 85 | 5,964·32 | 23,036·62 |
| 55 | 86 | 4,619·73 | 17,072·30 |
| 56 | 87 | 3,521·07 | 12,452·57 |
| 57 | 88 | 2,638·28 | 8,931·50 |
| 58 | 89 | 1,941·43 | 6,293·22 |
| 59 | 90 | 1,401·59 | 4,351·79 |
| 60 | 91 | 991·614 | 2,950·196 |
| 61 | 92 | 686·731 | 1,958·582 |
| 62 | 93 | 464·981 | 1,271·851 |
| 63 | 94 | 307·430 | 806·870 |
| 64 | 95 | 198·225 | 499·440 |
| 65 | 96 | 124·477 | 301·215 |
| 66 | 97 | 76·0210 | 176·7381 |
| 67 | 98 | 45·0884 | 100·7171 |
| 68 | 99 | 25·9321 | 55·6287 |
| 69 | 100 | 14·4405 | 29·6966 |
| 70 | 101 | 7·7734 | 15·2561 |
| 71 | 102 | 4·0384 | 7·4827 |
| 72 | 103 | 2·0214 | 3·4443 |
| 73 | 104 | ·9731 | 1·4229 |
| 74 | 105 | ·4498 | ·4498 |

**Female 76 Years older.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 0 | 76 | 129,309 | 631,861 |
| 1 | 77 | 94,838·6 | 502,552·1 |
| 2 | 78 | 77,158·9 | 407,713·5 |
| 3 | 79 | 64,122·4 | 330,554·6 |
| 4 | 80 | 53,410·1 | 266,432·2 |
| 5 | 81 | 44,299·7 | 213,022·1 |
| 6 | 82 | 36,495·1 | 168,722·4 |
| 7 | 83 | 29,796·5 | 132,227·3 |
| 8 | 84 | 24,064·9 | 102,430·8 |
| 9 | 85 | 19,208·6 | 78,365·9 |
| 10 | 86 | 15,135·7 | 59,157·3 |
| 11 | 87 | 11,760·1 | 44,021·6 |
| 12 | 88 | 8,999·58 | 32,261·51 |
| 13 | 89 | 6,775·63 | 23,261·93 |
| 14 | 90 | 5,013·07 | 16,486·30 |
| 15 | 91 | 3,640·81 | 11,473·23 |
| 16 | 92 | 2,592·67 | 7,832·42 |
| 17 | 93 | 1,808·30 | 5,239·75 |
| 18 | 94 | 1,233·92 | 3,431·45 |
| 19 | 95 | 822·848 | 2,197·529 |
| 20 | 96 | 535·666 | 1,374·681 |
| 21 | 97 | 340·045 | 839·015 |
| 22 | 98 | 210·382 | 498·970 |
| 23 | 99 | 126·716 | 288·588 |
| 24 | 100 | 74·2172 | 161·8724 |
| 25 | 101 | 42·2207 | 87·6552 |
| 26 | 102 | 23·3011 | 45·4345 |
| 27 | 103 | 12·4602 | 22·1334 |
| 28 | 104 | 6·4481 | 9·6732 |
| 29 | 105 | 3·2251 | 3·2251 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

**Female 32 Years older than Male.**

**Female 75 Years older than Male.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 32 Years older.** | |
| 0 | 32 | 933,876 | 12,862,942 |
| 1 | 33 | 750,036 | 11,929,066 |
| 2 | 34 | 673,764 | 11,179,030 |
| 3 | 35 | 623,751 | 10,505,266 |
| 4 | 36 | 584,296 | 9,881,515 |
| 5 | 37 | 550,596 | 9,297,219 |
| 6 | 38 | 520,954 | 8,746,623 |
| 7 | 39 | 494,173 | 8,225,669 |
| 8 | 40 | 469,440 | 7,731,496 |
| 9 | 41 | 446,513 | 7,262,056 |
| 10 | 42 | 425,090 | 6,815,543 |
| 11 | 43 | 404,924 | 6,390,453 |
| 12 | 44 | 385,813 | 5,985,529 |
| 13 | 45 | 367,594 | 5,599,716 |
| 14 | 46 | 350,139 | 5,232,122 |
| 15 | 47 | 333,346 | 4,881,983 |
| 16 | 48 | 317,139 | 4,548,637 |
| 17 | 49 | 301,462 | 4,231,498 |
| 18 | 50 | 286,276 | 3,930,036 |
| 19 | 51 | 271,558 | 3,643,760 |
| 20 | 52 | 257,295 | 3,372,202 |
| 21 | 53 | 243,485 | 3,114,907 |
| 22 | 54 | 230,256 | 2,871,422 |
| 23 | 55 | 217,257 | 2,641,166 |
| 24 | 56 | 204,683 | 2,423,909 |
| 25 | 57 | 192,535 | 2,219,226 |
| 26 | 58 | 180,809 | 2,026,691 |
| 27 | 59 | 169,498 | 1,845,882 |
| 28 | 60 | 158,593 | 1,676,384 |
| 29 | 61 | 148,083 | 1,517,791 |
| 30 | 62 | 137,957 | 1,369,708 |
| 31 | 63 | 128,205 | 1,231,751 |
| 32 | 64 | 118,817 | 1,103,546 |
| 33 | 65 | 109,787 | 984,729 |
| 34 | 66 | 101,109 | 874,942 |
| 35 | 67 | 92,778·3 | 773,832·7 |
| 36 | 68 | 84,795·5 | 681,054·4 |
| 37 | 69 | 77,161·4 | 596,258·9 |
| 38 | 70 | 69,879·7 | 519,097·5 |
| 39 | 71 | 62,955·8 | 449,217·8 |
| 40 | 72 | 56,396·4 | 386,262·0 |
| 41 | 73 | 50,209·5 | 329,865·6 |
| 42 | 74 | 44,403·2 | 279,656·1 |
| 43 | 75 | 38,985·1 | 235,252·9 |
| 44 | 76 | 33,961·8 | 196,267·8 |
| 45 | 77 | 29,338·0 | 162,306·0 |
| 46 | 78 | 25,115·7 | 132,968·0 |
| 47 | 79 | 21,293·7 | 107,852·3 |
| 48 | 80 | 17,867·0 | 86,558·6 |
| 49 | 81 | 14,826·5 | 68,691·6 |
| 50 | 82 | 12,158·9 | 53,865·1 |
| 51 | 83 | 9,846·67 | 41,706·15 |
| 52 | 84 | 7,863·80 | 31,859·48 |
| 53 | 85 | 6,190·95 | 23,995·68 |
| 54 | 86 | 4,800·68 | 17,804·73 |
| 55 | 87 | 3,663·43 | 13,004·05 |
| 56 | 88 | 2,748·59 | 9,340·62 |
| 57 | 89 | 2,025·55 | 6,592·03 |
| 58 | 90 | 1,464·69 | 4,566·48 |
| 59 | 91 | 1,038·12 | 3,101·79 |
| 60 | 92 | 720·381 | 2,063·669 |
| 61 | 93 | 488·856 | 1,343·288 |
| 62 | 94 | 324·020 | 854·432 |
| 63 | 95 | 209·501 | 530·412 |
| 64 | 96 | 131·961 | 320·911 |
| 65 | 97 | 80·8655 | 188·9504 |
| 66 | 98 | 48·1414 | 108·0849 |
| 67 | 99 | 27·8020 | 59·9435 |
| 68 | 100 | 15·5517 | 32·1415 |
| 69 | 101 | 8·4128 | 16·5898 |
| | | 4·3941 | 8·1770 |
| 70 | 102 | 2·2123 | 3·7829 |
| 71 | 103 | | |
| 72 | 104 | 1·0718 | 1·5706 |
| 73 | 105 | ·4988 | ·4988 |

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| | | **Female 75 Years older.** | |
| 0 | 75 | 144,161 | 732,892 |
| 1 | 76 | 106,568 | 588,731 |
| 2 | 77 | 87,438·9 | 482,163·2 |
| 3 | 78 | 73,328·5 | 394,724·3 |
| 4 | 79 | 61,674·8 | 321,395·8 |
| 5 | 80 | 51,688·7 | 259,721·0 |
| 6 | 81 | 43,056·6 | 208,032·3 |
| 7 | 82 | 35,570·6 | 164,975·7 |
| 8 | 83 | 29,090·5 | 129,405·1 |
| 9 | 84 | 23,530·8 | 100,314·6 |
| 10 | 85 | 18,804·5 | 76,783·8 |
| 11 | 86 | 14,829·9 | 57,979·3 |
| 12 | 87 | 11,528·9 | 43,149·4 |
| 13 | 88 | 8,825·26 | 31,620·48 |
| 14 | 89 | 6,644·78 | 22,795·22 |
| 15 | 90 | 4,915·55 | 16,150·44 |
| 16 | 91 | 3,568·84 | 11,234·89 |
| 17 | 92 | 2,540·25 | 7,666·05 |
| 18 | 93 | 1,770·72 | 5,125·80 |
| 19 | 94 | 1,207·48 | 3,355·08 |
| 20 | 95 | 804·648 | 2,147·597 |
| 21 | 96 | 523·435 | 1,342·949 |
| 22 | 97 | 332·219 | 819·514 |
| 23 | 98 | 205·504 | 487·295 |
| 24 | 99 | 123·756 | 281·791 |
| 25 | 100 | 72·4710 | 158·0354 |
| 26 | 101 | 41·2203 | 85·5644 |
| 27 | 102 | 22·7450 | 44·3441 |
| 28 | 103 | 12·1607 | 21·5991 |
| 29 | 104 | 6·2920 | 9·4384 |
| 30 | 105 | 3·1464 | 3·1464 |

## JOINT LIVES :—Male and Female Life.

### Female 33 Years older than Male.

### Female 74 Years older than Male.

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 33 Years older.** | |
| 0 | 33 | 910,090 | 12,425,310 |
| 1 | 34 | 730,784 | 11,515,220 |
| 2 | 35 | 656,333 | 10,784,436 |
| 3 | 36 | 607,484 | 10,128,103 |
| 4 | 37 | 568,932 | 9,520,619 |
| 5 | 38 | 535,995 | 8,951,687 |
| 6 | 39 | 507,017 | 8,415,692 |
| 7 | 40 | 480,833 | 7,908,675 |
| 8 | 41 | 456,648 | 7,427,842 |
| 9 | 42 | 434,226 | 6,971,194 |
| 10 | 43 | 413,274 | 6,536,968 |
| 11 | 44 | 393,549 | 6,123,694 |
| 12 | 45 | 374,855 | 5,730,145 |
| 13 | 46 | 357,034 | 5,355,290 |
| 14 | 47 | 339,960 | 4,998,256 |
| 15 | 48 | 323,534 | 4,658,296 |
| 16 | 49 | 307,683 | 4,334,762 |
| 17 | 50 | 292,352 | 4,027,079 |
| 18 | 51 | 277,504 | 3,734,727 |
| 19 | 52 | 263,115 | 3,457,223 |
| 20 | 53 | 249,175 | 3,194,108 |
| 21 | 54 | 235,680 | 2,944,933 |
| 22 | 55 | 222,415 | 2,709,253 |
| 23 | 56 | 209,579 | 2,486,838 |
| 24 | 57 | 197,174 | 2,277,259 |
| 25 | 58 | 185,198 | 2,080,085 |
| 26 | 59 | 173,642 | 1,894,887 |
| 27 | 60 | 162,499 | 1,721,245 |
| 28 | 61 | 151,758 | 1,558,746 |
| 29 | 62 | 141,407 | 1,406,988 |
| 30 | 63 | 131,438 | 1,265,581 |
| 31 | 64 | 121,839 | 1,134,143 |
| 32 | 65 | 112,605 | 1,012,304 |
| 33 | 66 | 103,728 | 899,699 |
| 34 | 67 | 95,206·3 | 795,971·1 |
| 35 | 68 | 87,038·5 | 700,764·8 |
| 36 | 69 | 79,225·9 | 613,726·3 |
| 37 | 70 | 71,772·2 | 534,500·4 |
| 38 | 71 | 64,683·0 | 462,728·2 |
| 39 | 72 | 57,965·1 | 398,045·2 |
| 40 | 73 | 51,626·7 | 340,080·1 |
| 41 | 74 | 45,676·0 | 288,453·4 |
| 42 | 75 | 40,121·1 | 242,777·4 |
| 43 | 76 | 34,968·7 | 202,656·3 |
| 44 | 77 | 30,223·9 | 167,687·6 |
| 45 | 78 | 25,888·8 | 137,463·7 |
| 46 | 79 | 21,962·5 | 111,574·9 |
| 47 | 80 | 18,440·2 | 89,612·4 |
| 48 | 81 | 15,312·8 | 71,172·2 |
| 49 | 82 | 12,567·1 | 55,859·4 |
| 50 | 83 | 10,185·2 | 43,292·3 |
| 51 | 84 | 8,145·59 | 33,107·07 |
| 52 | 85 | 6,419·36 | 24,961·48 |
| 53 | 86 | 4,983·10 | 18,542 12 |
| 54 | 87 | 3,806·92 | 13,559·02 |
| 55 | 88 | 2,859·71 | 9,752·10 |
| 56 | 89 | 2,110·24 | 6,892·39 |
| 57 | 90 | 1,528·15 | 4,782·15 |
| 58 | 91 | 1,084·85 | 3,254·00 |
| 59 | 92 | 754·166 | 2,169·146 |
| 60 | 93 | 512·809 | 1,414·980 |
| 61 | 94 | 340·657 | 902·171 |
| 62 | 95 | 220·806 | 561·514 |
| 63 | 96 | 139·468 | 340·708 |
| 64 | 97 | 85·7276 | 201·2397 |
| 65 | 98 | 51·2092 | 115·5121 |
| 66 | 99 | 29·6844 | 64·3029 |
| 67 | 100 | 16·6730 | 34·6185 |
| 68 | 101 | 9·0602 | 17·9455 |
| 69 | 102 | 4·7556 | 8·8853 |
| 70 | 103 | 2·4072 | 4·1297 |
| 71 | 104 | 1·1731 | 1·7225 |
| 72 | 105 | ·5494 | ·5494 |

**Female 74 Years older.**

| $x$ | $y$ | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| 0 | 74 | 159,547 | 843,588 |
| 1 | 75 | 118,808 | 684,041 |
| 2 | 76 | 98,252·9 | 565,232·9 |
| 3 | 77 | 83,098·1 | 466,980·0 |
| 4 | 78 | 70,529·5 | 383,881·9 |
| 5 | 79 | 59,687·1 | 313,352·4 |
| 6 | 80 | 50,238·3 | 253,665·3 |
| 7 | 81 | 41,965·8 | 203,427·0 |
| 8 | 82 | 34,727·7 | 161,461·2 |
| 9 | 83 | 28,444·9 | 126,733·5 |
| 10 | 84 | 23,035·7 | 98,288·6 |
| 11 | 85 | 18,424·5 | 75,252·9 |
| 12 | 86 | 14,538·4 | 56,828·4 |
| 13 | 87 | 11,305·6 | 42,290·0 |
| 14 | 88 | 8,654·83 | 30,984·43 |
| 15 | 89 | 6,515·52 | 22,329·60 |
| 16 | 90 | 4,818·39 | 15,814·08 |
| 17 | 91 | 3,496·69 | 10,995·69 |
| 18 | 92 | 2,487·46 | 7,499·00 |
| 19 | 93 | 1,732·78 | 5,011·54 |
| 20 | 94 | 1,180·77 | 3,278·76 |
| 21 | 95 | 786·275 | 2,097·988 |
| 22 | 96 | 511·389 | 1,311·713 |
| 23 | 97 | 324·515 | 800·324 |
| 24 | 98 | 200·703 | 475·809 |
| 25 | 99 | 120·844 | 275·106 |
| 26 | 100 | 70·7537 | 154·2620 |
| 27 | 101 | 40·2365 | 83·5083 |
| 28 | 102 | 22·1982 | 43·2718 |
| 29 | 103 | 11·8662 | 21·0736 |
| 30 | 104 | 6·1384 | 9·2074 |
| 31 | 105 | 3·0690 | 3·0690 |

## JOINT LIVES :—Male and Female Life.

**Female 34 Years older than Male.**

**Female 73 Years older than Male.**

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 34 Years older.** | |
| 0 | 34 | 886,729 | 11,995,795 |
| 1 | 35 | 711,878 | 11,109,066 |
| 2 | 36 | 639,217 | 10,397,188 |
| 3 | 37 | 591,510 | 9,757,971 |
| 4 | 38 | 553,845 | 9,166,461 |
| 5 | 39 | 521,656 | 8,612,616 |
| 6 | 40 | 493,330 | 8,090,960 |
| 7 | 41 | 467,731 | 7,597,630 |
| 8 | 42 | 444,082 | 7,129,899 |
| 9 | 43 | 422,156 | 6,685,817 |
| 10 | 44 | 401,664 | 6,263,661 |
| 11 | 45 | 382,371 | 5,861,997 |
| 12 | 46 | 364,086 | 5,479,626 |
| 13 | 47 | 346,654 | 5,115,540 |
| 14 | 48 | 329,953 | 4,768,886 |
| 15 | 49 | 313,887 | 4,438,933 |
| 16 | 50 | 298,385 | 4,125,046 |
| 17 | 51 | 283,393 | 3,826,661 |
| 18 | 52 | 268,876 | 3,543,268 |
| 19 | 53 | 254,811 | 3,274,392 |
| 20 | 54 | 241,187 | 3,019,581 |
| 21 | 55 | 227,654 | 2,778,394 |
| 22 | 56 | 214,554 | 2,550,740 |
| 23 | 57 | 201,890 | 2,336,186 |
| 24 | 58 | 189,660 | 2,134,296 |
| 25 | 59 | 177,857 | 1,944,636 |
| 26 | 60 | 166,472 | 1,766,779 |
| 27 | 61 | 155,496 | 1,600,307 |
| 28 | 62 | 144,917 | 1,444,811 |
| 29 | 63 | 134,725 | 1,299,894 |
| 30 | 64 | 124,912 | 1,165,169 |
| 31 | 65 | 115,468 | 1,040,257 |
| 32 | 66 | 106,390 | 924,789 |
| 33 | 67 | 97,672·9 | 818,399·0 |
| 34 | 68 | 89,316·3 | 720,726·1 |
| 35 | 69 | 81,321·7 | 631,409·8 |
| 36 | 70 | 73,692·6 | 550,088·1 |
| 37 | 71 | 66,434·7 | 476,395·5 |
| 38 | 72 | 59,555·4 | 409,960·8 |
| 39 | 73 | 53,062·6 | 350,405·4 |
| 40 | 74 | 46,965·2 | 297,342·8 |
| 41 | 75 | 41,271·1 | 250,377·6 |
| 42 | 76 | 35,987·7 | 209,106·5 |
| 43 | 77 | 31,120·0 | 173,118·8 |
| 44 | 78 | 26,670·5 | 141,998·8 |
| 45 | 79 | 22,638·6 | 115,328·3 |
| 46 | 80 | 19,019·4 | 92,689·7 |
| 47 | 81 | 15,804·1 | 73,670·3 |
| 48 | 82 | 12,979·3 | 57,866·2 |
| 49 | 83 | 10,527·1 | 44,886·9 |
| 50 | 84 | 8,425·65 | 34,359·80 |
| 51 | 85 | 6,649·39 | 25,934·15 |
| 52 | 86 | 5,166·95 | 19,284·76 |
| 53 | 87 | 3,951·58 | 14,117·81 |
| 54 | 88 | 2,971·72 | 10,166·23 |
| 55 | 89 | 2,195·56 | 7,194·51 |
| 56 | 90 | 1,592·04 | 4,998·95 |
| 57 | 91 | 1,131·86 | 3,406·91 |
| 58 | 92 | 788·117 | 2,275·052 |
| 59 | 93 | 536·860 | 1,486·935 |
| 60 | 94 | 357·350 | 950·075 |
| 61 | 95 | 232·143 | 592·725 |
| 62 | 96 | 146·994 | 360·582 |
| 63 | 97 | 90·6039 | 213·5882 |
| 64 | 98 | 54·2882 | 122·9843 |
| 65 | 99 | 31·5761 | 68·6961 |
| 66 | 100 | 17·8020 | 37·1200 |
| 67 | 101 | 9·7135 | 19·3180 |
| 68 | 102 | 5·1216 | 9·6045 |
| 69 | 103 | 2·6052 | 4·4829 |
| 70 | 104 | 1·2764 | 1·8777 |
| 71 | 105 | ·6013 | ·6013 |

| | | **Female 73 Years older.** | |
|---|---|---|---|
| 0 | 73 | 175,383 | 964,046 |
| 1 | 74 | 131,488 | 788,663 |
| 2 | 75 | 109,538 | 657,175 |
| 3 | 76 | 93,375·3 | 547,637·3 |
| 4 | 77 | 79,926·3 | 454,262·0 |
| 5 | 78 | 68,256·4 | 374,335·7 |
| 6 | 79 | 58,012·2 | 306,079·3 |
| 7 | 80 | 48,965·6 | 248,067·1 |
| 8 | 81 | 40,971·5 | 199,101·5 |
| 9 | 82 | 33,957·0 | 158,130·0 |
| 10 | 83 | 27,846·4 | 124,173·0 |
| 11 | 84 | 22,570·3 | 96,326·6 |
| 12 | 85 | 18,062·4 | 73,756·3 |
| 13 | 86 | 14,256·8 | 55,693 9 |
| 14 | 87 | 11,087·3 | 41,437·1 |
| 15 | 88 | 8,486·47 | 30,349·77 |
| 16 | 89 | 6,386·73 | 21,863·30 |
| 17 | 90 | 4,720·97 | 15,476·57 |
| 18 | 91 | 3,424·02 | 10,755·60 |
| 19 | 92 | 2,434·16 | 7,331·58 |
| 20 | 93 | 1,694·45 | 4,897·42 |
| 21 | 94 | 1,153·81 | 3,202·97 |
| 22 | 95 | 768·180 | 2,049·158 |
| 23 | 96 | 499·530 | 1,280·978 |
| 24 | 97 | 316·935 | 781·448 |
| 25 | 98 | 195·981 | 464·513 |
| 26 | 99 | 117·980 | 268·532 |
| 27 | 100 | 69·0652 | 150·5520 |
| 28 | 101 | 39·2693 | 81·4868 |
| 29 | 102 | 21·6606 | 42·2175 |
| 30 | 103 | 11·5766 | 20·5569 |
| 31 | 104 | 5·9874 | 8·9803 |
| 32 | 105 | 2·9929 | 2·9929 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Female 35 Years older than Male.

### Female 72 Years older than Male.

| Ages | | $D_{x,\ y}$ | $N_{x,\ y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 35 Years older.** | |
| 0 | 35 | 863,789 | 11,574,294 |
| 1 | 36 | 693,312 | 10,710,505 |
| 2 | 37 | 622,408 | 10,017,193 |
| 3 | 38 | 575,824 | 9,394,785 |
| 4 | 39 | 539,028 | 8,818,961 |
| 5 | 40 | 507,574 | 8,279,933 |
| 6 | 41 | 479,887 | 7,772,359 |
| 7 | 42 | 454,860 | 7,292,472 |
| 8 | 43 | 431,738 | 6,837,612 |
| 9 | 44 | 410,297 | 6,405,874 |
| 10 | 45 | 390,256 | 5,995,577 |
| 11 | 46 | 371,386 | 5,605,321 |
| 12 | 47 | 353,501 | 5,233,935 |
| 13 | 48 | 336,450 | 4,880,434 |
| 14 | 49 | 320,115 | 4,543,984 |
| 15 | 50 | 304,402 | 4,223,869 |
| 16 | 51 | 289,241 | 3,919,467 |
| 17 | 52 | 274,582 | 3,630,226 |
| 18 | 53 | 260,390 | 3,355,644 |
| 19 | 54 | 246,642 | 3,095,254 |
| 20 | 55 | 232,974 | 2,848,612 |
| 21 | 56 | 219,608 | 2,615,638 |
| 22 | 57 | 206,683 | 2,396,030 |
| 23 | 58 | 194,196 | 2,189,347 |
| 24 | 59 | 182,142 | 1,995,151 |
| 25 | 60 | 170,513 | 1,813,009 |
| 26 | 61 | 159,298 | 1,642,496 |
| 27 | 62 | 148,486 | 1,483,198 |
| 28 | 63 | 138,069 | 1,334,712 |
| 29 | 64 | 128,036 | 1,196,643 |
| 30 | 65 | 118,380 | 1,068,607 |
| 31 | 66 | 109,096 | 950,227 |
| 32 | 67 | 100,180 | 841,131 |
| 33 | 68 | 91,630·4 | 740,950·9 |
| 34 | 69 | 83,449·9 | 649,320·5 |
| 35 | 70 | 75,641·9 | 565,870·6 |
| 36 | 71 | 68,212·2 | 490,228·7 |
| 37 | 72 | 61,168·3 | 422,016·5 |
| 38 | 73 | 54,518·4 | 360,848·2 |
| 39 | 74 | 48,271·5 | 306,329·8 |
| 40 | 75 | 42,436·0 | 258,058·3 |
| 41 | 76 | 37,019·3 | 215,622·3 |
| 42 | 77 | 32,026·8 | 178,603·0 |
| 43 | 78 | 27,461·3 | 146,576·2 |
| 44 | 79 | 23,322·2 | 119,114·9 |
| 45 | 80 | 19,604·9 | 95,792·7 |
| 46 | 81 | 16,300·5 | 76,187·8 |
| 47 | 82 | 13,395·7 | 59,887·3 |
| 48 | 83 | 10,872·4 | 46,491·6 |
| 49 | 84 | 8,708·47 | 35,619·17 |
| 50 | 85 | 6,878·01 | 26,910·70 |
| 51 | 86 | 5,352·09 | 20,032·69 |
| 52 | 87 | 4,097·37 | 14,680·60 |
| 53 | 88 | 3,084·64 | 10,583·23 |
| 54 | 89 | 2,281·55 | 7,498·59 |
| 55 | 90 | 1,656·41 | 5,217·04 |
| 56 | 91 | 1,179·18 | 3,560·63 |
| 57 | 92 | 822·265 | 2,381·445 |
| 58 | 93 | 561·028 | 1,559·180 |
| 59 | 94 | 374·109 | 998·152 |
| 60 | 95 | 243·518 | 624·043 |
| 61 | 96 | 154·541 | 380·525 |
| 62 | 97 | 95·4932 | 225·9839 |
| 63 | 98 | 57·3762 | 130·4907 |
| 64 | 99 | 33·4746 | 73·1145 |
| 65 | 100 | 18·9364 | 39·6399 |
| 66 | 101 | 10·3712 | 20·7035 |
| 67 | 102 | 5·4909 | 10·3323 |
| 68 | 103 | 2·8057 | 4·8414 |
| 69 | 104 | 1·3814 | 2·0357 |
| 70 | 105 | ·6543 | ·6543 |
| | | **Female 72 Years older.** | |
| 0 | 72 | 191,586 | 1,094,300 |
| 1 | 73 | 144,539 | 902,714 |
| 2 | 74 | 121,229 | 758,175 |
| 3 | 75 | 104,100 | 636,946 |
| 4 | 76 | 89,811·2 | 532,845·5 |
| 5 | 77 | 77,350·3 | 443,034·3 |
| 6 | 78 | 66,341·0 | 365,684·0 |
| 7 | 79 | 56,542·6 | 299,343·0 |
| 8 | 80 | 47,805·4 | 242,800·4 |
| 9 | 81 | 40,062·2 | 194,995·0 |
| 10 | 82 | 33,242·5 | 154,932·8 |
| 11 | 83 | 27,283·8 | 121,690·3 |
| 12 | 84 | 22,126·6 | 94,406·5 |
| 13 | 85 | 17,712·5 | 72,279·9 |
| 14 | 86 | 13,981·5 | 54,567·4 |
| 15 | 87 | 10,871·6 | 40,585·9 |
| 16 | 88 | 8,318·72 | 29,714·29 |
| 17 | 89 | 6,257·60 | 21,395·57 |
| 18 | 90 | 4,622·86 | 15,137·97 |
| 19 | 91 | 3,350·66 | 10,515·11 |
| 20 | 92 | 2,380·32 | 7,164·45 |
| 21 | 93 | 1,655·76 | 4,784·13 |
| 22 | 94 | 1,127·26 | 3,128·37 |
| 23 | 95 | 750·367 | 2,001·112 |
| 24 | 96 | 487·861 | 1,250·745 |
| 25 | 97 | 309·478 | 762·884 |
| 26 | 98 | 191·337 | 453·406 |
| 27 | 99 | 115·165 | 262·069 |
| 28 | 100 | 67·4049 | 146·9041 |
| 29 | 101 | 38·3183 | 79·4992 |
| 30 | 102 | 21·1321 | 41·1809 |
| 31 | 103 | 11·2919 | 20·0488 |
| 32 | 104 | 5·8389 | 8·7569 |
| 33 | 105 | 2·9180 | 2·9180 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

**Female 36 Years older than Male.**

**Female 71 Years older than Male.**

**Female 36 Years older.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 0 | 36 | 841,262 | 11,160,698 |
| 1 | 37 | 675,082 | 10,319,436 |
| 2 | 38 | 605,903 | 9,644,354 |
| 3 | 39 | 560,420 | 9,038,451 |
| 4 | 40 | 524,477 | 8,478,031 |
| 5 | 41 | 493,742 | 7,953,554 |
| 6 | 42 | 466,682 | 7,459,812 |
| 7 | 43 | 442,216 | 6,993,130 |
| 8 | 44 | 419,610 | 6,550,914 |
| 9 | 45 | 398,644 | 6,131,304 |
| 10 | 46 | 379,045 | 5,732,660 |
| 11 | 47 | 360,589 | 5,353,615 |
| 12 | 48 | 343,096 | 4,993,026 |
| 13 | 49 | 326,418 | 4,649,930 |
| 14 | 50 | 310,441 | 4,323,512 |
| 15 | 51 | 295,073 | 4,013,071 |
| 16 | 52 | 280,248 | 3,717,998 |
| 17 | 53 | 265,916 | 3,437,750 |
| 18 | 54 | 252,042 | 3,171,834 |
| 19 | 55 | 238,243 | 2,919,792 |
| 20 | 56 | 224,740 | 2,681,549 |
| 21 | 57 | 211,552 | 2,456,809 |
| 22 | 58 | 198,806 | 2,245,257 |
| 23 | 59 | 186,499 | 2,046,451 |
| 24 | 60 | 174,621 | 1,859,952 |
| 25 | 61 | 163,164 | 1,685,331 |
| 26 | 62 | 152,117 | 1,522,167 |
| 27 | 63 | 141,470 | 1,370,050 |
| 28 | 64 | 131,214 | 1,228,580 |
| 29 | 65 | 121,341 | 1,097,366 |
| 30 | 66 | 111,847 | 976,025 |
| 31 | 67 | 102,727 | 864,178 |
| 32 | 68 | 93,981·9 | 761,451·2 |
| 33 | 69 | 85,611·9 | 667,469·3 |
| 34 | 70 | 77,621·5 | 581,857·4 |
| 35 | 71 | 70,016·6 | 504,235·9 |
| 36 | 72 | 62,804·9 | 434,219·3 |
| 37 | 73 | 55,994·9 | 371,414·4 |
| 38 | 74 | 49,595·8 | 315,419·5 |
| 39 | 75 | 43,616·3 | 265,823·7 |
| 40 | 76 | 38,064·1 | 222,207·4 |
| 41 | 77 | 32,944·8 | 184,143·3 |
| 42 | 78 | 28,261·5 | 151,198·5 |
| 43 | 79 | 24,013·6 | 122,937·0 |
| 44 | 80 | 20,196·9 | 98,923·4 |
| 45 | 81 | 16,802·3 | 78,726·5 |
| 46 | 82 | 13,816·5 | 61,924·2 |
| 47 | 83 | 11,221·2 | 48,107·7 |
| 48 | 84 | 8,994·11 | 36,886·53 |
| 49 | 85 | 7,108·88 | 27,892·42 |
| 50 | 86 | 5,536·11 | 20,783·54 |
| 51 | 87 | 4,244·19 | 15,247·43 |
| 52 | 88 | 3,198·45 | 11,003·24 |
| 53 | 89 | 2,368·25 | 7,804·79 |
| 54 | 90 | 1,721·29 | 5,436·54 |
| 55 | 91 | 1,226·85 | 3,715·25 |
| 56 | 92 | 856·643 | 2,488·404 |
| 57 | 93 | 585·337 | 1,631·761 |
| 58 | 94 | 390·950 | 1,046·424 |
| 59 | 95 | 254·939 | 655·474 |
| 60 | 96 | 162·114 | 400·535 |
| 61 | 97 | 100·396 | 238·421 |
| 62 | 98 | 60·4724 | 138·0247 |
| 63 | 99 | 35·3787 | 77·5523 |
| 64 | 100 | 20·0750 | 42·1736 |
| 65 | 101 | 11·0321 | 22·0986 |
| 66 | 102 | 5·8627 | 11·0665 |
| 67 | 103 | 3·0080 | 5·2038 |
| 68 | 104 | 1·4877 | 2·1958 |
| 69 | 105 | ·7081 | ·7081 |

**Female 71 Years older.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 0 | 71 | 208,082 | 1,234,328 |
| 1 | 72 | 157,893 | 1,026,246 |
| 2 | 73 | 133,261 | 868,353 |
| 3 | 74 | 115,211 | 735,092 |
| 4 | 75 | 100,127 | 619,881 |
| 5 | 76 | 86,916·6 | 519,753·6 |
| 6 | 77 | 75,179·8 | 432,837·0 |
| 7 | 78 | 64,660·5 | 357,657·2 |
| 8 | 79 | 55,202·9 | 292,996·7 |
| 9 | 80 | 46,744·4 | 237,793·8 |
| 10 | 81 | 39,219·2 | 191,049·4 |
| 11 | 82 | 32,570·9 | 151,830·2 |
| 12 | 83 | 26,747·4 | 119,259·3 |
| 13 | 84 | 21,698·1 | 92,511·9 |
| 14 | 85 | 17,370·5 | 70,813·8 |
| 15 | 86 | 13,709·5 | 53,443·3 |
| 16 | 87 | 10,656·7 | 39,733·8 |
| 17 | 88 | 8,150·53 | 29,077·05 |
| 18 | 89 | 6,127·56 | 20,926·52 |
| 19 | 90 | 4,523·81 | 14,798·96 |
| 20 | 91 | 3,276·55 | 10,275·15 |
| 21 | 92 | 2,325·97 | 6,998·60 |
| 22 | 93 | 1,617·66 | 4,672·63 |
| 23 | 94 | 1,101·12 | 3,054·97 |
| 24 | 95 | 732·839 | 1,953·851 |
| 25 | 96 | 476·383 | 1,221·012 |
| 26 | 97 | 302·145 | 744·629 |
| 27 | 98 | 186·771 | 442·484 |
| 28 | 99 | 112·396 | 255·713 |
| 29 | 100 | 65·7725 | 143·3169 |
| 30 | 101 | 37·3832 | 77·5444 |
| 31 | 102 | 20·6123 | 40·1612 |
| 32 | 103 | 11·0118 | 19·5489 |
| 33 | 104 | 5·6928 | 8·5371 |
| 34 | 105 | 2·8443 | 2·8443 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

**Female 37 Years older than Male.**

**Female 70 Years older than Male.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 37 Years older.** | |
| 0 | 37 | 819,141 | 10,754,899 |
| 1 | 38 | 657,179 | 9,935,758 |
| 2 | 39 | 589,694 | 9,278,579 |
| 3 | 40 | 545,291 | 8,688,885 |
| 4 | 41 | 510,185 | 8,143,594 |
| 5 | 42 | 480,156 | 7,633,409 |
| 6 | 43 | 453,710 | 7,153,253 |
| 7 | 44 | 429,794 | 6,699,543 |
| 8 | 45 | 407,692 | 6,269,749 |
| 9 | 46 | 387,191 | 5,862,057 |
| 10 | 47 | 368,025 | 5,474,866 |
| 11 | 48 | 349,975 | 5,106,841 |
| 12 | 49 | 332,866 | 4,756,866 |
| 13 | 50 | 316,554 | 4,424,000 |
| 14 | 51 | 300,928 | 4,107,446 |
| 15 | 52 | 285,899 | 3,806,518 |
| 16 | 53 | 271,403 | 3,520,619 |
| 17 | 54 | 257,391 | 3,249,216 |
| 18 | 55 | 243,459 | 2,991,825 |
| 19 | 56 | 229,823 | 2,748,366 |
| 20 | 57 | 216,495 | 2,518,543 |
| 21 | 58 | 203,489 | 2,302,048 |
| 22 | 59 | 190,926 | 2,098,559 |
| 23 | 60 | 178,798 | 1,907,633 |
| 24 | 61 | 167,095 | 1,728,835 |
| 25 | 62 | 155,809 | 1,561,740 |
| 26 | 63 | 144,929 | 1,405,931 |
| 27 | 64 | 134,446 | 1,261,002 |
| 28 | 65 | 124,353 | 1,126,556 |
| 29 | 66 | 114,645 | 1,002,203 |
| 30 | 67 | 105,318 | 887,558 |
| 31 | 68 | 96,372·1 | 782,240·2 |
| 32 | 69 | 87,809·0 | 685,868·1 |
| 33 | 70 | 79,632·5 | 598,059·1 |
| 34 | 71 | 71,849·0 | 518,426·6 |
| 35 | 72 | 64,466·2 | 446,577·6 |
| 36 | 73 | 57,493·1 | 382,111·4 |
| 37 | 74 | 50,939·0 | 324,618·3 |
| 38 | 75 | 44,813·0 | 273,679·3 |
| 39 | 76 | 39,122·8 | 228,866·3 |
| 40 | 77 | 33,874·6 | 189,743·5 |
| 41 | 78 | 29,071·6 | 155,868·9 |
| 42 | 79 | 24,713·3 | 126,797·3 |
| 43 | 80 | 20,795·7 | 102,084·0 |
| 44 | 81 | 17,309·7 | 81,288·3 |
| 45 | 82 | 14,241·8 | 63,978·6 |
| 46 | 83 | 11,573·7 | 49,736·8 |
| 47 | 84 | 9,282·67 | 38,163·06 |
| 48 | 85 | 7,342·05 | 28,880·39 |
| 49 | 86 | 5,721·94 | 21,538·34 |
| 50 | 87 | 4,390·11 | 15,816·40 |
| 51 | 88 | 3,313·06 | 11,426·29 |
| 52 | 89 | 2,455·62 | 8,113·23 |
| 53 | 90 | 1,786·69 | 5,657·61 |
| 54 | 91 | 1,274·91 | 3,870·92 |
| 55 | 92 | 891·277 | 2,596·008 |
| 56 | 93 | 609·809 | 1,704·731 |
| 57 | 94 | 407·890 | 1,094·922 |
| 58 | 95 | 266·416 | 687·032 |
| 59 | 96 | 169·717 | 420·616 |
| 60 | 97 | 105·316 | 250·899 |
| 61 | 98 | 63·5774 | 145·5832 |
| 62 | 99 | 37·2879 | 82·0058 |
| 63 | 100 | 21·2169 | 44·7179 |
| 64 | 101 | 11·6954 | 23·5010 |
| 65 | 102 | 6·2363 | 11·8056 |
| 66 | 103 | 3·2117 | 5·5693 |
| 67 | 104 | 1·5950 | 2·3576 |
| 68 | 105 | ·7626 | ·7626 |
| | | **Female 70 Years older.** | |
| 0 | 70 | 224,799 | 1,384,054 |
| 1 | 71 | 171,487 | 1,159,255 |
| 2 | 72 | 145,573 | 987,768 |
| 3 | 73 | 126,646 | 842,195 |
| 4 | 74 | 110,813 | 715,549 |
| 5 | 75 | 96,899·5 | 604,735·7 |
| 6 | 76 | 84,477·6 | 507,836·2 |
| 7 | 77 | 73,275·3 | 423,358·6 |
| 8 | 78 | 63,128·4 | 350,083·3 |
| 9 | 79 | 53,977·7 | 286,954·9 |
| 10 | 80 | 45,760·9 | 232,977·2 |
| 11 | 81 | 38,426·8 | 187,216·3 |
| 12 | 82 | 31,930·6 | 148,789·5 |
| 13 | 83 | 26,229·4 | 116,858·9 |
| 14 | 84 | 21,279·0 | 90,629·5 |
| 15 | 85 | 17,032·5 | 69,350·5 |
| 16 | 86 | 13,438·5 | 52,318·0 |
| 17 | 87 | 10,441·2 | 38,879·5 |
| 18 | 88 | 7,981·15 | 28,438·27 |
| 19 | 89 | 5,996·28 | 20,457·12 |
| 20 | 90 | 4,423·75 | 14,460·84 |
| 21 | 91 | 3,201·73 | 10,037·09 |
| 22 | 92 | 2,272·44 | 6,835·36 |
| 23 | 93 | 1,580·15 | 4,562·92 |
| 24 | 94 | 1,075·40 | 2,982·77 |
| 25 | 95 | 715·597 | 1,907·370 |
| 26 | 96 | 465·095 | 1,191·773 |
| 27 | 97 | 294·934 | 726·678 |
| 28 | 98 | 182·281 | 431·744 |
| 29 | 99 | 109·674 | 249·463 |
| 30 | 100 | 64·1675 | 139·7894 |
| 31 | 101 | 36·4637 | 75·6219 |
| 32 | 102 | 20·1010 | 39·1582 |
| 33 | 103 | 10·7363 | 19·0572 |
| 34 | 104 | 5·5491 | 8·3209 |
| 35 | 105 | 2·7718 | 2·7718 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Female 38 Years older than Male.

### Female 69 Years older than Male.

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 38 Years older.** | |
| 0 | 38 | 797,418 | 10,356,790 |
| 1 | 39 | 639,598 | 9,559,372 |
| 2 | 40 | 573,775 | 8,919,774 |
| 3 | 41 | 530,432 | 8,345,999 |
| 4 | 42 | 496,146 | 7,815,567 |
| 5 | 43 | 466,809 | 7,319,421 |
| 6 | 44 | 440,964 | 6,852,612 |
| 7 | 45 | 417,587 | 6,411,648 |
| 8 | 46 | 395,980 | 5,994,061 |
| 9 | 47 | 375,935 | 5,598,081 |
| 10 | 48 | 357,192 | 5,222,146 |
| 11 | 49 | 339,540 | 4,864,954 |
| 12 | 50 | 322,806 | 4,525,414 |
| 13 | 51 | 306,853 | 4,202,608 |
| 14 | 52 | 291,571 | 3,895,755 |
| 15 | 53 | 276,876 | 3,604,184 |
| 16 | 54 | 262,703 | 3,327,308 |
| 17 | 55 | 248,626 | 3,064,605 |
| 18 | 56 | 234,855 | 2,815,979 |
| 19 | 57 | 221,392 | 2,581,124 |
| 20 | 58 | 208,244 | 2,359,732 |
| 21 | 59 | 195,424 | 2,151,488 |
| 22 | 60 | 183,042 | 1,956,064 |
| 23 | 61 | 171,092 | 1,773,022 |
| 24 | 62 | 159,563 | 1,601,930 |
| 25 | 63 | 148,446 | 1,442,367 |
| 26 | 64 | 137,733 | 1,293,921 |
| 27 | 65 | 127,416 | 1,156,188 |
| 28 | 66 | 117,490 | 1,028,772 |
| 29 | 67 | 107,952 | 911,282 |
| 30 | 68 | 98,802·4 | 803,329·7 |
| 31 | 69 | 90,042·2 | 704,527·3 |
| 32 | 70 | 81,676·1 | 614,485·1 |
| 33 | 71 | 73,710·5 | 532,809·0 |
| 34 | 72 | 66,153·3 | 459,098·5 |
| 35 | 73 | 59,013·9 | 392,945·2 |
| 36 | 74 | 52,301·9 | 333,931·3 |
| 37 | 75 | 46,026·6 | 281,629·4 |
| 38 | 76 | 40,196·2 | 235,602·8 |
| 39 | 77 | 34,816·8 | 195,406·6 |
| 40 | 78 | 29,892·1 | 160,589·8 |
| 41 | 79 | 25,421·7 | 130,697·7 |
| 42 | 80 | 21,401·6 | 105,276·0 |
| 43 | 81 | 17,822·9 | 83,874·4 |
| 44 | 82 | 14,671·8 | 66,051·5 |
| 45 | 83 | 11,929·9 | 51,379·7 |
| 46 | 84 | 9,574·25 | 39,449·83 |
| 47 | 85 | 7,577·61 | 29,875·58 |
| 48 | 86 | 5,909·62 | 22,297·97 |
| 49 | 87 | 4,537·47 | 16,388·35 |
| 50 | 88 | 3,426·97 | 11,850·88 |
| 51 | 89 | 2,543·62 | 8,423·91 |
| 52 | 90 | 1,852·61 | 5,880·29 |
| 53 | 91 | 1,323·35 | 4,027·68 |
| 54 | 92 | 926·187 | 2,704·332 |
| 55 | 93 | 634·464 | 1,778·145 |
| 56 | 94 | 424·943 | 1,143·681 |
| 57 | 95 | 277·960 | 718·738 |
| 58 | 96 | 177·357 | 440·778 |
| 59 | 97 | 110·255 | 263·421 |
| 60 | 98 | 66·6927 | 153·1657 |
| 61 | 99 | 39·2024 | 86·4730 |
| 62 | 100 | 22·3618 | 47·2706 |
| 63 | 101 | 12·3607 | 24·9088 |
| 64 | 102 | 6·6112 | 12·5481 |
| 65 | 103 | 3·4164 | 5·9369 |
| 66 | 104 | 1·7030 | 2·5205 |
| 67 | 105 | ·8175 | ·8175 |

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 69 Years older.** | |
| 0 | 69 | 241,679 | 1,543,373 |
| 1 | 70 | 185,265 | 1,301,694 |
| 2 | 71 | 158,107 | 1,116,429 |
| 3 | 72 | 138,347 | 958,322 |
| 4 | 73 | 121,812 | 819,975 |
| 5 | 74 | 107,242 | 698,163 |
| 6 | 75 | 94,180·4 | 590,920·6 |
| 7 | 76 | 82,337·6 | 496,740·2 |
| 8 | 77 | 71,539·1 | 414,402·6 |
| 9 | 78 | 61,727·3 | 342,863·5 |
| 10 | 79 | 52,842·0 | 281,136·2 |
| 11 | 80 | 44,836·3 | 228,294·2 |
| 12 | 81 | 37,671·5 | 183,457·9 |
| 13 | 82 | 31,312·2 | 145,786·4 |
| 14 | 83 | 25,722·8 | 114,474·2 |
| 15 | 84 | 20,865·1 | 88,751·4 |
| 16 | 85 | 16,695·9 | 67,886·3 |
| 17 | 86 | 13,166·8 | 51,190·4 |
| 18 | 87 | 10,224·2 | 38,023·6 |
| 19 | 88 | 7,810·15 | 27,799·35 |
| 20 | 89 | 5,863·65 | 19,989·20 |
| 21 | 90 | 4,322·75 | 14,125·55 |
| 22 | 91 | 3,128·05 | 9,802·80 |
| 23 | 92 | 2,219·75 | 6,674·75 |
| 24 | 93 | 1,543·24 | 4,455·00 |
| 25 | 94 | 1,050·10 | 2,911·76 |
| 26 | 95 | 698·640 | 1,861·664 |
| 27 | 96 | 453·995 | 1,163·024 |
| 28 | 97 | 287·844 | 709·029 |
| 29 | 98 | 177·867 | 421·185 |
| 30 | 99 | 106·998 | 243·318 |
| 31 | 100 | 62·5892 | 136·3195 |
| 32 | 101 | 35·5593 | 73·7303 |
| 33 | 102 | 19·5981 | 38·1710 |
| 34 | 103 | 10·4651 | 18·5729 |
| 35 | 104 | 5·4075 | 8·1078 |
| 36 | 105 | 2·7003 | 2·7003 |

## JOINT LIVES:—Male and Female Life.

### Female 39 Years older than Male.

### Female 68 Years older than Male.

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 39 Years older.** | |
| 0 | 39 | 776,086 | 9,966,272 |
| 1 | 40 | 622,332 | 9,190,186 |
| 2 | 41 | 558,140 | 8,567,854 |
| 3 | 42 | 515,836 | 8,009,714 |
| 4 | 43 | 482,355 | 7,493,878 |
| 5 | 44 | 453,696 | 7,011,523 |
| 6 | 45 | 428,440 | 6,557,827 |
| 7 | 46 | 405,590 | 6,129,387 |
| 8 | 47 | 384,468 | 5,723,797 |
| 9 | 48 | 364,869 | 5,339,329 |
| 10 | 49 | 346,542 | 4,974,460 |
| 11 | 50 | 329,279 | 4,627,918 |
| 12 | 51 | 312,914 | 4,298,639 |
| 13 | 52 | 297,313 | 3,985,725 |
| 14 | 53 | 282,369 | 3,688,412 |
| 15 | 54 | 268,000 | 3,406,043 |
| 16 | 55 | 253,757 | 3,138,043 |
| 17 | 56 | 239,839 | 2,884,286 |
| 18 | 57 | 226,239 | 2,644,447 |
| 19 | 58 | 212,954 | 2,418,208 |
| 20 | 59 | 199,990 | 2,205,254 |
| 21 | 60 | 187,354 | 2,005,264 |
| 22 | 61 | 175,153 | 1,817,910 |
| 23 | 62 | 163,379 | 1,642,757 |
| 24 | 63 | 152,023 | 1,479,378 |
| 25 | 64 | 141,076 | 1,327,355 |
| 26 | 65 | 130,531 | 1,186,279 |
| 27 | 66 | 120,384 | 1,055,748 |
| 28 | 67 | 110,631 | 935,364 |
| 29 | 68 | 101,274 | 824,733 |
| 30 | 69 | 92,312·9 | 723,459·1 |
| 31 | 70 | 83,753·4 | 631,146·2 |
| 32 | 71 | 75,602·1 | 547,392·8 |
| 33 | 72 | 67,867·2 | 471,790·7 |
| 34 | 73 | 60,558·4 | 403,923·5 |
| 35 | 74 | 53,685·4 | 343,365·1 |
| 36 | 75 | 47,258·1 | 289,679·7 |
| 37 | 76 | 41,284·8 | 242,421·6 |
| 38 | 77 | 35,772·0 | 201,136·8 |
| 39 | 78 | 30,723·5 | 165,364·8 |
| 40 | 79 | 26,139·2 | 134,641·3 |
| 41 | 80 | 22,015·1 | 108,502·1 |
| 42 | 81 | 18,342·2 | 86,487·0 |
| 43 | 82 | 15,106·8 | 68,144·8 |
| 44 | 83 | 12,290·2 | 53,038·0 |
| 45 | 84 | 9,868·97 | 40,747·82 |
| 46 | 85 | 7,815·63 | 30,878·85 |
| 47 | 86 | 6,099·22 | 23,063·22 |
| 48 | 87 | 4,686·31 | 16,964·00 |
| 49 | 88 | 3,542·00 | 12,277·69 |
| 50 | 89 | 2,631·07 | 8,735·69 |
| 51 | 90 | 1,919·00 | 6,104·62 |
| 52 | 91 | 1,372·18 | 4,185·62 |
| 53 | 92 | 961·381 | 2,813·435 |
| 54 | 93 | 659·314 | 1,852·054 |
| 55 | 94 | 442·124 | 1,192·740 |
| 56 | 95 | 289·581 | 750·616 |
| 57 | 96 | 185·042 | 461·035 |
| 58 | 97 | 115·218 | 275·993 |
| 59 | 98 | 69·8205 | 160·7750 |
| 60 | 99 | 41·1233 | 90·9545 |
| 61 | 100 | 23·5100 | 49·8312 |
| 62 | 101 | 13·0277 | 26·3212 |
| 63 | 102 | 6·9873 | 13·2935 |
| 64 | 103 | 3·6218 | 6·3062 |
| 65 | 104 | 1·8115 | 2·6844 |
| 66 | 105 | ·8729 | ·8729 |

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 68 Years older.** | |
| 0 | 68 | 258,669 | 1,712,130 |
| 1 | 69 | 199,176 | 1,453,461 |
| 2 | 70 | 170,809 | 1,254,285 |
| 3 | 71 | 150,258 | 1,083,476 |
| 4 | 72 | 133,066 | 933,218 |
| 5 | 73 | 117,886 | 800,152 |
| 6 | 74 | 104,232 | 682,266 |
| 7 | 75 | 91,794·6 | 578,034·2 |
| 8 | 76 | 80,386·7 | 486,239·6 |
| 9 | 77 | 69,951·3 | 405,852·9 |
| 10 | 78 | 60,428·5 | 335,901·6 |
| 11 | 79 | 51,774·3 | 275,473·1 |
| 12 | 80 | 43,955·0 | 223,698·8 |
| 13 | 81 | 36,941·8 | 179,743·8 |
| 14 | 82 | 30,707·5 | 142,802·0 |
| 15 | 83 | 25,222·4 | 112,094·5 |
| 16 | 84 | 20,452·7 | 86,872·1 |
| 17 | 85 | 16,358·3 | 66,419·4 |
| 18 | 86 | 12,893·2 | 50,061·1 |
| 19 | 87 | 10,005·2 | 37,167·9 |
| 20 | 88 | 7,637·40 | 27,162·69 |
| 21 | 89 | 5,729·76 | 19,525·29 |
| 22 | 90 | 4,223·26 | 13,795·53 |
| 23 | 91 | 3,055·51 | 9,572·27 |
| 24 | 92 | 2,167·90 | 6,516·76 |
| 25 | 93 | 1,506·93 | 4,348·86 |
| 26 | 94 | 1,025·21 | 2,841·93 |
| 27 | 95 | 681·967 | 1,816·720 |
| 28 | 96 | 443·082 | 1,134·753 |
| 29 | 97 | 280·873 | 691·671 |
| 30 | 98 | 173·526 | 410·798 |
| 31 | 99 | 104·366 | 237·272 |
| 32 | 100 | 61·0368 | 132·9060 |
| 33 | 101 | 34·6696 | 71·8692 |
| 34 | 102 | 19·1032 | 37·1996 |
| 35 | 103 | 10·1982 | 18·0964 |
| 36 | 104 | 5·2682 | 7·8982 |
| 37 | 105 | 2·6300 | 2·6300 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

**Female 40 Years older than Male.**

**Female 67 Years older than Male.**

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 40 Years older.** | |
| 0 | 40 | 755,135 | 9,583,241 |
| 1 | 41 | 605,374 | 8,828,106 |
| 2 | 42 | 542,781 | 8,222,732 |
| 3 | 43 | 501,497 | 7,679,951 |
| 4 | 44 | 468,805 | 7,178,454 |
| 5 | 45 | 440,810 | 6,709,649 |
| 6 | 46 | 416,132 | 6,268,839 |
| 7 | 47 | 393,799 | 5,852,707 |
| 8 | 48 | 373,151 | 5,458,908 |
| 9 | 49 | 353,990 | 5,085,757 |
| 10 | 50 | 336,069 | 4,731,767 |
| 11 | 51 | 319,189 | 4,395,698 |
| 12 | 52 | 303,185 | 4,076,509 |
| 13 | 53 | 287,929 | 3,773,324 |
| 14 | 54 | 273,317 | 3,485,395 |
| 15 | 55 | 258,874 | 3,212,078 |
| 16 | 56 | 244,788 | 2,953,204 |
| 17 | 57 | 231,040 | 2,708,416 |
| 18 | 58 | 217,617 | 2,477,376 |
| 19 | 59 | 204,513 | 2,259,759 |
| 20 | 60 | 191,732 | 2,055,246 |
| 21 | 61 | 179,279 | 1,863,514 |
| 22 | 62 | 167,258 | 1,684,235 |
| 23 | 63 | 155,659 | 1,516,977 |
| 24 | 64 | 144,475 | 1,361,318 |
| 25 | 65 | 133,699 | 1,216,843 |
| 26 | 66 | 123,327 | 1,083,144 |
| 27 | 67 | 113,356 | 959,817 |
| 28 | 68 | 103,787 | 846,461 |
| 29 | 69 | 94,621·9 | 742,674·0 |
| 30 | 70 | 85,865·5 | 648,052·1 |
| 31 | 71 | 77,524·9 | 562,186·6 |
| 32 | 72 | 69,608·9 | 484,661·7 |
| 33 | 73 | 62,127·3 | 415,052·8 |
| 34 | 74 | 55,090·4 | 352,925·5 |
| 35 | 75 | 48,508·2 | 297,835·1 |
| 36 | 76 | 42,389·4 | 249,326·9 |
| 37 | 77 | 36,740·9 | 206,937·5 |
| 38 | 78 | 31,566·4 | 170,196·6 |
| 39 | 79 | 26,866·3 | 138,630·2 |
| 40 | 80 | 22,636·4 | 111,763·9 |
| 41 | 81 | 18,868·0 | 89,127·5 |
| 42 | 82 | 15,547·0 | 70,259·5 |
| 43 | 83 | 12,654·6 | 54,712·5 |
| 44 | 84 | 10,167·0 | 42,057·9 |
| 45 | 85 | 8,056·21 | 31,890·92 |
| 46 | 86 | 6,290·80 | 23,834·71 |
| 47 | 87 | 4,836·66 | 17,543·91 |
| 48 | 88 | 3,658·18 | 12,707·25 |
| 49 | 89 | 2,719·39 | 9,049·07 |
| 50 | 90 | 1,984·98 | 6,329·68 |
| 51 | 91 | 1,421·35 | 4,344·70 |
| 52 | 92 | 996·850 | 2,923·351 |
| 53 | 93 | 684·367 | 1,926·501 |
| 54 | 94 | 459·441 | 1,242·134 |
| 55 | 95 | 301·289 | 782·693 |
| 56 | 96 | 192·778 | 481·404 |
| 57 | 97 | 120·211 | 288·626 |
| 58 | 98 | 72·9636 | 168·4152 |
| 59 | 99 | 43·0520 | 95·4516 |
| 60 | 100 | 24·6620 | 52·3996 |
| 61 | 101 | 13·6966 | 27·7376 |
| 62 | 102 | 7·3643 | 14·0410 |
| 63 | 103 | 3·8278 | 6·6767 |
| 64 | 104 | 1·9204 | 2·8489 |
| 65 | 105 | ·9285 | ·9285 |

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| | | **Female 67 Years older.** | |
| 0 | 67 | 275,727 | 1,890,162 |
| 1 | 68 | 213,178 | 1,614,435 |
| 2 | 69 | 183,635 | 1,401,257 |
| 3 | 70 | 162,330 | 1,217,622 |
| 4 | 71 | 144,523 | 1,055,292 |
| 5 | 72 | 128,777 | 910,769 |
| 6 | 73 | 114,578 | 781,992 |
| 7 | 74 | 101,592 | 667,414 |
| 8 | 75 | 89,619·6 | 565,821·8 |
| 9 | 76 | 78,602·5 | 476,202·2 |
| 10 | 77 | 68,479·5 | 397,599·7 |
| 11 | 78 | 59,207·6 | 329,120·2 |
| 12 | 79 | 50,756·6 | 269,912·6 |
| 13 | 80 | 43,103·6 | 219,156·0 |
| 14 | 81 | 36,228·4 | 176,052·4 |
| 15 | 82 | 30,110·1 | 139,824·0 |
| 16 | 83 | 24,723·9 | 109,713·9 |
| 17 | 84 | 20,039·1 | 84,990·0 |
| 18 | 85 | 16,018·3 | 64,950·9 |
| 19 | 86 | 12,616·9 | 48,932·6 |
| 20 | 87 | 9,783·88 | 36,315·66 |
| 21 | 88 | 7,463·02 | 26,531·78 |
| 22 | 89 | 5,597·90 | 19,068·76 |
| 23 | 90 | 4,125·33 | 13,470·86 |
| 24 | 91 | 2,984·14 | 9,345·53 |
| 25 | 92 | 2,116·89 | 6,361·39 |
| 26 | 93 | 1,471·22 | 4,244·50 |
| 27 | 94 | 1,000·75 | 2,773·28 |
| 28 | 95 | 665·573 | 1,772·526 |
| 29 | 96 | 432·351 | 1,106·953 |
| 30 | 97 | 274·019 | 674·602 |
| 31 | 98 | 169·258 | 400·583 |
| 32 | 99 | 101·778 | 231·325 |
| 33 | 100 | 59·5096 | 129·5465 |
| 34 | 101 | 33·7940 | 70·0369 |
| 35 | 102 | 18·6160 | 36·2429 |
| 36 | 103 | 9·9354 | 17·6269 |
| 37 | 104 | 5·1309 | 7·6915 |
| 38 | 105 | 2·5606 | 2·5606 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

**Female 41 Years older than Male.**

**Female 66 Years older than Male.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 41 Years older.** | |
| 0 | 41 | 734,558 | 9,207,603 |
| 1 | 42 | 588,716 | 8,473,045 |
| 2 | 43 | 527,693 | 7,884,329 |
| 3 | 44 | 487,409 | 7,356,636 |
| 4 | 45 | 455,490 | 6,869,227 |
| 5 | 46 | 428,146 | 6,413,737 |
| 6 | 47 | 404,034 | 5,985,591 |
| 7 | 48 | 382,207 | 5,581,557 |
| 8 | 49 | 362,025 | 5,199,350 |
| 9 | 50 | 343,292 | 4,837,325 |
| 10 | 51 | 325,771 | 4,494,033 |
| 11 | 52 | 309,265 | 4,168,262 |
| 12 | 53 | 293,616 | 3,858,997 |
| 13 | 54 | 278,699 | 3,565,381 |
| 14 | 55 | 264,010 | 3,286,682 |
| 15 | 56 | 249,724 | 3,022,672 |
| 16 | 57 | 235,808 | 2,772,948 |
| 17 | 58 | 222,235 | 2,537,140 |
| 18 | 59 | 208,991 | 2,314,905 |
| 19 | 60 | 196,069 | 2,105,914 |
| 20 | 61 | 183,468 | 1,909,845 |
| 21 | 62 | 171,198 | 1,726,377 |
| 22 | 63 | 159,354 | 1,555,179 |
| 23 | 64 | 147,930 | 1,395,825 |
| 24 | 65 | 136,921 | 1,247,895 |
| 25 | 66 | 126,320 | 1,110,974 |
| 26 | 67 | 116,128 | 984,654 |
| 27 | 68 | 106,344 | 868,526 |
| 28 | 69 | 96,970·2 | 762,182·4 |
| 29 | 70 | 88,013·2 | 665,212·2 |
| 30 | 71 | 79,479·9 | 577,199·0 |
| 31 | 72 | 71,379·3 | 497,719·1 |
| 32 | 73 | 63,721·7 | 426,339·8 |
| 33 | 74 | 56,517·7 | 362,618·1 |
| 34 | 75 | 49,777·7 | 306,100·4 |
| 35 | 76 | 43,510·7 | 256,322·7 |
| 36 | 77 | 37,723·9 | 212,812·0 |
| 37 | 78 | 32,421·3 | 175,088·1 |
| 38 | 79 | 27,603·4 | 142,666·8 |
| 39 | 80 | 23,266·1 | 115,063·4 |
| 40 | 81 | 19,400·5 | 91,797·3 |
| 41 | 82 | 15,992·6 | 72,396·8 |
| 42 | 83 | 13,023·3 | 56,404·2 |
| 43 | 84 | 10,468·4 | 43,380·9 |
| 44 | 85 | 8,299·48 | 32,912·54 |
| 45 | 86 | 6,484·45 | 24,613·06 |
| 46 | 87 | 4,988·58 | 18,128·61 |
| 47 | 88 | 3,775·55 | 13,140·03 |
| 48 | 89 | 2,808·58 | 9,364·48 |
| 49 | 90 | 2,051·60 | 6,555·90 |
| 50 | 91 | 1,470·22 | 4,504·30 |
| 51 | 92 | 1,032·57 | 3,034·08 |
| 52 | 93 | 709·616 | 2,001·507 |
| 53 | 94 | 476·899 | 1,291·891 |
| 54 | 95 | 313·090 | 814·992 |

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 41 Years older.** | |
| 55 | 96 | 200·572 | 501·902 |
| 56 | 97 | 125·237 | 301·330 |
| 57 | 98 | 76·1251 | 176·0925 |
| 58 | 99 | 44·9901 | 99·9674 |
| 59 | 100 | 25·8186 | 54·9773 |
| 60 | 101 | 14·3678 | 29·1587 |
| 61 | 102 | 7·7425 | 14·7909 |
| 62 | 103 | 4·0343 | 7·0484 |
| 63 | 104 | 2·0297 | 3·0141 |
| 64 | 105 | ·9844 | ·9844 |

| | | **Female 66 Years older.** | |
|---|---|---|---|
| 0 | 66 | 292,820 | 2,077,275 |
| 1 | 67 | 227,236 | 1,784,455 |
| 2 | 68 | 196,544 | 1,557,219 |
| 3 | 69 | 174,519 | 1,360,675 |
| 4 | 70 | 156,134 | 1,186,156 |
| 5 | 71 | 139,865 | 1,030,022 |
| 6 | 72 | 125,164 | 890,157 |
| 7 | 73 | 111,675 | 764,993 |
| 8 | 74 | 99,184·7 | 653,317·9 |
| 9 | 75 | 87,630·5 | 554,133·2 |
| 10 | 76 | 76,948·7 | 466,502·7 |
| 11 | 77 | 67,095·9 | 389,554·0 |
| 12 | 78 | 58,043·8 | 322,458·1 |
| 13 | 79 | 49,773·5 | 264,414·3 |
| 14 | 80 | 42,271·2 | 214,640·8 |
| 15 | 81 | 35,523·6 | 172,369·6 |
| 16 | 82 | 29,514·9 | 136,846·0 |
| 17 | 83 | 24,224·0 | 107,331·1 |
| 18 | 84 | 19,622·7 | 83,107·1 |
| 19 | 85 | 15,675·2 | 63,484·4 |
| 20 | 86 | 12,337·9 | 47,809·2 |
| 21 | 87 | 9,560·48 | 35,471·33 |
| 22 | 88 | 7,291·27 | 25,910·85 |
| 23 | 89 | 5,468·09 | 18,619·58 |
| 24 | 90 | 4,028·96 | 13,151·49 |
| 25 | 91 | 2,913·93 | 9,122·53 |
| 26 | 92 | 2,066·73 | 6,208·60 |
| 27 | 93 | 1,436·11 | 4,141·87 |
| 28 | 94 | 976·690 | 2,705·756 |
| 29 | 95 | 649·455 | 1,729·066 |
| 30 | 96 | 421·801 | 1,079·611 |
| 31 | 97 | 267·279 | 657·810 |
| 32 | 98 | 165·060 | 390·531 |
| 33 | 99 | 99·2310 | 225·4705 |
| 34 | 100 | 58·0068 | 126·2395 |
| 35 | 101 | 32·9322 | 68·2327 |
| 36 | 102 | 18·1362 | 35·3005 |
| 37 | 103 | 9·6765 | 17·1643 |
| 38 | 104 | 4·9956 | 7·4878 |
| 39 | 105 | 2·4922 | 2·4922 |

## JOINT LIVES :—Male and Female Life.

**Female 42 Years older than Male.**

**Female 65 Years older than Male.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Female 42 Years older.** | |
| 0 | 42 | 714,345 | 8,839,261 |
| 1 | 43 | 572,351 | 8,124,916 |
| 2 | 44 | 512,870 | 7,552,565 |
| 3 | 45 | 473,566 | 7,039,695 |
| 4 | 46 | 442,404 | 6,566,129 |
| 5 | 47 | 415,699 | 6,123,725 |
| 6 | 48 | 392,141 | 5,708,026 |
| 7 | 49 | 370,811 | 5,315,885 |
| 8 | 50 | 351,084 | 4,945,074 |
| 9 | 51 | 332,772 | 4,593,990 |
| 10 | 52 | 315,642 | 4,261,218 |
| 11 | 53 | 299,504 | 3,945,576 |
| 12 | 54 | 284,204 | 3,646,072 |
| 13 | 55 | 269,208 | 3,361,868 |
| 14 | 56 | 254,679 | 3,092,660 |
| 15 | 57 | 240,563 | 2,837,981 |
| 16 | 58 | 226,821 | 2,597,418 |
| 17 | 59 | 213,426 | 2,370,597 |
| 18 | 60 | 200,361 | 2,157,171 |
| 19 | 61 | 187,618 | 1,956,810 |
| 20 | 62 | 175,198 | 1,769,192 |
| 21 | 63 | 163,108 | 1,593,994 |
| 22 | 64 | 151,442 | 1,430,886 |
| 23 | 65 | 140,195 | 1,279,444 |
| 24 | 66 | 129,364 | 1,139,249 |
| 25 | 67 | 118,946 | 1,009,885 |
| 26 | 68 | 108,944 | 890,939 |
| 27 | 69 | 99,358·7 | 781,995·1 |
| 28 | 70 | 90,197·6 | 682,636·4 |
| 29 | 71 | 81,467·9 | 592,438·8 |
| 30 | 72 | 73,179·3 | 510,970·9 |
| 31 | 73 | 65,342·3 | 437,791·6 |
| 32 | 74 | 57,968·1 | 372,449·3 |
| 33 | 75 | 51,067·3 | 314,481·2 |
| 34 | 76 | 44,649·4 | 263,413·9 |
| 35 | 77 | 38,721·8 | 218,764·5 |
| 36 | 78 | 33,288·8 | 180,042·7 |
| 37 | 79 | 28,351·0 | 146,753·9 |
| 38 | 80 | 23,904·4 | 118,402·9 |
| 39 | 81 | 19,940·1 | 94,498·5 |
| 40 | 82 | 16,444·0 | 74,558·4 |
| 41 | 83 | 13,396·6 | 58,114·4 |
| 42 | 84 | 10,773·4 | 44,717·8 |
| 43 | 85 | 8,545·54 | 33,944·37 |
| 44 | 86 | 6,680·25 | 25,398·83 |
| 45 | 87 | 5,142·14 | 18,718·58 |
| 46 | 88 | 3,894·14 | 13,576·44 |
| 47 | 89 | 2,898·69 | 9,682·30 |
| 48 | 90 | 2,118·90 | 6,783·61 |
| 49 | 91 | 1,519·57 | 4,664·71 |
| 50 | 92 | 1,068·07 | 3,145·14 |
| 51 | 93 | 735·044 | 2,077·065 |
| 52 | 94 | 494·494 | 1,342·021 |
| 53 | 95 | 324·986 | 847·527 |
| 54 | 96 | 208·428 | 522·541 |
| 55 | 97 | 130·300 | 314·113 |
| 56 | 98 | 79·3078 | 183·8126 |
| 57 | 99 | 46·9395 | 104·5048 |
| 58 | 100 | 26·9809 | 57·5653 |
| 59 | 101 | 15·0416 | 30·5844 |
| 60 | 102 | 8·1218 | 15·5428 |
| 61 | 103 | 4·2415 | 7·4210 |
| 62 | 104 | 2·1392 | 3·1795 |
| 63 | 105 | 1·0403 | 1·0403 |

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Female 65 Years older.** | |
| 0 | 65 | 309,924 | 2,273,270 |
| 1 | 66 | 241,323 | 1,963,346 |
| 2 | 67 | 209,506 | 1,722,023 |
| 3 | 68 | 186,787 | 1,512,517 |
| 4 | 69 | 167,857 | 1,325,730 |
| 5 | 70 | 151,102 | 1,157,873 |
| 6 | 71 | 135,940 | 1,006,771 |
| 7 | 72 | 121,993 | 870,831 |
| 8 | 73 | 109,029 | 748,838 |
| 9 | 74 | 96,983·3 | 639,809·4 |
| 10 | 75 | 85,786·8 | 542,826·1 |
| 11 | 76 | 75,394·0 | 457,039·3 |
| 12 | 77 | 65,777·0 | 381,645·3 |
| 13 | 78 | 56,919·5 | 315,868·3 |
| 14 | 79 | 48,812·3 | 258,948·8 |
| 15 | 80 | 41,448·9 | 210,136·5 |
| 16 | 81 | 34,821·5 | 168,687·6 |
| 17 | 82 | 28,918·2 | 133,866·1 |
| 18 | 83 | 23,720·6 | 104,947·9 |
| 19 | 84 | 19,202·3 | 81,227·3 |
| 20 | 85 | 15,328·4 | 62,025·0 |
| 21 | 86 | 12,056·2 | 46,696·6 |
| 22 | 87 | 9,340·46 | 34,640·42 |
| 23 | 88 | 7,122·19 | 25,299·96 |
| 24 | 89 | 5,340·36 | 18,177·77 |
| 25 | 90 | 3,934·17 | 12,837·41 |
| 26 | 91 | 2,844·88 | 8,903·24 |
| 27 | 92 | 2,017·41 | 6,058·36 |
| 28 | 93 | 1,401·59 | 4,040·95 |
| 29 | 94 | 953·037 | 2,639·357 |
| 30 | 95 | 633·606 | 1,686·320 |
| 31 | 96 | 411·426 | 1,052·714 |
| 32 | 97 | 260·650 | 641·288 |
| 33 | 98 | 160·930 | 380·638 |
| 34 | 99 | 96·7251 | 219·7080 |
| 35 | 100 | 56·5274 | 122·9829 |
| 36 | 101 | 32·0835 | 66·4555 |
| 37 | 102 | 17·6636 | 34·3720 |
| 38 | 103 | 9·4214 | 16·7084 |
| 39 | 104 | 4·8622 | 7·2870 |
| 40 | 105 | 2·4248 | 2·4248 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

**Female 43 Years older than Male.**

**Female 64 Years older than Male.**

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| | | **Female 43 Years older.** | |
| 0 | 43 | 694,488 | 8,478,133 |
| 1 | 44 | 556,273 | 7,783,645 |
| 2 | 45 | 498,303 | 7,227,372 |
| 3 | 46 | 459,961 | 6,729,069 |
| 4 | 47 | 429,543 | 6,269,108 |
| 5 | 48 | 403,463 | 5,839,565 |
| 6 | 49 | 380,448 | 5,436,102 |
| 7 | 50 | 359,605 | 5,055,654 |
| 8 | 51 | 340,325 | 4,696,049 |
| 9 | 52 | 322,426 | 4,355,724 |
| 10 | 53 | 305,680 | 4,033,298 |
| 11 | 54 | 289,903 | 3,727,618 |
| 12 | 55 | 274,526 | 3,437,715 |
| 13 | 56 | 259,694 | 3,163,189 |
| 14 | 57 | 245,336 | 2,903,495 |
| 15 | 58 | 231,395 | 2,658,159 |
| 16 | 59 | 217,831 | 2,426,764 |
| 17 | 60 | 204,613 | 2,208,933 |
| 18 | 61 | 191,726 | 2,004,320 |
| 19 | 62 | 179,161 | 1,812,594 |
| 20 | 63 | 166,919 | 1,633,433 |
| 21 | 64 | 155,010 | 1,466,514 |
| 22 | 65 | 143,524 | 1,311,504 |
| 23 | 66 | 132,458 | 1,167,980 |
| 24 | 67 | 121,812 | 1,035,522 |
| 25 | 68 | 111,588 | 913,710 |
| 26 | 69 | 101,788 | 802,122 |
| 27 | 70 | 92,419·2 | 700,333·6 |
| 28 | 71 | 83,489·8 | 607,914·4 |
| 29 | 72 | 75,009·7 | 524,424·6 |
| 30 | 73 | 66,990·1 | 449,414·9 |
| 31 | 74 | 59,442·4 | 382,424·8 |
| 32 | 75 | 52,377·8 | 322,982·4 |
| 33 | 76 | 45,806·2 | 270,604·6 |
| 34 | 77 | 39,735·1 | 224,798·4 |
| 35 | 78 | 34,169·3 | 185,063·3 |
| 36 | 79 | 29,109·5 | 150,894·0 |
| 37 | 80 | 24,551·8 | 121,784·5 |
| 38 | 81 | 20,487·2 | 97,232·7 |
| 39 | 82 | 16,901·4 | 76,745·5 |
| 40 | 83 | 13,774·7 | 59,844·1 |
| 41 | 84 | 11,082·3 | 46,069·4 |
| 42 | 85 | 8,794·55 | 34,987·07 |
| 43 | 86 | 6,878·31 | 26,192·52 |
| 44 | 87 | 5,297·41 | 19,314·21 |
| 45 | 88 | 4,014·01 | 14,016·80 |
| 46 | 89 | 2,989·74 | 10,002·79 |
| 47 | 90 | 2,186·88 | 7,013·05 |
| 48 | 91 | 1,569·41 | 4,826·17 |
| 49 | 92 | 1,103·92 | 3,256·76 |
| 50 | 93 | 760·317 | 2,152·841 |
| 51 | 94 | 512·213 | 1,392·524 |
| 52 | 95 | 336·977 | 880·311 |
| 53 | 96 | 216·348 | 543·334 |
| 54 | 97 | 135·404 | 326·986 |
| 55 | 98 | 82·5142 | 191·5822 |
| 56 | 99 | 48·9019 | 109·0680 |
| 57 | 100 | 28·1499 | 60·1661 |
| 58 | 101 | 15·7187 | 32·0162 |
| 59 | 102 | 8·5027 | 16·2975 |
| 60 | 103 | 4·4493 | 7·7948 |
| 61 | 104 | 2·2490 | 3·3455 |
| 62 | 105 | 1·0965 | 1·0965 |

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| | | **Female 64 Years older.** | |
| 0 | 64 | 327,024 | 2,477,946 |
| 1 | 65 | 255,419 | 2,150,922 |
| 2 | 66 | 222,494 | 1,895,503 |
| 3 | 67 | 199,105 | 1,673,009 |
| 4 | 68 | 179,658 | 1,473,904 |
| 5 | 69 | 162,448 | 1,294,246 |
| 6 | 70 | 146,862 | 1,131,798 |
| 7 | 71 | 132,496 | 984,936 |
| 8 | 72 | 119,102 | 852,440 |
| 9 | 73 | 106,609 | 733,338 |
| 10 | 74 | 94,942·8 | 626,728·5 |
| 11 | 75 | 84,053·5 | 531,785·7 |
| 12 | 76 | 73,912·0 | 447,732·2 |
| 13 | 77 | 64,503·0 | 373,820·2 |
| 14 | 78 | 55,820·3 | 309,317·2 |
| 15 | 79 | 47,862·7 | 253,496·9 |
| 16 | 80 | 40,629·6 | 205,634·2 |
| 17 | 81 | 34,117·4 | 165,004·6 |
| 18 | 82 | 28,317·2 | 130,887·2 |
| 19 | 83 | 23,212·4 | 102,570·0 |
| 20 | 84 | 18,777·5 | 79,357·6 |
| 21 | 85 | 14,978·5 | 60,580·1 |
| 22 | 86 | 11,778·7 | 45,601·6 |
| 23 | 87 | 9,123·87 | 33,822·94 |
| 24 | 88 | 6,955·82 | 24,699·07 |
| 25 | 89 | 5,214·71 | 17,743·25 |
| 26 | 90 | 3,840·95 | 12,528·54 |
| 27 | 91 | 2,776·99 | 8,687·59 |
| 28 | 92 | 1,968·91 | 5,910·60 |
| 29 | 93 | 1,367·64 | 3,941·69 |
| 30 | 94 | 929·781 | 2,574·050 |
| 31 | 95 | 618·021 | 1,644·269 |
| 32 | 96 | 401·221 | 1,026·248 |
| 33 | 97 | 254·128 | 625·027 |
| 34 | 98 | 156·866 | 370·899 |
| 35 | 99 | 94·2583 | 214·0330 |
| 36 | 100 | 55·0707 | 119·7747 |
| 37 | 101 | 31·2475 | 64·7040 |
| 38 | 102 | 17·1979 | 33·4565 |
| 39 | 103 | 9·1698 | 16·2586 |
| 40 | 104 | 4·7306 | 7·0888 |
| 41 | 105 | 2·3582 | 2·3582 |

## JOINT LIVES :—Male and Female Life.

**Female 44 Years older than Male.**

**Female 63 Years older than Male.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 44 Years older.** | |
| 0 | 44 | 674,979 | 8,124,123 |
| 1 | 45 | 540,474 | 7,449,144 |
| 2 | 46 | 483,988 | 6,908,670 |
| 3 | 47 | 446,589 | 6,424,682 |
| 4 | 48 | 416,899 | 5,978,093 |
| 5 | 49 | 391,433 | 5,561,194 |
| 6 | 50 | 368,951 | 5,169,761 |
| 7 | 51 | 348,585 | 4,800,810 |
| 8 | 52 | 329,744 | 4,452,225 |
| 9 | 53 | 312,250 | 4,122,481 |
| 10 | 54 | 295,881 | 3,810,231 |
| 11 | 55 | 280,030 | 3,514,350 |
| 12 | 56 | 264,823 | 3,234,320 |
| 13 | 57 | 250,167 | 2,969,497 |
| 14 | 58 | 235,986 | 2,719,330 |
| 15 | 59 | 222,223 | 2,483,344 |
| 16 | 60 | 208,836 | 2,261,121 |
| 17 | 61 | 195,795 | 2,052,285 |
| 18 | 62 | 183,083 | 1,856,490 |
| 19 | 63 | 170,695 | 1,673,407 |
| 20 | 64 | 158,632 | 1,502,712 |
| 21 | 65 | 146,904 | 1,344,080 |
| 22 | 66 | 135,603 | 1,197,176 |
| 23 | 67 | 124,726 | 1,061,573 |
| 24 | 68 | 114,276 | 936,847 |
| 25 | 69 | 104,258 | 822,571 |
| 26 | 70 | 94,678·8 | 718,313·0 |
| 27 | 71 | 85,546·3 | 623,634·2 |
| 28 | 72 | 76,871·4 | 538,087·9 |
| 29 | 73 | 68,665·7 | 461,216·5 |
| 30 | 74 | 60,941·4 | 392,550·8 |
| 31 | 75 | 53,710·0 | 331,609·4 |
| 32 | 76 | 46,981·7 | 277,899·4 |
| 33 | 77 | 40,764·6 | 230,917·7 |
| 34 | 78 | 35,063·6 | 190,153·1 |
| 35 | 79 | 29,879·5 | 155,089·5 |
| 36 | 80 | 25,208·7 | 125,210·0 |
| 37 | 81 | 21,042·0 | 100,001·3 |
| 38 | 82 | 17,365·1 | 78,959·3 |
| 39 | 83 | 14,157·9 | 61,594·2 |
| 40 | 84 | 11,395·0 | 47,436·3 |
| 41 | 85 | 9,046·64 | 36,041·29 |
| 42 | 86 | 7,078·73 | 26,994·65 |
| 43 | 87 | 5,454·47 | 19,915·92 |
| 44 | 88 | 4,135·22 | 14,461·45 |
| 45 | 89 | 3,081·77 | 10,326·23 |
| 46 | 90 | 2,255·57 | 7,244·46 |
| 47 | 91 | 1,619·76 | 4,988·89 |
| 48 | 92 | 1,140·13 | 3,369·13 |
| 49 | 93 | 785·838 | 2,228·999 |
| 50 | 94 | 529·824 | 1,443·161 |
| 51 | 95 | 349·051 | 913·337 |
| 52 | 96 | 224·330 | 564·286 |
| 53 | 97 | 140·549 | 339·956 |
| 54 | 98 | 85·7462 | 199·4074 |
| 55 | 99 | 50·8790 | 113·6612 |
| 56 | 100 | 29·3269 | 62·7822 |
| 57 | 101 | 16·3998 | 33·4553 |
| 58 | 102 | 8·8855 | 17·0555 |
| 59 | 103 | 4·6580 | 8·1700 |
| 60 | 104 | 2·3592 | 3·5120 |
| 61 | 105 | 1·1528 | 1·1528 |
| | | **Female 63 Years older.** | |
| 0 | 63 | 344,109 | 2,691,090 |
| 1 | 64 | 269,511 | 2,346,981 |
| 2 | 65 | 235,490 | 2,077,470 |
| 3 | 66 | 211,448 | 1,841,980 |
| 4 | 67 | 191,505 | 1,630,532 |
| 5 | 68 | 173,867 | 1,439,027 |
| 6 | 69 | 157,889 | 1,265,160 |
| 7 | 70 | 143,141 | 1,107,271 |
| 8 | 71 | 129,357 | 964,130 |
| 9 | 72 | 116,459 | 834,773 |
| 10 | 73 | 104,366 | 718,314 |
| 11 | 74 | 93,024·5 | 613,947·5 |
| 12 | 75 | 82,401·2 | 520,923·0 |
| 13 | 76 | 72,480·4 | 438,521·8 |
| 14 | 77 | 63,257·3 | 366,041·4 |
| 15 | 78 | 54,734·4 | 302,784·1 |
| 16 | 79 | 46,916·7 | 248,049·7 |
| 17 | 80 | 39,808·1 | 201,133·0 |
| 18 | 81 | 33,408·4 | 161,324·9 |
| 19 | 82 | 27,710·5 | 127,916·5 |
| 20 | 83 | 22,699·0 | 100,206·0 |
| 21 | 84 | 18,348·8 | 77,507·0 |
| 22 | 85 | 14,633·7 | 59,158·2 |
| 23 | 86 | 11,505·6 | 44,524·5 |
| 24 | 87 | 8,910·74 | 33,018·87 |
| 25 | 88 | 6,792·17 | 24,108·13 |
| 26 | 89 | 5,091·15 | 17,315·96 |
| 27 | 90 | 3,749·28 | 12,224·81 |
| 28 | 91 | 2,710·23 | 8,475·53 |
| 29 | 92 | 1,921·23 | 5,765·30 |
| 30 | 93 | 1,334·27 | 3,844·07 |
| 31 | 94 | 906·911 | 2,509·803 |
| 32 | 95 | 602·693 | 1,602·892 |
| 33 | 96 | 391·182 | 1,000·199 |
| 34 | 97 | 247·710 | 609·017 |
| 35 | 98 | 152·865 | 361·307 |
| 36 | 99 | 91·8292 | 208·4418 |
| 37 | 100 | 53·6356 | 116·6126 |
| 38 | 101 | 30·4235 | 62·9770 |
| 39 | 102 | 16·7386 | 32·5535 |
| 40 | 103 | 8·9216 | 15·8149 |
| 41 | 104 | 4·6008 | 6·8933 |
| 42 | 105 | 2·2925 | 2·2925 |

## JOINT LIVES :—Male and Female Life.

### Female 45 Years older than Male.

### Female 62 Years older than Male.

**Female 45 Years older.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 0 | 45 | 655,808 | 7,777,155 |
| 1 | 46 | 524,947 | 7,121,347 |
| 2 | 47 | 469,917 | 6,596,400 |
| 3 | 48 | 433,444 | 6,126,483 |
| 4 | 49 | 404,468 | 5,693,039 |
| 5 | 50 | 379,604 | 5,288,571 |
| 6 | 51 | 357,645 | 4,908,967 |
| 7 | 52 | 337,747 | 4,551,322 |
| 8 | 53 | 319,337 | 4,213,575 |
| 9 | 54 | 302,240 | 3,894,238 |
| 10 | 55 | 285,805 | 3,591,998 |
| 11 | 56 | 270,133 | 3,306,193 |
| 12 | 57 | 255,108 | 3,036,060 |
| 13 | 58 | 240,633 | 2,780,952 |
| 14 | 59 | 226,632 | 2,540,319 |
| 15 | 60 | 213,047 | 2,313,687 |
| 16 | 61 | 199,835 | 2,100,640 |
| 17 | 62 | 186,969 | 1,900,805 |
| 18 | 63 | 174,432 | 1,713,836 |
| 19 | 64 | 162,220 | 1,539,404 |
| 20 | 65 | 150,337 | 1,377,184 |
| 21 | 66 | 138,797 | 1,226,847 |
| 22 | 67 | 127,687 | 1,088,050 |
| 23 | 68 | 117,010 | 960,363 |
| 24 | 69 | 106,771 | 843,353 |
| 25 | 70 | 96,976·7 | 736,582·1 |
| 26 | 71 | 87,637·8 | 639,605·4 |
| 27 | 72 | 78,764·8 | 551,967·6 |
| 28 | 73 | 70,369·9 | 473,202·8 |
| 29 | 74 | 62,465·8 | 402,832·9 |
| 30 | 75 | 55,064·4 | 340,367·1 |
| 31 | 76 | 48,176·6 | 285,302·7 |
| 32 | 77 | 41,810·7 | 237,126·1 |
| 33 | 78 | 35,972·0 | 195,315·4 |
| 34 | 79 | 30,661·5 | 159,343·4 |
| 35 | 80 | 25,875·5 | 128,681·9 |
| 36 | 81 | 21,605·0 | 102,806·4 |
| 37 | 82 | 17,835·4 | 81,201·4 |
| 38 | 83 | 14,546·3 | 63,366·0 |
| 39 | 84 | 11,712·0 | 48,819·7 |
| 40 | 85 | 9,301·97 | 37,107·69 |
| 41 | 86 | 7,281·64 | 27,805·72 |
| 42 | 87 | 5,613·41 | 20,524·08 |
| 43 | 88 | 4,257·82 | 14,910·67 |
| 44 | 89 | 3,174·83 | 10,652·85 |
| 45 | 90 | 2,325·00 | 7,478·02 |
| 46 | 91 | 1,670·64 | 5,153·02 |
| 47 | 92 | 1,176·71 | 3,482·38 |
| 48 | 93 | 811·614 | 2,305·668 |
| 49 | 94 | 547·608 | 1,494·054 |
| 50 | 95 | 361·052 | 946·446 |
| 51 | 96 | 232·368 | 585·394 |
| 52 | 97 | 145·734 | 353·026 |
| 53 | 98 | 89·0044 | 207·2917 |
| 54 | 99 | 52·8719 | 118·2873 |
| 55 | 100 | 30·5125 | 65·4154 |
| 56 | 101 | 17·0855 | 34·9029 |
| 57 | 102 | 9·2705 | 17·8174 |
| 58 | 103 | 4·8677 | 8·5469 |
| 59 | 104 | 2·4699 | 3·6792 |
| 60 | 105 | 1·2093 | 1·2093 |

**Female 62 Years older.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 0 | 62 | 361,176 | 2,912,509 |
| 1 | 63 | 283,592 | 2,551,333 |
| 2 | 64 | 248,483 | 2,267,741 |
| 3 | 65 | 223,800 | 2,019,258 |
| 4 | 66 | 203,377 | 1,795,458 |
| 5 | 67 | 185,333 | 1,592,081 |
| 6 | 68 | 168,989 | 1,406,748 |
| 7 | 69 | 153,889 | 1,237,759 |
| 8 | 70 | 139,750 | 1,083,870 |
| 9 | 71 | 126,486 | 944,120 |
| 10 | 72 | 114,009 | 817,634 |
| 11 | 73 | 102,258 | 703,625 |
| 12 | 74 | 91,195·9 | 601,366·6 |
| 13 | 75 | 80,805·2 | 510,170·7 |
| 14 | 76 | 71,080·7 | 429,365·5 |
| 15 | 77 | 62,026·7 | 358,284·8 |
| 16 | 78 | 53,652·5 | 296,258·1 |
| 17 | 79 | 45,968·1 | 242,605·6 |
| 18 | 80 | 38,980·8 | 196,637·5 |
| 19 | 81 | 32,692·6 | 157,656·7 |
| 20 | 82 | 27,097·6 | 124,964·1 |
| 21 | 83 | 22,180·7 | 97,866·5 |
| 22 | 84 | 17,926·5 | 75,685·8 |
| 23 | 85 | 14,294·4 | 57,759·3 |
| 24 | 86 | 11,236·8 | 43,464·9 |
| 25 | 87 | 8,701·09 | 32,228·08 |
| 26 | 88 | 6,631·22 | 23,526·99 |
| 27 | 89 | 4,969·64 | 16,895·77 |
| 28 | 90 | 3,659·15 | 11,926·13 |
| 29 | 91 | 2,644·60 | 8,266·98 |
| 30 | 92 | 1,874·35 | 5,622·38 |
| 31 | 93 | 1,301·45 | 3,748·03 |
| 32 | 94 | 884·417 | 2,446·584 |
| 33 | 95 | 587·613 | 1,562·167 |
| 34 | 96 | 381·304 | 974·554 |
| 35 | 97 | 241·393 | 593·250 |
| 36 | 98 | 148·926 | 351·857 |
| 37 | 99 | 89·4363 | 202·9314 |
| 38 | 100 | 52·2213 | 113·4951 |
| 39 | 101 | 29·6111 | 61·2738 |
| 40 | 102 | 16·2857 | 31·6627 |
| 41 | 103 | 8·6768 | 15·3770 |
| 42 | 104 | 4·4726 | 6·7002 |
| 43 | 105 | 2·2276 | 2·2276 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Female 46 Years older than Male.

### Female 61 Years older than Male.

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| x | y | **Female 46 Years older.** | |
| 0 | 46 | 636,968 | 7,437,143 |
| 1 | 47 | 509,685 | 6,800,175 |
| 2 | 48 | 456,085 | 6,290,490 |
| 3 | 49 | 420,519 | 5,834,405 |
| 4 | 50 | 392,245 | 5,413,886 |
| 5 | 51 | 367,971 | 5,021,641 |
| 6 | 52 | 346,525 | 4,653,670 |
| 7 | 53 | 327,087 | 4,307,145 |
| 8 | 54 | 309,100 | 3,980,058 |
| 9 | 55 | 291,947 | 3,670,958 |
| 10 | 56 | 275,704 | 3,379,011 |
| 11 | 57 | 260,223 | 3,103,307 |
| 12 | 58 | 245,386 | 2,843,084 |
| 13 | 59 | 231,095 | 2,597,698 |
| 14 | 60 | 217,274 | 2,366,603 |
| 15 | 61 | 203,865 | 2,149,329 |
| 16 | 62 | 190,827 | 1,945,464 |
| 17 | 63 | 178,134 | 1,754,637 |
| 18 | 64 | 165,771 | 1,576,503 |
| 19 | 65 | 153,737 | 1,410,732 |
| 20 | 66 | 142,040 | 1,256,995 |
| 21 | 67 | 130,695 | 1,114,955 |
| 22 | 68 | 119,787 | 984,260 |
| 23 | 69 | 109,324 | 864,473 |
| 24 | 70 | 99,313·4 | 755,148·5 |
| 25 | 71 | 89,764·9 | 655,835·1 |
| 26 | 72 | 80,690·5 | 566,070·2 |
| 27 | 73 | 72,103·2 | 485,379·7 |
| 28 | 74 | 64,016·0 | 413,276·5 |
| 29 | 75 | 56,441·7 | 349,260·5 |
| 30 | 76 | 49,391·5 | 292,818·8 |
| 31 | 77 | 42,874·1 | 243,427·3 |
| 32 | 78 | 36,895·1 | 200,553·2 |
| 33 | 79 | 31,455·9 | 163,658·1 |
| 34 | 80 | 26,552·7 | 132,202·2 |
| 35 | 81 | 22,176·5 | 105,649·5 |
| 36 | 82 | 18,312·6 | 83,473·0 |
| 37 | 83 | 14,940·2 | 65,160·4 |
| 38 | 84 | 12,033·3 | 50,220·2 |
| 39 | 85 | 9,560·70 | 38,186·91 |
| 40 | 86 | 7,487·16 | 28,626·21 |
| 41 | 87 | 5,774·31 | 21,139·05 |
| 42 | 88 | 4,381·89 | 15,364·74 |
| 43 | 89 | 3,268·96 | 10,982·85 |
| 44 | 90 | 2,395·21 | 7,713·89 |
| 45 | 91 | 1,722·06 | 5,318·68 |
| 46 | 92 | 1,213·67 | 3,596·62 |
| 47 | 93 | 837·653 | 2,382·946 |
| 48 | 94 | 565·570 | 1,545·293 |
| 49 | 95 | 373·172 | 979·723 |
| 50 | 96 | 240·358 | 606·551 |
| 51 | 97 | 150·956 | 366·193 |
| 52 | 98 | 92·2881 | 215·2367 |
| 53 | 99 | 54·8809 | 122·9486 |
| 54 | 100 | 31·7077 | 68·0677 |
| 55 | 101 | 17·7762 | 36·3600 |
| 56 | 102 | 9·6581 | 18·5838 |
| 57 | 103 | 5·0786 | 8·9257 |
| 58 | 104 | 2·5811 | 3·8471 |
| 59 | 105 | 1·2660 | 1·2660 |

**Female 61 Years older.**

| x | y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 0 | 61 | 378,226 | 3,141,997 |
| 1 | 62 | 297,658 | 2,763,771 |
| 2 | 63 | 261,465 | 2,466,113 |
| 3 | 64 | 236,147 | 2,204,648 |
| 4 | 65 | 215,257 | 1,968,501 |
| 5 | 66 | 196,823 | 1,753,244 |
| 6 | 67 | 180,133 | 1,556,421 |
| 7 | 68 | 164,708 | 1,376,288 |
| 8 | 69 | 150,243 | 1,211,580 |
| 9 | 70 | 136,648 | 1,061,337 |
| 10 | 71 | 123,825 | 924,689 |
| 11 | 72 | 111,705 | 800,864 |
| 12 | 73 | 100,247 | 689,159 |
| 13 | 74 | 89,429·5 | 588,911·7 |
| 14 | 75 | 79,244·7 | 499,482·2 |
| 15 | 76 | 69,697·9 | 420,237·5 |
| 16 | 77 | 60,800·7 | 350,539·6 |
| 17 | 78 | 52,567·7 | 289,738·9 |
| 18 | 79 | 45,012·8 | 237,171·2 |
| 19 | 80 | 38,145·7 | 192,158·4 |
| 20 | 81 | 31,969·5 | 154,012·7 |
| 21 | 82 | 26,478·9 | 122,043·2 |
| 22 | 83 | 21,670·2 | 95,564·3 |
| 23 | 84 | 17,510·8 | 73,894·1 |
| 24 | 85 | 13,960·5 | 56,383·3 |
| 25 | 86 | 10,972·4 | 42,422·8 |
| 26 | 87 | 8,494·91 | 31,450·42 |
| 27 | 88 | 6,472·96 | 22,955·51 |
| 28 | 89 | 4,850·18 | 16,482·55 |
| 29 | 90 | 3,570·54 | 11,632·37 |
| 30 | 91 | 2,580·06 | 8,061·83 |
| 31 | 92 | 1,828·24 | 5,481·77 |
| 32 | 93 | 1,269·17 | 3,653·53 |
| 33 | 94 | 862·288 | 2,384·355 |
| 34 | 95 | 572·773 | 1,522·067 |
| 35 | 96 | 371·579 | 949·294 |
| 36 | 97 | 235·172 | 577·715 |
| 37 | 98 | 145·045 | 342·543 |
| 38 | 99 | 87·0780 | 197·4977 |
| 39 | 100 | 50·8269 | 110·4197 |
| 40 | 101 | 28·8098 | 59·5928 |
| 41 | 102 | 15·8386 | 30·7830 |
| 42 | 103 | 8·4350 | 14·9444 |
| 43 | 104 | 4·3459 | 6·5094 |
| 44 | 105 | 2·1635 | 2·1635 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

**Female 47 Years older than Male.**

**Female 60 Years older than Male.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 47 Years older.** | |
| 0 | 47 | 618,450 | 7,104,021 |
| 1 | 48 | 494,683 | 6,485,571 |
| 2 | 49 | 442,486 | 5,990,888 |
| 3 | 50 | 407,811 | 5,548,402 |
| 4 | 51 | 380,225 | 5,140,591 |
| 5 | 52 | 356,530 | 4,760,366 |
| 6 | 53 | 335,588 | 4,403,836 |
| 7 | 54 | 316,602 | 4,068,248 |
| 8 | 55 | 298,574 | 3,751,646 |
| 9 | 56 | 281,629 | 3,453,072 |
| 10 | 57 | 265,590 | 3,171,443 |
| 11 | 58 | 250,306 | 2,905,853 |
| 12 | 59 | 235,659 | 2,655,547 |
| 13 | 60 | 221,552 | 2,419,888 |
| 14 | 61 | 207,910 | 2,198,336 |
| 15 | 62 | 194,675 | 1,990,426 |
| 16 | 63 | 181,810 | 1,795,751 |
| 17 | 64 | 169,289 | 1,613,941 |
| 18 | 65 | 157,103 | 1,444,652 |
| 19 | 66 | 145,253 | 1,287,549 |
| 20 | 67 | 133,748 | 1,142,296 |
| 21 | 68 | 122,609 | 1,008,548 |
| 22 | 69 | 111,920 | 885,939 |
| 23 | 70 | 101,689 | 774,019 |
| 24 | 71 | 91,927·7 | 672,330·0 |
| 25 | 72 | 82,648·9 | 580,402·3 |
| 26 | 73 | 73,866·0 | 497,753·4 |
| 27 | 74 | 65,592·8 | 423,887·4 |
| 28 | 75 | 57,842·5 | 358,294·6 |
| 29 | 76 | 50,626·9 | 300,452·1 |
| 30 | 77 | 43,955·3 | 249,825·2 |
| 31 | 78 | 37,833·5 | 205,869·9 |
| 32 | 79 | 32,263·1 | 168,036·4 |
| 33 | 80 | 27,240·6 | 135,773·3 |
| 34 | 81 | 22,756·9 | 108,532·7 |
| 35 | 82 | 18,797·0 | 85,775·8 |
| 36 | 83 | 15,340·0 | 66,978·8 |
| 37 | 84 | 12,359·2 | 51,638·8 |
| 38 | 85 | 9,823·00 | 39,279·61 |
| 39 | 86 | 7,695·41 | 29,456·61 |
| 40 | 87 | 5,937·29 | 21,761·20 |
| 41 | 88 | 4,507·49 | 15,823·91 |
| 42 | 89 | 3,364·21 | 11,316·42 |
| 43 | 90 | 2,466·22 | 7,952·21 |
| 44 | 91 | 1,774·06 | 5,485·99 |
| 45 | 92 | 1,251·03 | 3,711·93 |
| 46 | 93 | 863·964 | 2,460·904 |
| 47 | 94 | 583·715 | 1,596·940 |
| 48 | 95 | 385·412 | 1,013·225 |
| 49 | 96 | 248·426 | 627·813 |
| 50 | 97 | 156·146 | 379·387 |
| 51 | 98 | 95·5951 | 223·2412 |
| 52 | 99 | 56·9057 | 127·6461 |
| 53 | 100 | 32·9125 | 70·7404 |
| 54 | 101 | 18·4725 | 37·8279 |
| 55 | 102 | 10·0486 | 19·3554 |
| 56 | 103 | 5·2909 | 9·3068 |
| 57 | 104 | 2·6929 | 4·0159 |
| 58 | 105 | 1·3230 | 1·3230 |

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| | | **Female 60 Years older.** | |
| 0 | 60 | 395,261 | 3,379,366 |
| 1 | 61 | 311,709 | 2,984,105 |
| 2 | 62 | 274,433 | 2,672,396 |
| 3 | 63 | 248,485 | 2,397,963 |
| 4 | 64 | 227,134 | 2,149,478 |
| 5 | 65 | 208,320 | 1,922,344 |
| 6 | 66 | 191,300 | 1,714,024 |
| 7 | 67 | 175,569 | 1,522,724 |
| 8 | 68 | 160,805 | 1,347,155 |
| 9 | 69 | 146,908 | 1,186,350 |
| 10 | 70 | 133,773 | 1,039,442 |
| 11 | 71 | 121,323 | 905,669 |
| 12 | 72 | 109,509 | 784,346 |
| 13 | 73 | 98,305·8 | 674,837·3 |
| 14 | 74 | 87,702·5 | 576,531·5 |
| 15 | 75 | 77,703·1 | 488,829·0 |
| 16 | 76 | 68,320·2 | 411,125·9 |
| 17 | 77 | 59,571·4 | 342,805·7 |
| 18 | 78 | 51,475·3 | 283,234·3 |
| 19 | 79 | 44,048·4 | 231,759·0 |
| 20 | 80 | 37,301·9 | 187,710·6 |
| 21 | 81 | 31,239·6 | 150,408·7 |
| 22 | 82 | 25,869·5 | 119,169·1 |
| 23 | 83 | 21,167·7 | 93,299·6 |
| 24 | 84 | 17,101·8 | 72,131·9 |
| 25 | 85 | 13,632·0 | 55,030·1 |
| 26 | 86 | 10,712·4 | 41,398·1 |
| 27 | 87 | 8,292·17 | 30,685·65 |
| 28 | 88 | 6,317·36 | 22,393·48 |
| 29 | 89 | 4,732·72 | 16,076·12 |
| 30 | 90 | 3,483·41 | 11,343·40 |
| 31 | 91 | 2,516·60 | 7,859·99 |
| 32 | 92 | 1,782·90 | 5,343·39 |
| 33 | 93 | 1,237·41 | 3,560·49 |
| 34 | 94 | 840·512 | 2,323·084 |
| 35 | 95 | 558·166 | 1,482·572 |
| 36 | 96 | 362·003 | 924·406 |
| 37 | 97 | 229·044 | 562·403 |
| 38 | 98 | 141·221 | 333·359 |
| 39 | 99 | 84·7528 | 192·1375 |
| 40 | 100 | 49·4514 | 107·3847 |
| 41 | 101 | 28·0190 | 57·9333 |
| 42 | 102 | 15·3973 | 29·9143 |
| 43 | 103 | 8·1961 | 14·5170 |
| 44 | 104 | 4·2208 | 6·3209 |
| 45 | 105 | 2·1001 | 2·1001 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Female 48 Years older than Male.

### Female 59 Years older than Male.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Female 48 Years older.** | |
| 0 | 48 | 600,245 | 6,777,713 |
| 1 | 49 | 479,933 | 6,177,468 |
| 2 | 50 | 429,114 | 5,697,535 |
| 3 | 51 | 395,314 | 5,268,421 |
| 4 | 52 | 368,404 | 4,873,107 |
| 5 | 53 | 345,277 | 4,504,703 |
| 6 | 54 | 324,831 | 4,159,426 |
| 7 | 55 | 305,820 | 3,834,595 |
| 8 | 56 | 288,022 | 3,528,775 |
| 9 | 57 | 271,298 | 3,240,753 |
| 10 | 58 | 255,468 | 2,969,455 |
| 11 | 59 | 240,385 | 2,713,987 |
| 12 | 60 | 225,928 | 2,473,602 |
| 13 | 61 | 212,004 | 2,247,674 |
| 14 | 62 | 198,537 | 2,035,670 |
| 15 | 63 | 185,476 | 1,837,133 |
| 16 | 64 | 172,783 | 1,651,657 |
| 17 | 65 | 160,438 | 1,478,874 |
| 18 | 66 | 148,433 | 1,318,436 |
| 19 | 67 | 136,774 | 1,170,003 |
| 20 | 68 | 125,474 | 1,033,229 |
| 21 | 69 | 114,556 | 907,755 |
| 22 | 70 | 104,103 | 793,199 |
| 23 | 71 | 94,126·4 | 689,095·9 |
| 24 | 72 | 84,640·3 | 594,969·5 |
| 25 | 73 | 75,658·8 | 510,329·2 |
| 26 | 74 | 67,196·5 | 434,670·4 |
| 27 | 75 | 59,267·2 | 367,473·9 |
| 28 | 76 | 51,883·4 | 308,206·7 |
| 29 | 77 | 45,054·8 | 256,323·3 |
| 30 | 78 | 38,787·6 | 211,268·5 |
| 31 | 79 | 33,083·7 | 172,480·9 |
| 32 | 80 | 27,939·7 | 139,397·2 |
| 33 | 81 | 23,346·5 | 111,457·5 |
| 34 | 82 | 19,288·9 | 88,111·0 |
| 35 | 83 | 15,745·7 | 68,822·1 |
| 36 | 84 | 12,689·9 | 53,076·4 |
| 37 | 85 | 10,089·0 | 40,386·5 |
| 38 | 86 | 7,906·54 | 30,297·50 |
| 39 | 87 | 6,102·43 | 22,390·96 |
| 40 | 88 | 4,634·71 | 16,288·53 |
| 41 | 89 | 3,460·65 | 11,653·82 |
| 42 | 90 | 2,538·09 | 8,193·17 |
| 43 | 91 | 1,826·66 | 5,655·08 |
| 44 | 92 | 1,288·81 | 3,828·42 |
| 45 | 93 | 890·559 | 2,539·609 |
| 46 | 94 | 602·050 | 1,649·050 |
| 47 | 95 | 397·777 | 1,047·000 |
| 48 | 96 | 256·574 | 649·223 |
| 49 | 97 | 161·388 | 392·649 |
| 50 | 98 | 98·8818 | 231·2606 |
| 51 | 99 | 58·9448 | 132·3788 |
| 52 | 100 | 34·1268 | 73·4340 |
| 53 | 101 | 19·1744 | 39·3072 |
| 54 | 102 | 10·4422 | 20·1328 |
| 55 | 103 | 5·5048 | 9·6906 |
| 56 | 104 | 2·8055 | 4·1858 |
| 57 | 105 | 1·3803 | 1·3803 |

**Female 59 Years older.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 0 | 59 | 412,285 | 3,624,430 |
| 1 | 60 | 325,748 | 3,212,145 |
| 2 | 61 | 287,388 | 2,886,397 |
| 3 | 62 | 260,809 | 2,599,009 |
| 4 | 63 | 239,000 | 2,338,200 |
| 5 | 64 | 219,813 | 2,099,200 |
| 6 | 65 | 202,474 | 1,879,387 |
| 7 | 66 | 186,453 | 1,676,913 |
| 8 | 67 | 171,409 | 1,490,460 |
| 9 | 68 | 157,236 | 1,319,051 |
| 10 | 69 | 143,817 | 1,161,815 |
| 11 | 70 | 131,070 | 1,017,998 |
| 12 | 71 | 118,938 | 886,928 |
| 13 | 72 | 107,388 | 767,990 |
| 14 | 73 | 96,407·3 | 660,602·1 |
| 15 | 74 | 85,996·4 | 564,194·8 |
| 16 | 75 | 76,167·3 | 478,198·4 |
| 17 | 76 | 66,938·9 | 402,031·1 |
| 18 | 77 | 58,333·4 | 335,092·2 |
| 19 | 78 | 50,372·4 | 276,758·8 |
| 20 | 79 | 43,074·1 | 226,386·4 |
| 21 | 80 | 36,450·2 | 183,312·3 |
| 22 | 81 | 30,520·6 | 146,862·1 |
| 23 | 82 | 25,269·6 | 116,341·5 |
| 24 | 83 | 20,673·2 | 91,071·9 |
| 25 | 84 | 16,699·4 | 70,398·7 |
| 26 | 85 | 13,309·0 | 53,699·3 |
| 27 | 86 | 10,456·8 | 40,390·3 |
| 28 | 87 | 8,092·84 | 29,933·54 |
| 29 | 88 | 6,164·37 | 21,840·70 |
| 30 | 89 | 4,617·23 | 15,676·33 |
| 31 | 90 | 3,397·73 | 11,059·10 |
| 32 | 91 | 2,454·18 | 7,661·37 |
| 33 | 92 | 1,738·29 | 5,207·19 |
| 34 | 93 | 1,206·17 | 3,468·90 |
| 35 | 94 | 819·077 | 2,262·730 |
| 36 | 95 | 543·782 | 1,443·653 |
| 37 | 96 | 352·570 | 899·871 |
| 38 | 97 | 223·004 | 547·301 |
| 39 | 98 | 137·450 | 324·297 |
| 40 | 99 | 82·4592 | 186·8472 |
| 41 | 100 | 48·0940 | 104·3880 |
| 42 | 101 | 27·2382 | 56·2940 |
| 43 | 102 | 14·9613 | 29·0558 |
| 44 | 103 | 7·9601 | 14·0945 |
| 45 | 104 | 4·0971 | 6·1344 |
| 46 | 105 | 2·0373 | 2·0373 |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### Female 49 Years older than Male.

### Female 58 Years older than Male.

**Female 49 Years older.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 0 | 49 | 582,348 | 6,458,140 |
| 1 | 50 | 465,429 | 5,875,792 |
| 2 | 51 | 415,964 | 5,410,363 |
| 3 | 52 | 383,023 | 4,994,399 |
| 4 | 53 | 356,776 | 4,611,376 |
| 5 | 54 | 334,209 | 4,254,600 |
| 6 | 55 | 313,769 | 3,920,391 |
| 7 | 56 | 295,012 | 3,606,622 |
| 8 | 57 | 277,455 | 3,311,610 |
| 9 | 58 | 260,958 | 3,034,155 |
| 10 | 59 | 245,341 | 2,773,197 |
| 11 | 60 | 230,458 | 2,527,856 |
| 12 | 61 | 216,191 | 2,297,398 |
| 13 | 62 | 202,447 | 2,081,207 |
| 14 | 63 | 189,156 | 1,878,760 |
| 15 | 64 | 176,267 | 1,689,604 |
| 16 | 65 | 163,748 | 1,513,337 |
| 17 | 66 | 151,583 | 1,349,589 |
| 18 | 67 | 139,768 | 1,198,006 |
| 19 | 68 | 128,312 | 1,058,238 |
| 20 | 69 | 117,233 | 929,926 |
| 21 | 70 | 106,555 | 812,693 |
| 22 | 71 | 96,360·9 | 706,137·5 |
| 23 | 72 | 86,664·8 | 609,776·6 |
| 24 | 73 | 77,481·8 | 523,111·8 |
| 25 | 74 | 68,827·4 | 445,630·0 |
| 26 | 75 | 60,716·3 | 376,802·6 |
| 27 | 76 | 53,161·3 | 316,086·3 |
| 28 | 77 | 46,172·9 | 262,925·0 |
| 29 | 78 | 39,757·8 | 216,752·1 |
| 30 | 79 | 33,918·0 | 176,994·3 |
| 31 | 80 | 28,650·3 | 143,076·3 |
| 32 | 81 | 23,945·6 | 114,426·0 |
| 33 | 82 | 19,788·7 | 90,480·4 |
| 34 | 83 | 16,157·8 | 70,691·7 |
| 35 | 84 | 13,025·6 | 54,533·9 |
| 36 | 85 | 10,359·0 | 41,508·3 |
| 37 | 86 | 8,120·67 | 31,149·32 |
| 38 | 87 | 6,269·85 | 23,028·65 |
| 39 | 88 | 4,763·62 | 16,758·80 |
| 40 | 89 | 3,558·32 | 11,995·18 |
| 41 | 90 | 2,610·84 | 8,436·86 |
| 42 | 91 | 1,879·89 | 5,826·02 |
| 43 | 92 | 1,327·02 | 3,946·13 |
| 44 | 93 | 917·450 | 2,619·113 |
| 45 | 94 | 620·583 | 1,701·663 |
| 46 | 95 | 410·272 | 1,081·080 |
| 47 | 96 | 264·806 | 670·808 |
| 48 | 97 | 166·681 | 406·002 |
| 49 | 98 | 102·201 | 239·321 |
| 50 | 99 | 60·9715 | 137·1195 |
| 51 | 100 | 35·3497 | 76·1480 |
| 52 | 101 | 19·8819 | 40·7983 |
| 53 | 102 | 10·8390 | 20·9164 |
| 54 | 103 | 5·7205 | 10·0774 |
| 55 | 104 | 2·9189 | 4·3569 |
| 56 | 105 | 1·4380 | 1·4380 |

**Female 58 Years older.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 0 | 58 | 429,302 | 3,877,018 |
| 1 | 59 | 339,778 | 3,447,716 |
| 2 | 60 | 300,332 | 3,107,938 |
| 3 | 61 | 273,121 | 2,807,606 |
| 4 | 62 | 250,854 | 2,534,485 |
| 5 | 63 | 231,297 | 2,283,631 |
| 6 | 64 | 213,645 | 2,052,334 |
| 7 | 65 | 197,345 | 1,838,689 |
| 8 | 66 | 182,036 | 1,641,344 |
| 9 | 67 | 167,605 | 1,459,308 |
| 10 | 68 | 153,928 | 1,291,703 |
| 11 | 69 | 140,912 | 1,137,775 |
| 12 | 70 | 128,494 | 996,863 |
| 13 | 71 | 116,634 | 868,369 |
| 14 | 72 | 105,314 | 751,735 |
| 15 | 73 | 94,531·9 | 646,420·8 |
| 16 | 74 | 84,296·6 | 551,888·9 |
| 17 | 75 | 74,627·3 | 467,592·3 |
| 18 | 76 | 65,547·8 | 392,965·0 |
| 19 | 77 | 57,083·6 | 327,417·2 |
| 20 | 78 | 49,258·3 | 270,333·6 |
| 21 | 79 | 42,090·6 | 221,075·3 |
| 22 | 80 | 35,611·4 | 178,984·7 |
| 23 | 81 | 29,812·9 | 143,373·3 |
| 24 | 82 | 24,679·4 | 113,560·4 |
| 25 | 83 | 20,186·8 | 88,881·0 |
| 26 | 84 | 16,303·7 | 68,694·2 |
| 27 | 85 | 12,991·4 | 52,390·5 |
| 28 | 86 | 10,205·4 | 39,399·1 |
| 29 | 87 | 7,896·85 | 29,193·73 |
| 30 | 88 | 6,013·94 | 21,296·88 |
| 31 | 89 | 4,503·66 | 15,282·94 |
| 32 | 90 | 3,313·45 | 10,779·28 |
| 33 | 91 | 2,392·78 | 7,465·83 |
| 34 | 92 | 1,694·39 | 5,073·05 |
| 35 | 93 | 1,175·40 | 3,378·66 |
| 36 | 94 | 797·968 | 2,203·256 |
| 37 | 95 | 529·611 | 1,405·288 |
| 38 | 96 | 343·273 | 875·677 |
| 39 | 97 | 217·050 | 532·404 |
| 40 | 98 | 133·730 | 315·354 |
| 41 | 99 | 80·1958 | 181·6239 |
| 42 | 100 | 46·7538 | 101·4281 |
| 43 | 101 | 26·4670 | 54·6743 |
| 44 | 102 | 14·5305 | 28·2073 |
| 45 | 103 | 7·7268 | 13·6768 |
| 46 | 104 | 3·9747 | 5·9500 |
| 47 | 105 | 1·9753 | 1·9753 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

### Female 50 Years older than Male.

### Female 51 Years older than Male.

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| | | **Female 50 Years older.** | |
| 0 | 50 | 564,749 | 6,145,244 |
| 1 | 51 | 451,166 | 5,580,495 |
| 2 | 52 | 403,031 | 5,129,329 |
| 3 | 53 | 370,935 | 4,726,298 |
| 4 | 54 | 345,339 | 4,355,363 |
| 5 | 55 | 322,828 | 4,010,024 |
| 6 | 56 | 302,680 | 3,687,196 |
| 7 | 57 | 284,189 | 3,384,516 |
| 8 | 58 | 266,882 | 3,100,327 |
| 9 | 59 | 250,615 | 2,833,445 |
| 10 | 60 | 235,211 | 2,582,830 |
| 11 | 61 | 220,526 | 2,347,619 |
| 12 | 62 | 206,446 | 2,127,093 |
| 13 | 63 | 192,880 | 1,920,647 |
| 14 | 64 | 179,764 | 1,727,767 |
| 15 | 65 | 167,050 | 1,548,003 |
| 16 | 66 | 154,711 | 1,380,953 |
| 17 | 67 | 142,734 | 1,226,242 |
| 18 | 68 | 131,121 | 1,083,508 |
| 19 | 69 | 119,884 | 952,387 |
| 20 | 70 | 109,045 | 832,503 |
| 21 | 71 | 98,630·8 | 723,458·2 |
| 22 | 72 | 88,722·1 | 624,827·4 |
| 23 | 73 | 79,335·0 | 536,105·3 |
| 24 | 74 | 70,485·8 | 456,770·3 |
| 25 | 75 | 62,189·9 | 386,284·5 |
| 26 | 76 | 54,461·1 | 324,094·6 |
| 27 | 77 | 47,310·2 | 269,633·5 |
| 28 | 78 | 40,744·5 | 222,323·3 |
| 29 | 79 | 34,766·4 | 181,578·8 |
| 30 | 80 | 29,372·8 | 146,812·4 |
| 31 | 81 | 24,554·7 | 117,439·6 |
| 32 | 82 | 20,296·5 | 92,884·9 |
| 33 | 83 | 16,576·4 | 72,588·4 |
| 34 | 84 | 13,366·4 | 56,012·0 |
| 35 | 85 | 10,633·0 | 42,645·6 |
| 36 | 86 | 8,337·94 | 32,012·64 |
| 37 | 87 | 6,439·65 | 23,674·70 |
| 38 | 88 | 4,894·31 | 17,235·05 |
| 39 | 89 | 3,657·29 | 12,340·74 |
| 40 | 90 | 2,684·53 | 8,683·45 |
| 41 | 91 | 1,933·77 | 5,998·92 |
| 42 | 92 | 1,365·69 | 4,065·15 |
| 43 | 93 | 944·651 | 2,699·464 |
| 44 | 94 | 639·322 | 1,754·813 |
| 45 | 95 | 422·901 | 1,115·491 |
| 46 | 96 | 273·124 | 692·590 |
| 47 | 97 | 172·029 | 419·466 |
| 48 | 98 | 105·553 | 247·437 |
| 49 | 99 | 63·0181 | 141·8836 |
| 50 | 100 | 36·5651 | 78·8655 |
| 51 | 101 | 20·5943 | 42·3004 |
| 52 | 102 | 11·2389 | 21·7061 |
| 53 | 103 | 5·9378 | 10·4672 |
| 54 | 104 | 3·0332 | 4·5294 |
| 55 | 105 | 1·4962 | 1·4962 |

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| | | **Female 51 Years older.** | |
| 0 | 51 | 547,443 | 5,838,949 |
| 1 | 52 | 437,139 | 5,291,506 |
| 2 | 53 | 390,311 | 4,854,367 |
| 3 | 54 | 359,044 | 4,464,056 |
| 4 | 55 | 333,579 | 4,105,012 |
| 5 | 56 | 311,418 | 3,771,433 |
| 6 | 57 | 291,575 | 3,460,015 |
| 7 | 58 | 273,359 | 3,168,440 |
| 8 | 59 | 256,303 | 2,895,081 |
| 9 | 60 | 240,266 | 2,638,778 |
| 10 | 61 | 225,073 | 2,398,512 |
| 11 | 62 | 210,585 | 2,173,439 |
| 12 | 63 | 196,690 | 1,962,854 |
| 13 | 64 | 183,304 | 1,766,164 |
| 14 | 65 | 170,364 | 1,582,860 |
| 15 | 66 | 157,831 | 1,412,496 |
| 16 | 67 | 145,680 | 1,254,665 |
| 17 | 68 | 133,904 | 1,108,985 |
| 18 | 69 | 122,509 | 975,081 |
| 19 | 70 | 111,511 | 852,572 |
| 20 | 71 | 100,935 | 741,061 |
| 21 | 72 | 90,812·1 | 640,125·6 |
| 22 | 73 | 81,218·4 | 549,313·5 |
| 23 | 74 | 72,171·7 | 468,095·1 |
| 24 | 75 | 63,688·4 | 395,923·4 |
| 25 | 76 | 55,782·9 | 332,235·0 |
| 26 | 77 | 48,466·9 | 276,452·1 |
| 27 | 78 | 41,748·1 | 227,985·2 |
| 28 | 79 | 35,629·2 | 186,237·1 |
| 29 | 80 | 30,107·5 | 150,607·9 |
| 30 | 81 | 25,173·9 | 120,500·4 |
| 31 | 82 | 20,812·7 | 95,326·5 |
| 32 | 83 | 17,001·8 | 74,513·8 |
| 33 | 84 | 13,712·7 | 57,512·0 |
| 34 | 85 | 10,911·3 | 43,799·3 |
| 35 | 86 | 8,558·50 | 32,888·03 |
| 36 | 87 | 6,611·95 | 24,329·53 |
| 37 | 88 | 5,026·86 | 17,717·58 |
| 38 | 89 | 3,757·63 | 12,690·72 |
| 39 | 90 | 2,759·20 | 8,933·09 |
| 40 | 91 | 1,988·35 | 6,173·89 |
| 41 | 92 | 1,404·83 | 4,185·54 |
| 42 | 93 | 972·177 | 2,780·709 |
| 43 | 94 | 658·276 | 1,808·532 |
| 44 | 95 | 435·671 | 1,150·256 |
| 45 | 96 | 281·531 | 714·585 |
| 46 | 97 | 177·432 | 433·054 |
| 47 | 98 | 108·940 | 255·622 |
| 48 | 99 | 65·0851 | 146·6817 |
| 49 | 100 | 37·7924 | 81·5966 |
| 50 | 101 | 21·3024 | 43·8042 |
| 51 | 102 | 11·6416 | 22·5018 |
| 52 | 103 | 6·1569 | 10·8602 |
| 53 | 104 | 3·1485 | 4·7033 |
| 54 | 105 | 1·5548 | 1·5548 |

## JOINT LIVES :—MALE AND FEMALE LIFE.

**Female 52 Years older than Male.**

**Female 53 Years older than Male.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ | Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | **Female 52 Years older.** | | $x$ | $y$ | **Female 53 Years older.** | |
| 0 | 52 | 530,422 | 5,539,185 | 0 | 53 | 513,681 | 5,245,868 |
| 1 | 53 | 423,342 | 5,008,763 | 1 | 54 | 409,771 | 4,732,187 |
| 2 | 54 | 377,799 | 4,585,421 | 2 | 55 | 364,933 | 4,322,416 |
| 3 | 55 | 346,817 | 4,207,622 | 3 | 56 | 334,560 | 3,957,483 |
| 4 | 56 | 321,789 | 3,860,805 | 4 | 57 | 309,984 | 3,622,923 |
| 5 | 57 | 299,994 | 3,539,016 | 5 | 58 | 288,561 | 3,312,939 |
| 6 | 58 | 280,463 | 3,239,022 | 6 | 59 | 269,346 | 3,024,378 |
| 7 | 59 | 262,523 | 2,958,559 | 7 | 60 | 251,683 | 2,755,032 |
| 8 | 60 | 245,720 | 2,696,036 | 8 | 61 | 235,129 | 2,503,349 |
| 9 | 61 | 229,911 | 2,450,316 | 9 | 62 | 219,547 | 2,268,220 |
| 10 | 62 | 214,928 | 2,220,405 | 10 | 63 | 204,771 | 2,048,673 |
| 11 | 63 | 200,634 | 2,005,477 | 11 | 64 | 190,672 | 1,843,902 |
| 12 | 64 | 186,924 | 1,804,843 | 12 | 65 | 177,150 | 1,653,230 |
| 13 | 65 | 173,719 | 1,617,919 | 13 | 66 | 164,132 | 1,476,080 |
| 14 | 66 | 160,962 | 1,444,200 | 14 | 67 | 151,566 | 1,311,948 |
| 15 | 67 | 148,618 | 1,283,238 | 15 | 68 | 139,423 | 1,160,382 |
| 16 | 68 | 136,667 | 1,134,620 | 16 | 69 | 127,691 | 1,020,959 |
| 17 | 69 | 125,109 | 997,953 | 17 | 70 | 116,371 | 893,268 |
| 18 | 70 | 113,953 | 872,844 | 18 | 71 | 105,478 | 776,897 |
| 19 | 71 | 103,218 | 758,891 | 19 | 72 | 95,036·1 | 671,418·6 |
| 20 | 72 | 92,934·0 | 655,672·9 | 20 | 73 | 85,074·0 | 576,382·5 |
| 21 | 73 | 83,131·6 | 562,738·9 | 21 | 74 | 75,625·4 | 491,308·5 |
| 22 | 74 | 73,885·0 | 479,607·3 | 22 | 75 | 66,759·7 | 415,683·1 |
| 23 | 75 | 65,211·7 | 405,722·3 | 23 | 76 | 58,493·3 | 348,923·4 |
| 24 | 76 | 57,127·0 | 340,510·6 | 24 | 77 | 50,839·4 | 290,430·1 |
| 25 | 77 | 49,643·3 | 283,383·6 | 25 | 78 | 43,806·8 | 239,590·7 |
| 26 | 78 | 42,768·8 | 233,740·3 | 26 | 79 | 37,399·3 | 195,783·9 |
| 27 | 79 | 36,506·8 | 190,971·5 | 27 | 80 | 31,614·7 | 158,384·6 |
| 28 | 80 | 30,854·7 | 154,464·7 | 28 | 81 | 26,443·9 | 126,769·9 |
| 29 | 81 | 25,803·5 | 123,610·0 | 29 | 82 | 21,871·3 | 100,326·0 |
| 30 | 82 | 21,337·6 | 97,806·5 | 30 | 83 | 17,873·9 | 78,454·7 |
| 31 | 83 | 17,434·3 | 76,468·9 | 31 | 84 | 14,422·4 | 60,580·8 |
| 32 | 84 | 14,064·6 | 59,034·6 | 32 | 85 | 11,481·2 | 46,158·4 |
| 33 | 85 | 11,194·0 | 44,970·0 | 33 | 86 | 9,010·02 | 34,677·18 |
| 34 | 86 | 8,782·48 | 33,776·02 | 34 | 87 | 6,964·47 | 25,667·16 |
| 35 | 87 | 6,786·85 | 24,993·54 | 35 | 88 | 5,297·89 | 18,702·69 |
| 36 | 88 | 5,161·36 | 18,206·69 | 36 | 89 | 3,962·66 | 13,404·80 |
| 37 | 89 | 3,859·40 | 13,045·33 | 37 | 90 | 2,911·67 | 9,442·14 |
| 38 | 90 | 2,834·89 | 9,185·93 | 38 | 91 | 2,099·73 | 6,530·47 |
| 39 | 91 | 2,043·66 | 6,351·04 | 39 | 92 | 1,484·66 | 4,430·74 |
| 40 | 92 | 1,444·49 | 4,307·38 | 40 | 93 | 1,028·27 | 2,946·08 |
| 41 | 93 | 1,000·04 | 2,862·89 | 41 | 94 | 696·877 | 1,917·809 |
| 42 | 94 | 677·458 | 1,862·854 | 42 | 95 | 461·659 | 1,220·932 |
| 43 | 95 | 448·588 | 1,185·396 | 43 | 96 | 298·631 | 759·273 |
| 44 | 96 | 290·032 | 736·808 | 44 | 97 | 188·417 | 460·642 |
| 45 | 97 | 182·894 | 446·776 | 45 | 98 | 115·820 | 272·225 |
| 46 | 98 | 112·362 | 263·882 | 46 | 99 | 69·2832 | 156·4049 |
| 47 | 99 | 67·1732 | 151·5203 | 47 | 100 | 40·2843 | 87·1217 |
| 48 | 100 | 39·0320 | 84·3471 | 48 | 101 | 22·7396 | 46·8374 |
| 49 | 101 | 22·0174 | 45·3151 | 49 | 102 | 12·4460 | 24·0978 |
| 50 | 102 | 12·0418 | 23·2977 | 50 | 103 | 6·5968 | 11·6518 |
| 51 | 103 | 6·3775 | 11·2559 | 51 | 104 | 3·3816 | 5·0550 |
| 52 | 104 | 3·2646 | 4·8784 | 52 | 105 | 1·6734 | 1·6734 |
| 53 | 105 | 1·6138 | 1·6138 | | | | |

## JOINT LIVES :—Male and Female Life.

### Female 54 Years older than Male.

### Female 55 Years older than Male.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ | Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | Female 54 Years older. | | $x$ | $y$ | Female 55 Years older. | |
| 0 | 54 | 497,214 | 4,958,901 | 0 | 55 | 480,282 | 4,678,079 |
| 1 | 55 | 395,817 | 4,461,687 | 1 | 56 | 381,828 | 4,197,797 |
| 2 | 56 | 352,036 | 4,065,870 | 2 | 57 | 339,121 | 3,815,969 |
| 3 | 57 | 322,286 | 3,713,834 | 3 | 58 | 310,003 | 3,476,848 |
| 4 | 58 | 298,171 | 3,391,548 | 4 | 59 | 286,352 | 3,166,845 |
| 5 | 59 | 277,123 | 3,093,377 | 5 | 60 | 265,680 | 2,880,493 |
| 6 | 60 | 258,224 | 2,816,254 | 6 | 61 | 247,095 | 2,614,813 |
| 7 | 61 | 240,836 | 2,558,030 | 7 | 62 | 229,979 | 2,367,718 |
| 8 | 62 | 224,530 | 2,317,194 | 8 | 63 | 213,920 | 2,137,739 |
| 9 | 63 | 209,172 | 2,092,664 | 9 | 64 | 198,787 | 1,923,819 |
| 10 | 64 | 194,604 | 1,883,492 | 10 | 65 | 184,429 | 1,725,032 |
| 11 | 65 | 180,703 | 1,688,888 | 11 | 66 | 170,730 | 1,540,603 |
| 12 | 66 | 167,374 | 1,508,185 | 12 | 67 | 157,603 | 1,369,873 |
| 13 | 67 | 154,551 | 1,340,811 | 13 | 68 | 144,989 | 1,212,270 |
| 14 | 68 | 142,189 | 1,186,260 | 14 | 69 | 132,850 | 1,067,281 |
| 15 | 69 | 130,266 | 1,044,071 | 15 | 70 | 121,168 | 934,431 |
| 16 | 70 | 118,772 | 913,805 | 16 | 71 | 109,940 | 813,263 |
| 17 | 71 | 107,717 | 795,033 | 17 | 72 | 99,177·9 | 703,322·6 |
| 18 | 72 | 97,116·8 | 687,315·9 | 18 | 73 | 88,903·1 | 604,144·7 |
| 19 | 73 | 86,998·3 | 590,199·1 | 19 | 74 | 79,143·1 | 515,241·6 |
| 20 | 74 | 77,392·5 | 503,200·8 | 20 | 75 | 69,929·0 | 436,098·5 |
| 21 | 75 | 68,332·3 | 425,808·3 | 21 | 76 | 61,292·5 | 366,169·5 |
| 22 | 76 | 59,881·9 | 357,476·0 | 22 | 77 | 53,291·1 | 304,877·0 |
| 23 | 77 | 52,055·4 | 297,594·1 | 23 | 78 | 45,935·3 | 251,585·9 |
| 24 | 78 | 44,862·3 | 245,538·7 | 24 | 79 | 39,230·1 | 205,650·6 |
| 25 | 79 | 38,307·1 | 200,676·4 | 25 | 80 | 33,173·7 | 166,420·5 |
| 26 | 80 | 32,387·6 | 162,369·3 | 26 | 81 | 27,757·7 | 133,246·8 |
| 27 | 81 | 27,095·3 | 129,981·7 | 27 | 82 | 22,966·2 | 105,489·1 |
| 28 | 82 | 22,414·1 | 102,886·4 | 28 | 83 | 18,775·7 | 82,522·9 |
| 29 | 83 | 18,321·0 | 80,472·3 | 29 | 84 | 15,155·9 | 63,747·2 |
| 30 | 84 | 14,786·1 | 62,151·3 | 30 | 85 | 12,070·1 | 48,591·3 |
| 31 | 85 | 11,773·2 | 47,365·2 | 31 | 86 | 9,476·28 | 36,521·15 |
| 32 | 86 | 9,241·24 | 35,592·02 | 32 | 87 | 7,328·27 | 27,044·87 |
| 33 | 87 | 7,144·91 | 26,350·78 | 33 | 88 | 5,577·39 | 19,716·60 |
| 34 | 88 | 5,436·54 | 19,205·87 | 34 | 89 | 4,173·93 | 14,139·21 |
| 35 | 89 | 4,067·48 | 13,769·33 | 35 | 90 | 3,068·66 | 9,965·28 |
| 36 | 90 | 2,989·57 | 9,701·85 | 36 | 91 | 2,214·29 | 6,896·62 |
| 37 | 91 | 2,156·59 | 6,712·28 | 37 | 92 | 1,566·71 | 4,682·33 |
| 38 | 92 | 1,525·39 | 4,555·69 | 38 | 93 | 1,085·87 | 3,115·62 |
| 39 | 93 | 1,056·87 | 3,030·30 | 39 | 94 | 736·476 | 2,029·749 |
| 40 | 94 | 716·546 | 1,973·430 | 40 | 95 | 488·295 | 1,293·273 |
| 41 | 95 | 474·892 | 1,256·884 | 41 | 96 | 316·143 | 804·978 |
| 42 | 96 | 307·333 | 781·992 | 42 | 97 | 199·656 | 488·835 |
| 43 | 97 | 194·003 | 474·659 | 43 | 98 | 122·855 | 289·179 |
| 44 | 98 | 119·318 | 280·656 | 44 | 99 | 73·5724 | 166·3242 |
| 45 | 99 | 71·4159 | 161·3384 | 45 | 100 | 42·8287 | 92·7518 |
| 46 | 100 | 41·5497 | 89·9225 | 46 | 101 | 24·2063 | 49·9231 |
| 47 | 101 | 23·4691 | 48·3728 | 47 | 102 | 13·2667 | 25·7168 |
| 48 | 102 | 12·8543 | 24·9037 | 48 | 103 | 7·0419 | 12·4501 |
| 49 | 103 | 6·8182 | 12·0494 | 49 | 104 | 3·6153 | 5·4082 |
| 50 | 104 | 3·4979 | 5·2312 | 50 | 105 | 1·7929 | 1·7929 |
| 51 | 105 | 1·7333 | 1·7333 | | | | |

## JOINT LIVES:—MALE AND FEMALE LIFE.

### **Female 56 Years older than Male.**

### **Female 57* Years older than Male.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ | Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | **Female 56 Years older.** | | $x$ | $y$ | **Female 57* Years older.** | |
| 0 | 56 | 463,308 | 4,404,024 | 0 | 57 | 446,311 | 4,136,942 |
| 1 | 57 | 367,820 | 3,940,716 | 1 | 58 | 353,802 | 3,690,631 |
| 2 | 58 | 326,197 | 3,572,896 | 2 | 59 | 313,267 | 3,336,829 |
| 3 | 59 | 297,716 | 3,246,699 | 3 | 60 | 285,422 | 3,023,562 |
| 4 | 60 | 274,528 | 2,948,983 | 4 | 61 | 262,696 | 2,738,140 |
| 5 | 61 | 254,229 | 2,674,455 | 5 | 62 | 242,769 | 2,475,444 |
| 6 | 62 | 235,957 | 2,420,226 | 6 | 63 | 224,807 | 2,232,675 |
| 7 | 63 | 219,112 | 2,184,269 | 7 | 64 | 208,233 | 2,007,868 |
| 8 | 64 | 203,299 | 1,965,157 | 8 | 65 | 192,669 | 1,799,635 |
| 9 | 65 | 188,393 | 1,761,858 | 9 | 66 | 177,995 | 1,606,966 |
| 10 | 66 | 174,250 | 1,573,465 | 10 | 67 | 164,079 | 1,428,971 |
| 11 | 67 | 160,763 | 1,399,215 | 11 | 68 | 150,818 | 1,264,892 |
| 12 | 68 | 147,853 | 1,238,452 | 12 | 69 | 138,142 | 1,114,074 |
| 13 | 69 | 135,466 | 1,090,599 | 13 | 70 | 126,005 | 975,932 |
| 14 | 70 | 123,571 | 955,133 | 14 | 71 | 114,382 | 849,927 |
| 15 | 71 | 112,157 | 831,562 | 15 | 72 | 103,266 | 735,545 |
| 16 | 72 | 101,224 | 719,405 | 16 | 73 | 92,663·3 | 632,278·9 |
| 17 | 73 | 90,789·8 | 618,180·9 | 17 | 74 | 82,592·2 | 539,615·6 |
| 18 | 74 | 80,875·8 | 527,391·1 | 18 | 75 | 73,076·4 | 457,023·4 |
| 19 | 75 | 71,510·7 | 446,515·3 | 19 | 76 | 64,143·4 | 383,947·0 |
| 20 | 76 | 62,724·7 | 375,004·6 | 20 | 77 | 55,821·0 | 319,803·6 |
| 21 | 77 | 54,546·5 | 312,279·9 | 21 | 78 | 48,133·5 | 263,982·6 |
| 22 | 78 | 47,025·8 | 257,733·4 | 22 | 79 | 41,121·9 | 215,849·1 |
| 23 | 79 | 40,168·4 | 210,707·6 | 23 | 80 | 34,785·6 | 174,727·2 |
| 24 | 80 | 33,973·0 | 170,539·2 | 24 | 81 | 29,116·5 | 139,941·6 |
| 25 | 81 | 28,431·4 | 136,566·2 | 25 | 82 | 24,098·7 | 110,825·1 |
| 26 | 82 | 23,527·7 | 108,134·8 | 26 | 83 | 19,708·5 | 86,726·4 |
| 27 | 83 | 19,238·1 | 84,607·1 | 27 | 84 | 15,914·6 | 67,017·9 |
| 28 | 84 | 15,532·0 | 65,369·0 | 28 | 85 | 12,679·1 | 51,103·3 |
| 29 | 85 | 12,372·0 | 49,837·0 | 29 | 86 | 9,958·25 | 38,424·20 |
| 30 | 86 | 9,715·25 | 37,465·00 | 30 | 87 | 7,704·15 | 28,465·95 |
| 31 | 87 | 7,514·65 | 27,749·75 | 31 | 88 | 5,866·02 | 20,761·80 |
| 32 | 88 | 5,720·52 | 20,235·10 | 32 | 89 | 4,391·96 | 14,895·78 |
| 33 | 89 | 4,282·06 | 14,514·58 | 33 | 90 | 3,230·55 | 10,503·82 |
| 34 | 90 | 3,148·96 | 10,232·52 | 34 | 91 | 2,332·35 | 7,273·27 |
| 35 | 91 | 2,272·87 | 7,083·56 | 35 | 92 | 1,651·18 | 4,940·92 |
| 36 | 92 | 1,608·62 | 4,810·69 | 36 | 93 | 1,145·11 | 3,289·74 |
| 37 | 93 | 1,115·27 | 3,202·07 | 37 | 94 | 777·175 | 2,144·627 |
| 38 | 94 | 756·681 | 2,086·802 | 38 | 95 | 515·646 | 1,367·452 |
| 39 | 95 | 501·877 | 1,330·121 | 39 | 96 | 334·107 | 851·806 |
| 40 | 96 | 325·065 | 828·244 | 40 | 97 | 211·176 | 517·699 |
| 41 | 97 | 205·379 | 503·179 | 41 | 98 | 130·059 | 306·523 |
| 42 | 98 | 126·435 | 297·800 | 42 | 99 | 77·9610 | 176·4642 |
| 43 | 99 | 75·7537 | 171·3653 | 43 | 100 | 45·4300 | 98·5032 |
| 44 | 100 | 44·1219 | 95·6116 | 44 | 101 | 25·7049 | 53·0732 |
| 45 | 101 | 24·9515 | 51·4897 | 45 | 102 | 14·1046 | 27·3683 |
| 46 | 102 | 13·6834 | 26·5382 | 46 | 103 | 7·4961 | 13·2637 |
| 47 | 103 | 7·2678 | 12·8548 | 47 | 104 | 3·8537 | 5·7676 |
| 48 | 104 | 3·7339 | 5·5870 | 48 | 105 | 1·9139 | 1·9139 |
| 49 | 105 | 1·8531 | 1·8531 | | | | |

* NOTE.—The Columns $D_{x,y}$ and $N_{x,y}$ for **Female 58 Years older than Male** are printed on page 350; and the corresponding Columns for **Female 59-105 Years Older** will be found by reading the Tables backwards from p. 349 to p. 303.

# JOINT LIVES.

## TWO MALES.

Interest 3 per Cent.

## JOINT LIVES :—TWO MALES.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 0 | | 1 | | | 2 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,0}$ | λ $N_{x,0}$ | Age of (x) | λ $D_{x,1}$ | λ $N_{x,1}$ | Age of (x) | λ $D_{x,2}$ | λ $N_{x,2}$ |
| 0 | 6·4181076 | 7·5173361 | 0 | 6·3341054 | 7·4989127 | 0 | 6·2988245 | 7·4854412 |
| 1 | 6·3341054 | 7·4989127 | 1 | 6·2501032 | 7·4813249 | 1 | 6·2148223 | 7·4681322 |
| 2 | 6·2988245 | 7·4854412 | 2 | 6·2148223 | 7·4681322 | 2 | 6·1795414 | 7·4550443 |
| 3 | 6·2767112 | 7·4733906 | 3 | 6·1927090 | 7·4562202 | 3 | 6·1574281 | 7·4431929 |
| 4 | 6·2598095 | 7·4619484 | 4 | 6·1758073 | 7·4448614 | 4 | 6·1405264 | 7·4318765 |
| 5 | 6·2455821 | 7·4508206 | 5 | 6·1615799 | 7·4337872 | 5 | 6·1262990 | 7·4208350 |
| 6 | 6·2332209 | 7·4398666 | 6 | 6·1492187 | 7·4228663 | 6 | 6·1139378 | 7·4099396 |
| 7 | 6·2220774 | 7·4289871 | 7 | 6·1380752 | 7·4120057 | 7 | 6·1027943 | 7·3990998 |
| 8 | 6·2116632 | 7·4181164 | 8 | 6·1276610 | 7·4011439 | 8 | 6·0923801 | 7·3882551 |
| 9 | 6·2019158 | 7·4072161 | 9 | 6·1179136 | 7·3902429 | 9 | 6·0826327 | 7·3773680 |
| 10 | 6·1926806 | 7·3962474 | 10 | 6·1086784 | 7·3792660 | 10 | 6·0733975 | 7·3664021 |
| 11 | 6·1838161 | 7·3851776 | 11 | 6·0998139 | 7·3681818 | 11 | 6·0645330 | 7·3553266 |
| 12 | 6·1751941 | 7·3739802 | 12 | 6·0911919 | 7·3569644 | 12 | 6·0559110 | 7·3441163 |
| 13 | 6·1666996 | 7·3626324 | 13 | 6·0826974 | 7·3455935 | 13 | 6·0474165 | 7·3327506 |
| 14 | 6·1582307 | 7·3511177 | 14 | 6·0742285 | 7·3340524 | 14 | 6·0389476 | 7·3212143 |
| 15 | 6·1496989 | 7·3394229 | 15 | 6·0656967 | 7·3223297 | 15 | 6·0304158 | 7·3094952 |
| 16 | 6·1410286 | 7·3275387 | 16 | 6·0570264 | 7·3104171 | 16 | 6·0217455 | 7·2975858 |
| 17 | 6·1321578 | 7·3154610 | 17 | 6·0481556 | 7·2983102 | 17 | 6·0128747 | 7·2854826 |
| 18 | 6·1230373 | 7·3031875 | 18 | 6·0390351 | 7·2860082 | 18 | 6·0037542 | 7·2731838 |
| 19 | 6·1136315 | 7·2907198 | 19 | 6·0296293 | 7·2735126 | 19 | 5·9943484 | 7·2606916 |
| 20 | 6·1039177 | 7·2780616 | 20 | 6·0199155 | 7·2608277 | 20 | 5·9846346 | 7·2480098 |
| 21 | 6·0938865 | 7·2652201 | 21 | 6·0098843 | 7·2479590 | 21 | 5·9746034 | 7·2351445 |
| 22 | 6·0837749 | 7·2522053 | 22 | 5·9997727 | 7·2349149 | 22 | 5·9644918 | 7·2221023 |
| 23 | 6·0735856 | 7·2390113 | 23 | 5·9895834 | 7·2216897 | 23 | 5·9543025 | 7·2088779 |
| 24 | 6·0633204 | 7·2256318 | 24 | 5·9793182 | 7·2082761 | 24 | 5·9440373 | 7·1954640 |
| 25 | 6·0529803 | 7·2120597 | 25 | 5·9689781 | 7·1946676 | 25 | 5·9336972 | 7·1818539 |
| 26 | 6·0425654 | 7·1982876 | 26 | 5·9585632 | 7·1808556 | 26 | 5·9232823 | 7·1680394 |
| 27 | 6·0320750 | 7·1843070 | 27 | 5·9480728 | 7·1668323 | 27 | 5·9127919 | 7·1540117 |
| 28 | 6·0215075 | 7·1701094 | 28 | 5·9375053 | 7·1525883 | 28 | 5·9022244 | 7·1397623 |
| 29 | 6·0108607 | 7·1556845 | 29 | 5·9268585 | 7·1381144 | 29 | 5·8915776 | 7·1252808 |
| 30 | 6·0001313 | 7·1410228 | 30 | 5·9161291 | 7·1233995 | 30 | 5·8808482 | 7·1105570 |
| 31 | 5·9893153 | 7·1261132 | 31 | 5·9053131 | 7·1084327 | 31 | 5·8700322 | 7·0955797 |
| 32 | 5·9784078 | 7·1109438 | 32 | 5·8944056 | 7·0932024 | 32 | 5·8591247 | 7·0803371 |
| 33 | 5·9674031 | 7·0955023 | 33 | 5·8834009 | 7·0776960 | 33 | 5·8481200 | 7·0648165 |
| 34 | 5·9562947 | 7·0797759 | 34 | 5·8722925 | 7·0618994 | 34 | 5·8370116 | 7·0490039 |
| 35 | 5·9450752 | 7·0637503 | 35 | 5·8610730 | 7·0457992 | 35 | 5·8257921 | 7·0328854 |
| 36 | 5·9337364 | 7·0474104 | 36 | 5·8497342 | 7·0293801 | 36 | 5·8144533 | 7·0164462 |
| 37 | 5·9222692 | 7·0307410 | 37 | 5·8382670 | 7·0126260 | 37 | 5·8029861 | 6·9996696 |
| 38 | 5·9106638 | 7·0137252 | 38 | 5·8266616 | 6·9955196 | 38 | 5·7913807 | 6·9825385 |
| 39 | 5·8989094 | 6·9963450 | 39 | 5·8149072 | 6·9780436 | 39 | 5·7796263 | 6·9650351 |
| 40 | 5·8869946 | 6·9785820 | 40 | 5·8029924 | 6·9601785 | 40 | 5·7677115 | 6·9471401 |
| 41 | 5·8749069 | 6·9604162 | 41 | 5·7909047 | 6·9419039 | 41 | 5·7556238 | 6·9288328 |
| 42 | 5·8626331 | 6·9418262 | 42 | 5·7786309 | 6·9231983 | 42 | 5·7433500 | 6·9100917 |
| 43 | 5·8501591 | 6·9227893 | 43 | 5·7661569 | 6·9040387 | 43 | 5·7308760 | 6·8908934 |
| 44 | 5·8374702 | 6·9032813 | 44 | 5·7534680 | 6·8844002 | 44 | 5·7181871 | 6·8712130 |
| 45 | 5·8245505 | 6·8832767 | 45 | 5·7405483 | 6·8642566 | 45 | 5·7052674 | 6·8510243 |
| 46 | 5·8113835 | 6·8627477 | 46 | 5·7273813 | 6·8435800 | 46 | 5·6921004 | 6·8302985 |
| 47 | 5·7979518 | 6·8416641 | 47 | 5·7139496 | 6·8223397 | 47 | 5·6786687 | 6·8090053 |
| 48 | 5·7842372 | 6·8199946 | 48 | 5·7002350 | 6·8005026 | 48 | 5·6649541 | 6·7871116 |
| 49 | 5·7702206 | 6·7977038 | 49 | 5·6862184 | 6·7780343 | 49 | 5·6509375 | 6·7645813 |
| 50 | 5·7558822 | 6·7747538 | 50 | 5·6718800 | 6·7548954 | 50 | 5·6365991 | 6·7413763 |
| 51 | 5·7412012 | 6·7511029 | 51 | 5·6571990 | 6·7310433 | 51 | 5·6219181 | 6·7174537 |
| 52 | 5·7259115 | 6·7267019 | 52 | 5·6419093 | 6·7064317 | 52 | 5·6066284 | 6·6927662 |
| 53 | 5·7101770 | 6·7015258 | 53 | 5·6261748 | 6·6810320 | 53 | 5·5908939 | 6·6672856 |
| 54 | 5·6939804 | 6·6755295 | 54 | 5·6099782 | 6·6547963 | 54 | 5·5746973 | 6·6409631 |

## JOINT LIVES:—Two Males.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 0 | | 1 | | | 2 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda D_{x,0}$ | $\lambda N_{x,0}$ | Age of (x) | $\lambda D_{x,1}$ | $\lambda N_{x,1}$ | Age of (x) | $\lambda D_{x,2}$ | $\lambda N_{x,2}$ |
| 55 | 5·6772945 | 6·6486594 | 55 | 5·5932923 | 6·6276726 | 55 | 5·5580114 | 6·6137447 |
| 56 | 5·6600816 | 6·6208593 | 56 | 5·5760794 | 6·5996005 | 56 | 5·5407985 | 6·5855724 |
| 57 | 5·6422936 | 6·5920655 | 57 | 5·5582914 | 6·5705168 | 57 | 5·5230105 | 6·5563795 |
| 58 | 5·6238721 | 6·5622088 | 58 | 5·5398699 | 6·5403509 | 58 | 5·5045890 | 6·5260967 |
| 59 | 5·6047485 | 6·5312133 | 59 | 5·5207463 | 6·5090264 | 59 | 5·4854654 | 6·4946468 |
| 60 | 5·5848437 | 6·4989987 | 60 | 5·5008415 | 6·4764602 | 60 | 5·4655606 | 6·4619469 |
| 61 | 5·5640684 | 6·4654766 | 61 | 5·4800662 | 6·4425647 | 61 | 5·4447853 | 6·4279073 |
| 62 | 5·5423229 | 6·4305527 | 62 | 5·4583207 | 6·4072439 | 62 | 5·4230398 | 6·3924333 |
| 63 | 5·5194972 | 6·3941253 | 63 | 5·4354950 | 6·3703957 | 63 | 5·4002141 | 6·3554219 |
| 64 | 5·4954710 | 6·3560866 | 64 | 5·4114688 | 6·3319107 | 64 | 5·3761879 | 6·3167638 |
| 65 | 5·4701136 | 6·3163210 | 65 | 5·3861114 | 6·2916731 | 65 | 5·3508305 | 6·2763421 |
| 66 | 5·4432840 | 6·2747043 | 66 | 5·3592818 | 6·2495589 | 66 | 5·3240009 | 6·2340331 |
| 67 | 5·4148309 | 6·2311065 | 67 | 5·3308287 | 6·2054356 | 67 | 5·2955478 | 6·1897053 |
| 68 | 5·3845928 | 6·1853872 | 68 | 5·3005906 | 6·1591643 | 68 | 5·2653097 | 6·1432175 |
| 69 | 5·3523975 | 6·1373984 | 69 | 5·2683953 | 6·1105961 | 69 | 5·2331144 | 6·0944233 |
| 70 | 5·3180629 | 6·0869849 | 70 | 5·2340607 | 6·0595744 | 70 | 5·1987798 | 6·0431646 |
| 71 | 5·2813963 | 6·0339812 | 71 | 5·1973941 | 6·0059339 | 71 | 5·1621132 | 5·9892758 |
| 72 | 5·2421947 | 5·9782102 | 72 | 5·1581925 | 5·9495007 | 72 | 5·1229116 | 5·9325834 |
| 73 | 5·2002450 | 5·9194897 | 73 | 5·1162428 | 5·8900883 | 73 | 5·0809619 | 5·8729035 |
| 74 | 5·1553234 | 5·8576250 | 74 | 5·0713212 | 5·8275037 | 74 | 5·0360403 | 5·8100409 |
| 75 | 5·1071961 | 5·7924113 | 75 | 5·0231939 | 5·7615437 | 75 | 4·9879130 | 5·7437922 |
| 76 | 5·0556187 | 5·7236346 | 76 | 4·9716165 | 5·6919930 | 76 | 4·9363356 | 5·6739446 |
| 77 | 5·0003368 | 5·6510705 | 77 | 4·9163346 | 5·6186283 | 77 | 4·8810537 | 5·6002737 |
| 78 | 4·9410854 | 5·5744813 | 78 | 4·8570832 | 5·5412143 | 78 | 4·8218023 | 5·5225454 |
| 79 | 4·8775893 | 5·4936228 | 79 | 4·7935871 | 5·4595048 | 79 | 4·7583062 | 5·4405138 |
| 80 | 4·8095629 | 5·4082366 | 80 | 4·7255607 | 5·3732437 | 80 | 4·6902798 | 5·3539232 |
| 81 | 4·7367103 | 5·3180537 | 81 | 4·6527081 | 5·2821631 | 81 | 4·6174272 | 5·2625064 |
| 82 | 4·6587252 | 5·2227948 | 82 | 4·5747230 | 5·1859839 | 82 | 4·5394421 | 5·1659849 |
| 83 | 4·5752913 | 5·1221683 | 83 | 4·4912891 | 5·0844165 | 83 | 4·4560082 | 5·0640692 |
| 84 | 4·4860815 | 5·0158726 | 84 | 4·4020793 | 4·9771587 | 84 | 4·3667984 | 4·9564590 |
| 85 | 4·3907587 | 4·9035913 | 85 | 4·3067565 | 4·8638996 | 85 | 4·2714756 | 4·8428407 |
| 86 | 4·2889753 | 4·7849994 | 86 | 4·2049731 | 4·7443118 | 86 | 4·1696922 | 4·7228930 |
| 87 | 4·1803735 | 4·6597594 | 87 | 4·0963713 | 4·6180596 | 87 | 4·0610904 | 4·5962770 |
| 88 | 4·0645851 | 4·5275229 | 88 | 3·9805829 | 4·4847968 | 88 | 3·9453020 | 4·4626471 |
| 89 | 3·9412317 | 4·3879267 | 89 | 3·8572295 | 4·3441621 | 89 | 3·8219486 | 4·3216434 |
| 90 | 3·8099242 | 4·2405980 | 90 | 3·7259220 | 4·1957838 | 90 | 3·6906411 | 4·1728947 |
| 91 | 3·6702637 | 4·0851499 | 91 | 3·5862615 | 4·0392769 | 91 | 3·5509806 | 4·0160166 |
| 92 | 3·5218406 | 3·9211843 | 92 | 3·4378384 | 3·8742423 | 92 | 3·4025575 | 3·8506113 |
| 93 | 3·3642351 | 3·7482865 | 93 | 3·2802329 | 3·7002692 | 93 | 3·2449520 | 3·6762655 |
| 94 | 3·1970170 | 3·5660260 | 94 | 3·1130148 | 3·5169252 | 94 | 3·0777339 | 3·4925509 |
| 95 | 3·0197459 | 3·3739523 | 95 | 2·9357437 | 3·3237611 | 95 | 2·9004628 | 3·2990130 |
| 96 | 2·8319710 | 3·1715834 | 96 | 2·7479688 | 3·1202916 | 96 | 2·7126879 | 3·0951690 |
| 97 | 2·6332311 | 2·9583957 | 97 | 2·5492289 | 2·9059863 | 97 | 2·5139480 | 2·8804849 |
| 98 | 2·4230548 | 2·7337869 | 98 | 2·3390526 | 2·6802294 | 98 | 2·3037717 | 2·6543392 |
| 99 | 2·2009604 | 2·4970112 | 99 | 2·1169582 | 2·4422476 | 99 | 2·0816773 | 2·4159477 |
| 100 | 1·9664556 | 2·2470345 | 100 | 1·8824534 | 2·1909435 | 100 | 1·8471725 | 2·1641916 |
| 101 | 1·7190381 | 1·9822043 | 101 | 1·6350359 | 1·9245424 | 101 | 1·5997550 | 1·8972476 |
| 102 | 1·4581951 | 1·6994501 | 102 | 1·3741929 | 1·6396916 | 102 | 1·3389120 | 1·6116744 |
| 103 | 1·1834035 | 1·3921339 | 103 | 1·0994013 | 1·3290845 | 103 | 1·0641204 | 1·2999625 |
| 104 | 0·8941299 | 1·0430320 | 104 | 0·8101277 | 0·9737419 | 104 | 0·7748468 | 0·9426379 |
| 105 | 0·5898305 | | 105 | 0·5058283 | | 105 | 0·4705474 | |
| 106 | 0·2699513 | | 106 | 0·1859491 | | 106 | 0·1506682 | |
| 107 | 9·9339279 | | 107 | 9·8499257 | | 107 | 9·8146448 | |
| 108 | 9·5811856 | | 108 | 9·4971834 | | 108 | 9·4619025 | |
| 109 | 9·2111393 | | 109 | 9·1271371 | | 109 | 9·0918562 | |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| **Age** of (*y*) | 3 | | | 4 | | | 5 | |
|---|---|---|---|---|---|---|---|---|
| **Age** of (*x*) | $\lambda\ D_{x,\,3}$ | $\lambda\ N_{x,\,3}$ | **Age** of (*x*) | $\lambda\ D_{x,\,4}$ | $\lambda\ N_{x,\,4}$ | **Age** of (*x*) | $\lambda\ D_{x,\,5}$ | $\lambda\ N_{x,\,5}$ |
| 0 | 6·2767112 | 7·4733906 | 0 | 6·2598095 | 7·4619484 | 0 | 6·2455821 | 7·4508206 |
| 1 | 6·1927090 | 7·4562202 | 1 | 6·1758073 | 7·4448614 | 1 | 6·1615799 | 7·4337872 |
| 2 | 6·1574281 | 7·4431929 | 2 | 6·1405264 | 7·4318765 | 2 | 6·1262990 | 7·4208350 |
| 3 | 6·1353148 | 7·4313817 | 3 | 6·1184131 | 7·4200979 | 3 | 6·1041857 | 7·4090845 |
| 4 | 6·1184131 | 7·4200979 | 4 | 6·1015114 | 7·4088427 | 4 | 6·0872840 | 7·3978558 |
| 5 | 6·1041857 | 7·4090845 | 5 | 6·0872840 | 7·3978558 | 5 | 6·0730566 | 7·3868955 |
| 6 | 6·0918245 | 7·3982141 | 6 | 6·0749228 | 7·3870108 | 6 | 6·0606954 | 7·3760760 |
| 7 | 6·0806810 | 7·3873969 | 7 | 6·0637793 | 7·3762180 | 7 | 6·0495519 | 7·3653086 |
| 8 | 6·0702668 | 7·3765733 | 8 | 6·0533651 | 7·3654177 | 8 | 6·0391377 | 7·3545337 |
| 9 | 6·0605194 | 7·3657057 | 9 | 6·0436177 | 7·3545728 | 9 | 6·0293903 | 7·3437138 |
| 10 | 6·0512842 | 7·3547577 | 10 | 6·0343825 | 7·3436469 | 10 | 6·0201551 | 7·3328126 |
| 11 | 6·0424197 | 7·3436992 | 11 | 6·0255180 | 7·3326095 | 11 | 6·0112906 | 7·3217997 |
| 12 | 6·0337977 | 7·3325047 | 12 | 6·0168960 | 7·3214358 | 12 | 6·0026686 | 7·3106498 |
| 13 | 6·0253032 | 7·3211545 | 13 | 6·0084015 | 7·3101058 | 13 | 5·9941741 | 7·2993433 |
| 14 | 6·0168343 | 7·3096323 | 14 | 5·9999326 | 7·2986037 | 14 | 5·9857052 | 7·2878649 |
| 15 | 6·0083025 | 7·2979274 | 15 | 5·9914008 | 7·2869184 | 15 | 5·9771734 | 7·2762028 |
| 16 | 5·9996322 | 7·2860321 | 16 | 5·9827305 | 7·2750424 | 16 | 5·9685031 | 7·2643498 |
| 17 | 5·9907614 | 7·2739426 | 17 | 5·9738597 | 7·2629719 | 17 | 5·9596323 | 7·2523021 |
| 18 | 5·9816409 | 7·2616575 | 18 | 5·9647392 | 7·2507061 | 18 | 5·9505118 | 7·2400591 |
| 19 | 5·9722351 | 7·2491788 | 19 | 5·9553334 | 7·2382464 | 19 | 5·9411060 | 7·2276222 |
| 20 | 5·9625213 | 7·2365106 | 20 | 5·9456196 | 7·2255969 | 20 | 5·9313922 | 7·2149953 |
| 21 | 5·9524901 | 7·2236582 | 21 | 5·9355884 | 7·2127633 | 21 | 5·9213610 | 7·2021836 |
| 22 | 5·9423785 | 7·2106288 | 22 | 5·9254768 | 7·1997516 | 22 | 5·9112494 | 7·1891943 |
| 23 | 5·9321892 | 7·1974159 | 23 | 5·9152875 | 7·1865566 | 23 | 5·9010601 | 7·1760204 |
| 24 | 5·9219240 | 7·1840131 | 24 | 5·9050223 | 7·1731708 | 24 | 5·8907949 | 7·1626558 |
| 25 | 5·9115839 | 7·1704131 | 25 | 5·8946822 | 7·1595874 | 25 | 5·8804548 | 7·1490928 |
| 26 | 5·9011690 | 7·1566079 | 26 | 5·8842673 | 7·1457979 | 26 | 5·8700399 | 7·1353238 |
| 27 | 5·8906786 | 7·1425891 | 27 | 5·8737769 | 7·1317941 | 27 | 5·8595495 | 7·1213398 |
| 28 | 5·8801111 | 7·1283472 | 28 | 5·8632094 | 7·1175670 | 28 | 5·8489820 | 7·1071316 |
| 29 | 5·8694643 | 7·1138725 | 29 | 5·8525626 | 7·1031059 | 29 | 5·8383352 | 7·0926895 |
| 30 | 5·8587349 | 7·0991545 | 30 | 5·8418332 | 7·0884012 | 30 | 5·8276058 | 7·0780027 |
| 31 | 5·8479189 | 7·0841818 | 31 | 5·8310172 | 7·0734412 | 31 | 5·8167898 | 7·0630601 |
| 32 | 5·8370114 | 7·0689428 | 32 | 5·8201097 | 7·0582138 | 32 | 5·8058823 | 7·0478497 |
| 33 | 5·8260067 | 7·0534242 | 33 | 5·8091050 | 7·0427062 | 33 | 5·7948776 | 7·0323589 |
| 34 | 5·8148983 | 7·0376133 | 34 | 5·7979966 | 7·0269053 | 34 | 5·7837692 | 7·0165737 |
| 35 | 5·8036788 | 7·0214953 | 35 | 5·7867771 | 7·0107963 | 35 | 5·7725497 | 7·0004797 |
| 36 | 5·7923400 | 7·0050543 | 36 | 5·7754383 | 6·9943644 | 36 | 5·7612109 | 6·9840625 |
| 37 | 5·7808728 | 6·9882753 | 37 | 5·7639711 | 6·9775926 | 37 | 5·7497437 | 6·9673050 |
| 38 | 5·7692674 | 6·9711405 | 38 | 5·7523657 | 6·9604645 | 38 | 5·7381383 | 6·9501899 |
| 39 | 5·7575130 | 6·9536318 | 39 | 5·7406113 | 6·9429616 | 39 | 5·7263839 | 6·9326998 |
| 40 | 5·7455982 | 6·9357299 | 40 | 5·7286965 | 6·9250643 | 40 | 5·7144691 | 6·9148146 |
| 41 | 5·7335105 | 6·9174143 | 41 | 5·7166088 | 6·9067523 | 41 | 5·7023814 | 6·8965139 |
| 42 | 5·7212367 | 6·8986630 | 42 | 5·7043350 | 6·8880038 | 42 | 5·6901076 | 6·8777757 |
| 43 | 5·7087627 | 6·8794529 | 43 | 5·6918610 | 6·8687949 | 43 | 5·6776336 | 6·8585768 |
| 44 | 5·6960738 | 6·8597589 | 44 | 5·6791721 | 6·8491013 | 44 | 5·6649447 | 6·8388918 |
| 45 | 5·6831541 | 6·8395545 | 45 | 5·6662524 | 6·8288957 | 45 | 5·6520250 | 6·8186946 |
| 46 | 5·6699871 | 6·8188110 | 46 | 5·6530854 | 6·8081500 | 46 | 5·6388580 | 6·7979559 |
| 47 | 5·6565554 | 6·7974978 | 47 | 5·6396537 | 6·7868332 | 47 | 5·6254263 | 6·7766452 |
| 48 | 5·6428408 | 6·7755818 | 48 | 5·6259391 | 6·7649116 | 48 | 5·6117117 | 6·7547292 |
| 49 | 5·6288242 | 6·7530270 | 49 | 5·6119225 | 6·7423501 | 49 | 5·5976951 | 6·7321716 |
| 50 | 5·6144858 | 6·7297941 | 50 | 5·5975841 | 6·7191090 | 50 | 5·5833567 | 6·7089338 |
| 51 | 5·5998048 | 6·7058415 | 51 | 5·5829031 | 6·6951456 | 51 | 5·5686757 | 6·6849728 |
| 52 | 5·5845151 | 6·6811218 | 52 | 5·5676134 | 6·6704140 | 52 | 5·5533860 | 6·6602415 |
| 53 | 5·5687806 | 6·6556047 | 53 | 5·5518789 | 6·6448832 | 53 | 5·5376515 | 6·6347103 |
| 54 | 5·5525840 | 6·6292426 | 54 | 5·5356823 | 6·6185042 | 54 | 5·5214549 | 6·6083296 |

## JOINT LIVES :—TWO MALES.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| **Age** of ($y$) | 3 | | 4 | | | 5 | | |
|---|---|---|---|---|---|---|---|---|
| **Age** of ($x$) | $\lambda\ D_{x,\,3}$ | $\lambda\ N_{x,\,3}$ | **Age** of ($x$) | $\lambda\ D_{x,\,4}$ | $\lambda\ N_{x,\,4}$ | **Age** of ($x$) | $\lambda\ D_{x,\,5}$ | $\lambda\ N_{x,\,5}$ |
| 55 | 5·5358981 | 6·6019810 | 55 | 5·5189964 | 6·5912239 | 55 | 5·5047690 | 6·5810451 |
| 56 | 5·5186852 | 6·5737604 | 56 | 5·5017835 | 6·5629819 | 56 | 5·4875561 | 6·5527977 |
| 57 | 5·5008972 | 6·5445163 | 57 | 5·4839955 | 6·5337126 | 57 | 5·4697681 | 6·5235211 |
| 58 | 5·4824757 | 6·5141762 | 58 | 5·4655740 | 6·5033457 | 58 | 5·4513466 | 6·4931437 |
| 59 | 5·4633521 | 6·4826645 | 59 | 5·4464504 | 6·4718023 | 59 | 5·4322230 | 6·4615892 |
| 60 | 5·4434473 | 6·4498975 | 60 | 5·4265456 | 6·4390007 | 60 | 5·4123182 | 6·4287725 |
| 61 | 5·4226720 | 6·4157859 | 61 | 5·4057703 | 6·4048508 | 61 | 5·3915429 | 6·3946055 |
| 62 | 5·4009265 | 6·3802333 | 62 | 5·3840248 | 6·3692566 | 62 | 5·3697974 | 6·3589911 |
| 63 | 5·3781008 | 6·3431381 | 63 | 5·3611991 | 6·3321145 | 63 | 5·3469717 | 6·3218266 |
| 64 | 5·3540746 | 6·3043900 | 64 | 5·3371729 | 6·2933161 | 64 | 5·3229455 | 6·2830019 |
| 65 | 5·3287172 | 6·2638722 | 65 | 5·3118155 | 6·2527441 | 65 | 5·2975881 | 6·2424006 |
| 66 | 5·3018876 | 6·2214607 | 66 | 5·2849859 | 6·2102735 | 66 | 5·2707585 | 6·1998983 |
| 67 | 5·2734345 | 6·1770241 | 67 | 5·2565328 | 6·1657733 | 67 | 5·2423054 | 6·1553621 |
| 68 | 5·2431964 | 6·1304222 | 68 | 5·2262947 | 6·1191034 | 68 | 5·2120673 | 6·1086530 |
| 69 | 5·2110011 | 6·0815057 | 69 | 5·1940994 | 6·0701159 | 69 | 5·1798720 | 6·0596225 |
| 70 | 5·1766665 | 6·0301203 | 70 | 5·1597648 | 6·0186527 | 70 | 5·1455374 | 6·0081145 |
| 71 | 5·1399999 | 5·9760986 | 71 | 5·1230982 | 5·9645505 | 71 | 5·1088708 | 5·9539620 |
| 72 | 5·1007983 | 5·9192664 | 72 | 5·0838966 | 5·9076338 | 72 | 5·0696692 | 5·8969933 |
| 73 | 5·0588486 | 5·8594409 | 73 | 5·0419469 | 5·8477182 | 73 | 5·0277195 | 5·8370225 |
| 74 | 5·0139270 | 5·7964286 | 74 | 4·9970253 | 5·7846124 | 74 | 4·9827979 | 5·7738568 |
| 75 | 4·9657997 | 5·7300241 | 75 | 4·9488980 | 5·7181117 | 75 | 4·9346706 | 5·7072941 |
| 76 | 4·9142223 | 5·6600162 | 76 | 4·8973206 | 5·6480031 | 76 | 4·8830932 | 5·6371207 |
| 77 | 4·8589404 | 5·5861801 | 77 | 4·8420387 | 5·5740637 | 77 | 4·8278113 | 5·5631132 |
| 78 | 4·7996890 | 5·5082822 | 78 | 4·7827873 | 5·4960591 | 78 | 4·7685599 | 5·4850388 |
| 79 | 4·7361929 | 5·4260775 | 79 | 4·7192912 | 5·4137449 | 79 | 4·7050638 | 5·4026521 |
| 80 | 4·6681665 | 5·3393101 | 80 | 4·6512648 | 5·3268660 | 80 | 4·6370374 | 5·3156983 |
| 81 | 4·5953139 | 5·2477136 | 81 | 4·5784122 | 5·2351556 | 81 | 4·5641848 | 5·2239119 |
| 82 | 4·5173288 | 5·1510098 | 82 | 4·5004271 | 5·1383365 | 82 | 4·4861997 | 5·1270148 |
| 83 | 4·4338949 | 5·0489096 | 83 | 4·4169932 | 5·0361197 | 83 | 4·4027658 | 5·0247188 |
| 84 | 4·3446851 | 4·9411127 | 84 | 4·3277834 | 4·9282048 | 84 | 4·3135560 | 4·9167239 |
| 85 | 4·2493623 | 4·8273072 | 85 | 4·2324606 | 4·8142802 | 85 | 4·2182332 | 4·8027183 |
| 86 | 4·1475789 | 4·7071689 | 86 | 4·1306772 | 4·6940232 | 86 | 4·1164498 | 4·6823798 |
| 87 | 4·0389771 | 4·5803650 | 87 | 4·0220754 | 4·5670982 | 87 | 4·0078480 | 4·5553726 |
| 88 | 3·9231887 | 4·4465450 | 88 | 3·9062870 | 4·4331599 | 88 | 3·8920596 | 4·4213522 |
| 89 | 3·7998353 | 4·3053518 | 89 | 3·7829336 | 4·2918476 | 89 | 3·7687062 | 4·2799584 |
| 90 | 3·6685278 | 4·1564135 | 90 | 3·6516261 | 4·1427911 | 90 | 3·6373987 | 4·1308203 |
| 91 | 3·5288673 | 3·9993472 | 91 | 3·5119656 | 3·9856061 | 91 | 3·4977382 | 3·9735550 |
| 92 | 3·3804442 | 3·8337544 | 92 | 3·3635425 | 3·8198965 | 92 | 3·3493151 | 3·8077636 |
| 93 | 3·2228387 | 3·6592229 | 93 | 3·2059370 | 3·6452493 | 93 | 3·1917096 | 3·6330370 |
| 94 | 3·0556206 | 3·4753210 | 94 | 3·0387189 | 3·4612343 | 94 | 3·0244915 | 3·4489427 |
| 95 | 2·8783495 | 3·2815996 | 95 | 2·8614478 | 3·2673972 | 95 | 2·8472204 | 3·2550276 |
| 96 | 2·6905746 | 3·0775707 | 96 | 2·6736729 | 3·0632553 | 96 | 2·6594455 | 3·0508072 |
| 97 | 2·4918347 | 2·8627001 | 97 | 2·4749330 | 2·8482698 | 97 | 2·4607056 | 2·8357438 |
| 98 | 2·2816584 | 2·6363635 | 98 | 2·2647567 | 2·6218158 | 98 | 2·2505293 | 2·6092090 |
| 99 | 2·0595640 | 2·3977698 | 99 | 2·0426623 | 2·3830987 | 99 | 2·0284349 | 2·3704057 |
| 100 | 1·8250592 | 2·1457920 | 100 | 1·8081575 | 2·1309837 | 100 | 1·7939301 | 2·1181950 |
| 101 | 1·5776417 | 1·8785827 | 101 | 1·5607400 | 1·8636095 | 101 | 1·5465126 | 1·8507081 |
| 102 | 1·3167987 | 1·5926508 | 102 | 1·2998970 | 1·5774631 | 102 | 1·2856696 | 1·5644116 |
| 103 | 1·0420071 | 1·2804076 | 103 | 1·0251054 | 1·2648933 | 103 | 1·0108780 | 1·2516285 |
| 104 | 0·7527335 | 0·9222011 | 104 | 0·7358318 | 0·9061680 | 104 | 0·7216044 | 0·8925454 |
| 105 | 0·4484341 | | 105 | 0·4315324 | | 105 | 0·4173050 | |
| 106 | 0·1285549 | | 106 | 0·1116532 | | 106 | 0·0974258 | |
| 107 | 9·7925315 | | 107 | 9·7756298 | | 107 | 9·7614024 | |
| 108 | 9·4397892 | | 108 | 9·4228875 | | 108 | 9·4086601 | |
| 109 | 9·0697429 | | 109 | 9·0528412 | | 109 | 9·0386138 | |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 6 | | 7 | | | 8 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,6}$ | λ $N_{x,\,6}$ | Age of (x) | λ $D_{x,\,7}$ | λ $N_{x,\,7}$ | Age of (x) | λ $D_{x,\,8}$ | λ $N_{x,\,8}$ |
| 0 | 6·2332209 | 7·4398666 | 0 | 6·2220774 | 7·4289871 | 0 | 6·2116632 | 7·4181164 |
| 1 | 6·1492187 | 7·4228663 | 1 | 6·1380752 | 7·4120057 | 1 | 6·1276610 | 7·4011439 |
| 2 | 6·1139378 | 7·4099396 | 2 | 6·1027943 | 7·3990998 | 2 | 6·0923801 | 7·3882551 |
| 3 | 6·0918245 | 7·3982141 | 3 | 6·0806810 | 7·3873969 | 3 | 6·0702668 | 7·3765733 |
| 4 | 6·0749228 | 7·3870108 | 4 | 6·0637793 | 7·3762180 | 4 | 6·0533651 | 7·3654177 |
| 5 | 6·0606954 | 7·3760760 | 5 | 6·0495519 | 7·3653086 | 5 | 6·0391377 | 7·3545337 |
| 6 | 6·0483342 | 7·3652828 | 6 | 6·0371907 | 7·3545419 | 6 | 6·0267765 | 7·3437937 |
| 7 | 6·0371907 | 7·3545419 | 7 | 6·0260472 | 7·3438283 | 7 | 6·0156330 | 7·3331077 |
| 8 | 6·0267765 | 7·3437937 | 8 | 6·0156330 | 7·3331077 | 8 | 6·0052188 | 7·3224160 |
| 9 | 6·0170291 | 7·3330005 | 9 | 6·0058856 | 7·3223425 | 9 | 5·9954714 | 7·3116799 |
| 10 | 6·0077939 | 7·3221261 | 10 | 5·9966504 | 7·3114965 | 10 | 5·9862362 | 7·3008631 |
| 11 | 5·9989294 | 7·3111397 | 11 | 5·9877859 | 7·3005385 | 11 | 5·9773717 | 7·2899351 |
| 12 | 5·9903074 | 7·3000164 | 12 | 5·9791639 | 7·2894438 | 12 | 5·9687497 | 7·2788704 |
| 13 | 5·9818129 | 7·2887362 | 13 | 5·9706694 | 7·2781922 | 13 | 5·9602552 | 7·2676487 |
| 14 | 5·9733440 | 7·2772838 | 14 | 5·9622005 | 7·2667678 | 14 | 5·9517863 | 7·2562546 |
| 15 | 5·9648122 | 7·2656478 | 15 | 5·9536687 | 7·2551601 | 15 | 5·9432545 | 7·2446769 |
| 16 | 5·9561419 | 7·2538207 | 16 | 5·9449984 | 7·2433610 | 16 | 5·9345842 | 7·2329080 |
| 17 | 5·9472711 | 7·2417989 | 17 | 5·9361276 | 7·2313674 | 17 | 5·9257134 | 7·2209440 |
| 18 | 5·9381506 | 7·2295816 | 18 | 5·9270071 | 7·2191775 | 18 | 5·9165929 | 7·2087841 |
| 19 | 5·9287448 | 7·2171698 | 19 | 5·9176013 | 7·2067938 | 19 | 5·9071871 | 7·1964299 |
| 20 | 5·9190310 | 7·2045682 | 20 | 5·9078875 | 7·1942198 | 20 | 5·8974733 | 7·1838854 |
| 21 | 5·9089998 | 7·1917820 | 21 | 5·8978563 | 7·1814609 | 21 | 5·8874421 | 7·1711558 |
| 22 | 5·8988882 | 7·1788172 | 22 | 5·8877447 | 7·1685237 | 22 | 5·8773305 | 7·1582478 |
| 23 | 5·8886989 | 7·1656680 | 23 | 5·8775554 | 7·1554013 | 23 | 5·8671412 | 7·1451548 |
| 24 | 5·8784337 | 7·1523278 | 24 | 5·8672902 | 7·1420878 | 24 | 5·8568760 | 7·1318698 |
| 25 | 5·8680936 | 7·1387885 | 25 | 5·8569501 | 7·1285750 | 25 | 5·8465359 | 7·1183858 |
| 26 | 5·8576787 | 7·1250429 | 26 | 5·8465352 | 7·1148554 | 26 | 5·8361210 | 7·1046943 |
| 27 | 5·8471883 | 7·1110820 | 27 | 5·8360448 | 7·1009204 | 27 | 5·8256306 | 7·0907873 |
| 28 | 5·8366208 | 7·0968965 | 28 | 5·8254773 | 7·0867601 | 28 | 5·8150631 | 7·0766550 |
| 29 | 5·8259740 | 7·0824766 | 29 | 5·8148305 | 7·0723654 | 29 | 5·8044163 | 7·0622875 |
| 30 | 5·8152446 | 7·0678119 | 30 | 5·8041011 | 7·0577255 | 30 | 5·7936869 | 7·0476747 |
| 31 | 5·8044286 | 7·0528905 | 31 | 5·7932851 | 7·0428286 | 31 | 5·7828709 | 7·0328044 |
| 32 | 5·7935211 | 7·0377013 | 32 | 5·7823776 | 7·0276631 | 32 | 5·7719634 | 7·0176656 |
| 33 | 5·7825164 | 7·0222308 | 33 | 5·7713729 | 7·0122161 | 33 | 5·7609587 | 7·0022448 |
| 34 | 5·7714080 | 7·0064655 | 34 | 5·7602645 | 6·9964743 | 34 | 5·7498503 | 6·9865288 |
| 35 | 5·7601885 | 6·9903914 | 35 | 5·7490450 | 6·9804231 | 35 | 5·7386308 | 6·9705029 |
| 36 | 5·7488497 | 6·9739929 | 36 | 5·7377062 | 6·9640471 | 36 | 5·7272920 | 6·9541522 |
| 37 | 5·7373825 | 6·9572542 | 37 | 5·7262390 | 6·9473302 | 37 | 5·7158248 | 6·9374601 |
| 38 | 5·7257771 | 6·9401576 | 38 | 5·7146336 | 6·9302556 | 38 | 5·7042194 | 6·9204097 |
| 39 | 5·7140227 | 6·9226848 | 39 | 5·7028792 | 6·9128045 | 39 | 5·6924650 | 6·9029829 |
| 40 | 5·7021079 | 6·9048170 | 40 | 5·6909644 | 6·8949573 | 40 | 5·6805502 | 6·8851600 |
| 41 | 5·6900202 | 6·8865331 | 41 | 5·6788767 | 6·8766940 | 41 | 5·6684625 | 6·8669201 |
| 42 | 5·6777464 | 6·8678110 | 42 | 5·6666029 | 6·8579924 | 42 | 5·6561887 | 6·8482419 |
| 43 | 5·6652724 | 6·8486277 | 43 | 5·6541289 | 6·8388289 | 43 | 5·6437147 | 6·8291016 |
| 44 | 5·6525835 | 6·8289581 | 44 | 5·6414400 | 6·8191787 | 44 | 5·6310258 | 6·8094740 |
| 45 | 5·6396638 | 6·8087751 | 45 | 5·6285203 | 6·7990150 | 45 | 5·6181061 | 6·7893329 |
| 46 | 5·6264968 | 6·7880504 | 46 | 5·6153533 | 6·7783090 | 46 | 5·6049391 | 6·7686493 |
| 47 | 5·6130651 | 6·7667530 | 47 | 5·6019216 | 6·7570300 | 47 | 5·5915074 | 6·7473921 |
| 48 | 5·5993505 | 6·7448496 | 48 | 5·5882070 | 6·7351444 | 48 | 5·5777928 | 6·7255285 |
| 49 | 5·5853339 | 6·7223043 | 49 | 5·5741904 | 6·7126165 | 49 | 5·5637762 | 6·7030220 |
| 50 | 5·5709955 | 6·6990775 | 50 | 5·5598520 | 6·6894070 | 50 | 5·5494378 | 6·6798338 |
| 51 | 5·5563145 | 6·6751272 | 51 | 5·5451710 | 6·6654731 | 51 | 5·5347568 | 6·6559210 |
| 52 | 5·5410248 | 6·6504063 | 52 | 5·5298813 | 6·6407684 | 52 | 5·5194671 | 6·6312367 |
| 53 | 5·5252903 | 6·6248835 | 53 | 5·5141468 | 6·6152618 | 53 | 5·5037326 | 6·6057507 |
| 54 | 5·5090937 | 6·5985111 | 54 | 5·4979502 | 6·5889040 | 54 | 5·4875360 | 6·5794133 |

## JOINT LIVES:—Two Males.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 6 | | 7 | | | 8 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,6}$ | λ $N_{x,6}$ | Age of (x) | λ $D_{x,7}$ | λ $N_{x,7}$ | Age of (x) | λ $D_{x,8}$ | λ $N_{x,8}$ |
| 55 | 5·4924078 | 6·5712339 | 55 | 5·4812643 | 6·5616412 | 55 | 5·4708501 | 6·5521699 |
| 56 | 5·4751949 | 6·5429915 | 56 | 5·4640514 | 6·5334129 | 56 | 5·4536372 | 6·5239611 |
| 57 | 5·4574069 | 6·5137194 | 57 | 5·4462634 | 6·5041531 | 57 | 5·4358492 | 6·4947206 |
| 58 | 5·4389854 | 6·4833454 | 58 | 5·4278419 | 6·4737909 | 58 | 5·4174277 | 6·4643761 |
| 59 | 5·4198618 | 6·4517913 | 59 | 5·4087183 | 6·4422482 | 59 | 5·3983041 | 6·4328513 |
| 60 | 5·3999570 | 6·4189753 | 60 | 5·3888135 | 6·4094409 | 60 | 5·3783993 | 6·4000615 |
| 61 | 5·3791817 | 6·3848054 | 61 | 5·3680382 | 6·3752803 | 61 | 5·3576240 | 6·3659161 |
| 62 | 5·3574362 | 6·3491868 | 62 | 5·3462927 | 6·3396682 | 62 | 5·3358785 | 6·3303202 |
| 63 | 5·3346105 | 6·3120161 | 63 | 5·3234670 | 6·3025030 | 63 | 5·3130528 | 6·2931684 |
| 64 | 5·3105843 | 6·2731831 | 64 | 5·2994408 | 6·2636739 | 64 | 5·2890266 | 6·2543525 |
| 65 | 5·2852269 | 6·2325707 | 65 | 5·2740834 | 6·2230638 | 65 | 5·2636692 | 6·2137541 |
| 66 | 5·2583973 | 6·1900548 | 66 | 5·2472538 | 6·1805482 | 66 | 5·2368396 | 6·1712489 |
| 67 | 5·2299442 | 6·1455035 | 67 | 5·2188007 | 6·1359946 | 67 | 5·2083865 | 6·1267046 |
| 68 | 5·1997061 | 6·0987756 | 68 | 5·1885626 | 6·0892638 | 68 | 5·1781484 | 6·0799807 |
| 69 | 5·1675108 | 6·0497237 | 69 | 5·1563673 | 6·0402062 | 69 | 5·1459531 | 6·0309294 |
| 70 | 5·1331762 | 5·9981913 | 70 | 5·1220327 | 5·9886660 | 70 | 5·1116185 | 5·9793931 |
| 71 | 5·0965096 | 5·9440136 | 71 | 5·0853661 | 5·9344773 | 71 | 5·0749519 | 5·9252069 |
| 72 | 5·0573080 | 5·8870143 | 72 | 5·0461645 | 5·8774664 | 72 | 5·0357503 | 5·8681958 |
| 73 | 5·0153583 | 5·8270124 | 73 | 5·0042148 | 5·8174484 | 73 | 4·9938006 | 5·8081770 |
| 74 | 4·9704367 | 5·7638119 | 74 | 4·9592932 | 5·7542318 | 74 | 4·9488790 | 5·7449562 |
| 75 | 4·9223094 | 5·6972117 | 75 | 4·9111659 | 5·6876124 | 75 | 4·9007517 | 5·6783315 |
| 76 | 4·8707320 | 5·6269987 | 76 | 4·8595885 | 5·6173778 | 76 | 4·8491743 | 5·6080893 |
| 77 | 4·8154501 | 5·5529496 | 77 | 4·8043066 | 5·5433051 | 77 | 4·7938924 | 5·5340071 |
| 78 | 4·7561987 | 5·4748304 | 78 | 4·7450552 | 5·4651606 | 78 | 4·7346410 | 5·4558511 |
| 79 | 4·6927026 | 5·3923979 | 79 | 4·6815591 | 5·3826999 | 79 | 4·6711449 | 5·3733775 |
| 80 | 4·6246762 | 5·3053961 | 80 | 4·6135327 | 5·2956691 | 80 | 4·6031185 | 5·2863309 |
| 81 | 4·5518236 | 5·2135592 | 81 | 4·5406801 | 5·2038011 | 81 | 4·5302659 | 5·1944467 |
| 82 | 4·4738385 | 5·1166107 | 82 | 4·4626950 | 5·1068196 | 82 | 4·4522808 | 5·0974469 |
| 83 | 4·3904046 | 5·0142622 | 83 | 4·3792611 | 5·0044366 | 83 | 4·3688469 | 4·9950435 |
| 84 | 4·3011948 | 4·9062138 | 84 | 4·2900513 | 4·8963526 | 84 | 4·2796371 | 4·8869378 |
| 85 | 4·2058720 | 4·7921542 | 85 | 4·1947285 | 4·7822569 | 85 | 4·1843143 | 4·7728188 |
| 86 | 4·1040886 | 4·6717595 | 86 | 4·0929451 | 4·6618259 | 86 | 4·0825309 | 4·6523643 |
| 87 | 3·9954868 | 4·5446974 | 87 | 3·9843433 | 4·5347253 | 87 | 3·9739291 | 4·5252386 |
| 88 | 3·8796984 | 4·4106205 | 88 | 3·8685549 | 4·4006095 | 88 | 3·8581407 | 4·3910974 |
| 89 | 3·7563450 | 4·2691703 | 89 | 3·7452015 | 4·2591206 | 89 | 3·7347873 | 4·2495814 |
| 90 | 3·6250375 | 4·1199767 | 90 | 3·6138940 | 4·1098875 | 90 | 3·6034798 | 4·1003217 |
| 91 | 3·4853770 | 3·9626553 | 91 | 3·4742335 | 3·9525275 | 91 | 3·4638193 | 3·9429337 |
| 92 | 3·3369539 | 3·7968101 | 92 | 3·3258104 | 3·7866429 | 92 | 3·3153962 | 3·7770213 |
| 93 | 3·1793484 | 3·6220264 | 93 | 3·1682049 | 3·6118221 | 93 | 3·1577907 | 3·6021718 |
| 94 | 3·0121303 | 3·4378773 | 94 | 3·0009868 | 3·4276321 | 94 | 2·9905726 | 3·4179558 |
| 95 | 2·8348592 | 3·2439098 | 95 | 2·8237157 | 3·2336260 | 95 | 2·8133015 | 3·2239199 |
| 96 | 2·6470843 | 3·0396346 | 96 | 2·6359408 | 3·0293131 | 96 | 2·6255266 | 3·0195782 |
| 97 | 2·4483444 | 2·8245170 | 97 | 2·4372009 | 2·8141550 | 97 | 2·4267867 | 2·8043923 |
| 98 | 2·2381681 | 2·5979276 | 98 | 2·2270246 | 2·5875258 | 98 | 2·2166104 | 2·5777307 |
| 99 | 2·0160737 | 2·3590648 | 99 | 2·0049302 | 2·3486222 | 99 | 1·9945160 | 2·3387950 |
| 100 | 1·7815689 | 2·1067874 | 100 | 1·7704254 | 2·0962963 | 100 | 1·7600112 | 2·0864335 |
| 101 | 1·5341514 | 1·8392197 | 101 | 1·5230079 | 1·8286696 | 101 | 1·5125937 | 1·8187628 |
| 102 | 1·2733084 | 1·5528203 | 102 | 1·2621649 | 1·5421903 | 102 | 1·2517507 | 1·5322229 |
| 103 | 0·9985168 | 1·2398873 | 103 | 0·9873733 | 1·2291492 | 103 | 0·9769591 | 1·2190892 |
| 104 | 0·7092432 | 0·8805850 | 104 | 0·6980997 | 0·8696775 | 104 | 0·6876855 | 0·8594866 |
| 105 | 0·4049438 | | 105 | 0·3938003 | | 105 | 0·3833861 | |
| 106 | 0·0850646 | | 106 | 0·0739211 | | 106 | 0·0635069 | |
| 107 | 9·7490412 | | 107 | 9·7378977 | | 107 | 9·7274835 | |
| 108 | 9·3962989 | | 108 | 9·3851554 | | 108 | 9·3747412 | |
| 109 | 9·0262526 | | 109 | 9·0151091 | | 109 | 9·0046949 | |

## JOINT LIVES :—Two Males.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 9 | | | 10 | | | 11 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,9}$ | $\lambda\ N_{x,\,9}$ | Age of (x) | $\lambda\ D_{x,\,10}$ | $\lambda\ N_{x,\,10}$ | Age of (x) | $\lambda\ D_{x,\,11}$ | $\lambda\ N_{x,\,11}$ |
| 0 | 6·2019158 | 7·4072161 | 0 | 6·1926806 | 7·3962474 | 0 | 6·1838161 | 7·3851776 |
| 1 | 6·1179136 | 7·3902429 | 1 | 6·1086784 | 7·3792660 | 1 | 6·0998139 | 7·3681818 |
| 2 | 6·0826327 | 7·3773680 | 2 | 6·0733975 | 7·3664021 | 2 | 6·0645330 | 7·3553266 |
| 3 | 6·0605194 | 7·3657057 | 3 | 6·0512842 | 7·3547577 | 3 | 6·0424197 | 7·3436992 |
| 4 | 6·0436177 | 7·3545728 | 4 | 6·0343825 | 7·3436469 | 4 | 6·0255180 | 7·3326095 |
| 5 | 6·0293903 | 7·3437138 | 5 | 6·0201551 | 7·3328126 | 5 | 6·0112906 | 7·3217997 |
| 6 | 6·0170291 | 7·3330005 | 6 | 6·0077939 | 7·3221261 | 6 | 5·9989294 | 7·3111397 |
| 7 | 6·0058856 | 7·3223425 | 7 | 5·9966504 | 7·3114965 | 7 | 5·9877859 | 7·3005385 |
| 8 | 5·9954714 | 7·3116799 | 8 | 5·9862362 | 7·3008631 | 8 | 5·9773717 | 7·2899351 |
| 9 | 5·9857240 | 7·3009739 | 9 | 5·9764888 | 7·2901878 | 9 | 5·9676243 | 7·2792906 |
| 10 | 5·9764888 | 7·2901878 | 10 | 5·9672536 | 7·2794334 | 10 | 5·9583891 | 7·2685682 |
| 11 | 5·9676243 | 7·2792906 | 11 | 5·9583891 | 7·2685682 | 11 | 5·9495246 | 7·2577357 |
| 12 | 5·9590023 | 7·2682573 | 12 | 5·9497671 | 7·2575670 | 12 | 5·9409026 | 7·2467678 |
| 13 | 5·9505078 | 7·2570673 | 13 | 5·9412726 | 7·2464097 | 13 | 5·9324081 | 7·2356441 |
| 14 | 5·9420389 | 7·2457046 | 14 | 5·9328037 | 7·2350798 | 14 | 5·9239392 | 7·2243483 |
| 15 | 5·9335071 | 7·2341585 | 15 | 5·9242719 | 7·2235665 | 15 | 5·9154074 | 7·2128689 |
| 16 | 5·9248368 | 7·2224209 | 16 | 5·9156016 | 7·2118622 | 16 | 5·9067371 | 7·2011988 |
| 17 | 5·9159660 | 7·2104886 | 17 | 5·9067308 | 7·1999627 | 17 | 5·8978663 | 7·1893333 |
| 18 | 5·9068455 | 7·1983601 | 18 | 5·8976103 | 7·1878669 | 18 | 5·8887458 | 7·1772718 |
| 19 | 5·8974397 | 7·1860374 | 19 | 5·8882045 | 7·1755771 | 19 | 5·8793400 | 7·1650160 |
| 20 | 5·8877259 | 7·1735243 | 20 | 5·8784907 | 7·1630966 | 20 | 5·8696262 | 7·1525699 |
| 21 | 5·8776947 | 7·1608258 | 21 | 5·8684595 | 7·1504310 | 21 | 5·8595950 | 7·1399385 |
| 22 | 5·8675831 | 7·1479488 | 22 | 5·8583479 | 7·1375867 | 22 | 5·8494834 | 7·1271282 |
| 23 | 5·8573938 | 7·1348866 | 23 | 5·8481586 | 7·1245571 | 23 | 5·8392941 | 7·1141324 |
| 24 | 5·8471286 | 7·1216324 | 24 | 5·8378934 | 7·1113355 | 24 | 5·8290289 | 7·1009447 |
| 25 | 5·8367885 | 7·1081789 | 25 | 5·8275533 | 7·0979139 | 25 | 5·8186888 | 7·0875571 |
| 26 | 5·8263736 | 7·0945180 | 26 | 5·8171384 | 7·0842849 | 26 | 5·8082739 | 7·0739620 |
| 27 | 5·8158832 | 7·0806406 | 27 | 5·8066480 | 7·0704398 | 27 | 5·7977835 | 7·0601499 |
| 28 | 5·8053157 | 7·0665383 | 28 | 5·7960805 | 7·0563686 | 28 | 5·7872160 | 7·0461122 |
| 29 | 5·7946689 | 7·0522002 | 29 | 5·7854337 | 7·0420622 | 29 | 5·7765692 | 7·0318381 |
| 30 | 5·7839395 | 7·0376165 | 30 | 5·7747043 | 7·0275090 | 30 | 5·7658398 | 7·0173180 |
| 31 | 5·7731235 | 7·0227751 | 31 | 5·7638883 | 7·0126988 | 31 | 5·7550238 | 7·0025401 |
| 32 | 5·7622160 | 7·0076650 | 32 | 5·7529808 | 6·9976187 | 32 | 5·7441163 | 6·9874920 |
| 33 | 5·7512113 | 6·9922725 | 33 | 5·7419761 | 6·9822564 | 33 | 5·7331116 | 6·9721614 |
| 34 | 5·7401029 | 6·9765842 | 34 | 5·7308677 | 6·9665982 | 34 | 5·7220032 | 6·9565346 |
| 35 | 5·7288834 | 6·9605862 | 35 | 5·7196482 | 6·9506296 | 35 | 5·7107837 | 6·9405973 |
| 36 | 5·7175446 | 6·9442628 | 36 | 5·7083094 | 6·9343355 | 36 | 5·6994449 | 6·9243339 |
| 37 | 5·7060774 | 6·9275979 | 37 | 5·6968422 | 6·9176996 | 37 | 5·6879777 | 6·9077286 |
| 38 | 5·6944720 | 6·9105743 | 38 | 5·6852368 | 6·9007048 | 38 | 5·6763723 | 6·8907640 |
| 39 | 5·6827176 | 6·8931739 | 39 | 5·6734824 | 6·8833328 | 39 | 5·6646179 | 6·8734222 |
| 40 | 5·6708028 | 6·8753774 | 40 | 5·6615676 | 6·8655643 | 40 | 5·6527031 | 6·8556835 |
| 41 | 5·6587151 | 6·8571639 | 41 | 5·6494799 | 6·8473789 | 41 | 5·6406154 | 6·8375273 |
| 42 | 5·6464413 | 6·8385113 | 42 | 5·6372061 | 6·8287544 | 42 | 5·6283416 | 6·8189323 |
| 43 | 5·6339673 | 6·8193966 | 43 | 5·6247321 | 6·8096671 | 43 | 5·6158676 | 6·7998745 |
| 44 | 5·6212784 | 6·7997947 | 44 | 5·6120432 | 6·7900929 | 44 | 5·6031787 | 6·7803288 |
| 45 | 5·6083587 | 6·7796787 | 45 | 5·5991235 | 6·7700043 | 45 | 5·5902590 | 6·7602692 |
| 46 | 5·5951917 | 6·7590202 | 46 | 5·5859565 | 6·7493727 | 46 | 5·5770920 | 6·7396665 |
| 47 | 5·5817600 | 6·7377880 | 47 | 5·5725248 | 6·7281676 | 47 | 5·5636603 | 6·7184898 |
| 48 | 5·5680454 | 6·7159489 | 48 | 5·5588102 | 6·7063556 | 48 | 5·5499457 | 6·6967063 |
| 49 | 5·5540288 | 6·6934671 | 49 | 5·5447936 | 6·6839005 | 49 | 5·5359291 | 6·6742797 |
| 50 | 5·5396904 | 6·6703032 | 50 | 5·5304552 | 6·6607637 | 50 | 5·5215907 | 6·6511710 |
| 51 | 5·5250094 | 6·6464150 | 51 | 5·5157742 | 6·6369018 | 51 | 5·5069097 | 6·6273378 |
| 52 | 5·5097197 | 6·6217552 | 52 | 5·5004845 | 6·6122689 | 52 | 5·4916200 | 6·6027330 |
| 53 | 5·4939852 | 6·5962930 | 53 | 5·4847500 | 6·5868338 | 53 | 5·4758855 | 6·5773264 |
| 54 | 5·4777886 | 6·5699799 | 54 | 5·4685534 | 6·5605471 | 54 | 5·4596889 | 6·5510686 |

## JOINT LIVES:—TWO MALES.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of ($y$) | 9 | | | 10 | | | 11 | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$) | $\lambda\ D_{x,9}$ | $\lambda\ N_{x,9}$ | Age of ($x$) | $\lambda\ D_{x,10}$ | $\lambda\ N_{x,10}$ | Age of ($x$) | $\lambda\ D_{x,11}$ | $\lambda\ N_{x,11}$ |
| 55 | 5·4611027 | 6·5427608 | 55 | 5·4518675 | 6·5333550 | 55 | 5·4430030 | 6·5239047 |
| 56 | 5·4438898 | 6·5145752 | 56 | 5·4346546 | 6·5051968 | 56 | 5·4257901 | 6·4957754 |
| 57 | 5·4261018 | 6·4853583 | 57 | 5·4168666 | 6·4760060 | 57 | 5·4080021 | 6·4666143 |
| 58 | 5·4076803 | 6·4550377 | 58 | 5·3984451 | 6·4457122 | 58 | 5·3895806 | 6·4363487 |
| 59 | 5·3885567 | 6·4235352 | 59 | 5·3793215 | 6·4142371 | 59 | 5·3704570 | 6·4049026 |
| 60 | 5·3686519 | 6·3907681 | 60 | 5·3594167 | 6·3814959 | 60 | 5·3505522 | 6·3721913 |
| 61 | 5·3478766 | 6·3566455 | 61 | 5·3386414 | 6·3474000 | 61 | 5·3297769 | 6·3381239 |
| 62 | 5·3261311 | 6·3210702 | 62 | 5·3168959. | 6·3118515 | 62 | 5·3080314 | 6·3026047 |
| 63 | 5·3033054 | 6·2839406 | 63 | 5·2940702 | 6·2747468 | 63 | 5·2852057 | 6·2655298 |
| 64 | 5·2792792 | 6·2451444 | 64 | 5·2700440 | 6·2359771 | 64 | 5·2611795 | 6·2267883 |
| 65 | 5·2539218 | 6·2045657 | 65 | 5·2446866 | 6·1954230 | 65 | 5·2358221 | 6·1862640 |
| 66 | 5·2270922 | 6·1620790 | 66 | 5·2178570 | 6·1529613 | 66 | 5·2089925 | 6·1438301 |
| 67 | 5·1986391 | 6·1175524 | 67 | 5·1894039 | 6·1084584 | 67 | 5·1805394 | 6·0993560 |
| 68 | 5·1684010 | 6·0708451 | 68 | 5·1591658 | 6·0617747 | 68 | 5·1503013 | 6·0527001 |
| 69 | 5·1362057 | 6·0218089 | 69 | 5·1269705 | 6·0127609 | 69 | 5·1181060 | 6·0037139 |
| 70 | 5·1018711 | 5·9702869 | 70 | 5·0926359 | 5·9612602 | 70 | 5·0837714 | 5·9522401 |
| 71 | 5·0652045 | 5·9161132 | 71 | 5·0559693 | 5·9071076 | 71 | 5·0471048 | 5·8981134 |
| 72 | 5·0260029 | 5·8591137 | 72 | 5·0167677 | 5·8501271 | 72 | 5·0079032 | 5·8411592 |
| 73 | 4·9840532 | 5·7991041 | 73 | 4·9748180 | 5·7901363 | 73 | 4·9659535 | 5·7811930 |
| 74 | 4·9391316 | 5·7358918 | 74 | 4·9298964 | 5·7269410 | 74 | 4·9210319 | 5·7180215 |
| 75 | 4·8910043 | 5·6692732 | 75 | 4·8817691 | 5·6603385 | 75 | 4·8729046 | 5·6514418 |
| 76 | 4·8394269 | 5·5990361 | 76 | 4·8301917 | 5·5901155 | 76 | 4·8213272 | 5·5812408 |
| 77 | 4·7841450 | 5·5249565 | 77 | 4·7749098 | 5·5160494 | 77 | 4·7660453 | 5·5071952 |
| 78 | 4·7248936 | 5·4468017 | 78 | 4·7156584 | 5·4379060 | 78 | 4·7067939 | 5·4290716 |
| 79 | 4·6613975 | 5·3643275 | 79 | 4·6521623 | 5·3554420 | 79 | 4·6432978 | 5·3466256 |
| 80 | 4·5933711 | 5·2772792 | 80 | 4·5841359 | 5·2684020 | 80 | 4·5752714 | 5·2596028 |
| 81 | 4·5205185 | 5·1853905 | 81 | 4·5112833 | 5·1765207 | 81 | 4·5024188 | 5·1677370 |
| 82 | 4·4425334 | 5·0883856 | 82 | 4·4332982 | 5·0795206 | 82 | 4·4244337 | 5·0707518 |
| 83 | 4·3590995 | 4·9859758 | 83 | 4·3498643 | 4·9771152 | 83 | 4·3409998 | 4·9683582 |
| 84 | 4·2698897 | 4·8778613 | 84 | 4·2606545 | 4·8690040 | 84 | 4·2517900 | 4·8602589 |
| 85 | 4·1745669 | 4·7637319 | 85 | 4·1653317 | 4·7548756 | 85 | 4·1564672 | 4·7461413 |
| 86 | 4·0727835 | 4·6432661 | 86 | 4·0635483 | 4·6344087 | 86 | 4·0546838 | 4·6256838 |
| 87 | 3·9641817 | 4·5161291 | 87 | 3·9549465 | 4·5072704 | 87 | 3·9460820 | 4·4985524 |
| 88 | 3·8483933 | 4·3819736 | 88 | 3·8391581 | 4·3731132 | 88 | 3·8302936 | 4·3644013 |
| 89 | 3·7250399 | 4·2404439 | 89 | 3·7158047 | 4·2315786 | 89 | 3·7069402 | 4·2228730 |
| 90 | 3·5937324 | 4·0911681 | 90 | 3·5844972 | 4·0822988 | 90 | 3·5756327 | 4·0735959 |
| 91 | 3·4540719 | 3·9337646 | 91 | 3·4448367 | 3·9248884 | 91 | 3·4359722 | 3·9161896 |
| 92 | 3·3056488 | 3·7678353 | 92 | 3·2964136 | 3·7589535 | 92 | 3·2875491 | 3·7502553 |
| 93 | 3·1480433 | 3·5929691 | 93 | 3·1388081 | 3·5840800 | 93 | 3·1299436 | 3·5753842 |
| 94 | 2·9808252 | 3·4087358 | 94 | 2·9715900 | 3·3998386 | 94 | 2·9627255 | 3·3911428 |
| 95 | 2·8035541 | 3·2146820 | 95 | 2·7943189 | 3·2057767 | 95 | 2·7854544 | 3·1970809 |
| 96 | 2·6157792 | 3·0103225 | 96 | 2·6065440 | 3·0014078 | 96 | 2·5976795 | 2·9927116 |
| 97 | 2·4170393 | 2·7951178 | 97 | 2·4078041 | 2·7861941 | 97 | 2·3989396 | 2·7774964 |
| 98 | 2·2068630 | 2·5684387 | 98 | 2·1976278 | 2·5595045 | 98 | 2·1887633 | 2·5508054 |
| 99 | 1·9847686 | 2·3294800 | 99 | 1·9755334 | 2·3205359 | 99 | 1·9666689 | 2·3118344 |
| 100 | 1·7502638 | 2·0770945 | 100 | 1·7410286 | 2·0681369 | 100 | 1·7321641 | 2·0594328 |
| 101 | 1·5028463 | 1·8093927 | 101 | 1·4936111 | 1·8004181 | 101 | 1·4847466 | 1·7917075 |
| 102 | 1·2420033 | 1·5228119 | 102 | 1·2327681 | 1·5138101 | 102 | 1·2239036 | 1·5050889 |
| 103 | 0·9672117 | 1·2096142 | 103 | 0·9579765 | 1·2005714 | 103 | 0·9491120 | 1·1918282 |
| 104 | 0·6779381 | 0·8498983 | 104 | 0·6687029 | 0·8407896 | 104 | 0·6598384 | 0·8320041 |
| 105 | 0·3736387 | | 105 | 0·3644035 | | 105 | 0·3555390 | |
| 106 | 0·0537595 | | 106 | 0·0445243 | | 106 | 0·0356598 | |
| 107 | 9·7177361 | | 107 | 9·7085009 | | 107 | 9·6996364 | |
| 108 | 9·3649938 | | 108 | 9·3557586 | | 108 | 9·3468941 | |
| 109 | 8·9949475 | | 109 | 8·9857123 | | 109 | 8·9768478 | |

## JOINT LIVES:—TWO MALES.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 12 | | 13 | | | 14 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda D_{x,12}$ | $\lambda N_{x,12}$ | Age of (x) | $\lambda D_{x,13}$ | $\lambda N_{x,13}$ | Age of (x) | $\lambda D_{x,14}$ | $\lambda N_{x,14}$ |
| 0 | 6·1751941 | 7·3739802 | 0 | 6·1666996 | 7·3626324 | 0 | 6·1582307 | 7·3511177 |
| 1 | 6·0911919 | 7·3569644 | 1 | 6·0826974 | 7·3455935 | 1 | 6·0742285 | 7·3340524 |
| 2 | 6·0559110 | 7·3441163 | 2 | 6·0474165 | 7·3327506 | 2 | 6·0389476 | 7·3212143 |
| 3 | 6·0337977 | 7·3325047 | 3 | 6·0253032 | 7·3211545 | 3 | 6·0168343 | 7·3096323 |
| 4 | 6·0168960 | 7·3214358 | 4 | 6·0084015 | 7·3101058 | 4 | 5·9999326 | 7·2986037 |
| 5 | 6·0026686 | 7·3106498 | 5 | 5·9941741 | 7·2993433 | 5 | 5·9857052 | 7·2878649 |
| 6 | 5·9903074 | 7·3000164 | 6 | 5·9818129 | 7·2887362 | 6 | 5·9733440 | 7·2772838 |
| 7 | 5·9791639 | 7·2894438 | 7 | 5·9706694 | 7·2781922 | 7 | 5·9622005 | 7·2667678 |
| 8 | 5·9687497 | 7·2788704 | 8 | 5·9602552 | 7·2676487 | 8 | 5·9517863 | 7·2562546 |
| 9 | 5·9590023 | 7·2682573 | 9 | 5·9505078 | 7·2570673 | 9 | 5·9420389 | 7·2457046 |
| 10 | 5·9497671 | 7·2575670 | 10 | 5·9412726 | 7·2464097 | 10 | 5·9328037 | 7·2350798 |
| 11 | 5·9409026 | 7·2467678 | 11 | 5·9324081 | 7·2356441 | 11 | 5·9239392 | 7·2243483 |
| 12 | 5·9322806 | 7·2358341 | 12 | 5·9237861 | 7·2247446 | 12 | 5·9153172 | 7·2134835 |
| 13 | 5·9237861 | 7·2247446 | 13 | 5·9152916 | 7·2136901 | 13 | 5·9068227 | 7·2024643 |
| 14 | 5·9153172 | 7·2134835 | 14 | 5·9068227 | 7·2024643 | 14 | 5·8983538 | 7·1912746 |
| 15 | 5·9067854 | 7·2020392 | 15 | 5·8982909 | 7·1910557 | 15 | 5·8898220 | 7·1799026 |
| 16 | 5·8981151 | 7·1904039 | 16 | 5·8896206 | 7·1794567 | 16 | 5·8811517 | 7·1683401 |
| 17 | 5·8892443 | 7·1785738 | 17 | 5·8807498 | 7·1676626 | 17 | 5·8722809 | 7·1565830 |
| 18 | 5·8801238 | 7·1665476 | 18 | 5·8716293 | 7·1556727 | 18 | 5·8631604 | 7·1446303 |
| 19 | 5·8707180 | 7·1543272 | 19 | 5·8622235 | 7·1434888 | 19 | 5·8537546 | 7·1324835 |
| 20 | 5·8610042 | 7·1419164 | 20 | 5·8525097 | 7·1311142 | 20 | 5·8440408 | 7·1201470 |
| 21 | 5·8509730 | 7·1293206 | 21 | 5·8424785 | 7·1185547 | 21 | 5·8340096 | 7·1076251 |
| 22 | 5·8408614 | 7·1165456 | 22 | 5·8323669 | 7·1058166 | 22 | 5·8238980 | 7·0949244 |
| 23 | 5·8306721 | 7·1035851 | 23 | 5·8221776 | 7·0928932 | 23 | 5·8137087 | 7·0820389 |
| 24 | 5·8204069 | 7·0904330 | 24 | 5·8119124 | 7·0797773 | 24 | 5·8034435 | 7·0689614 |
| 25 | 5·8100668 | 7·0770807 | 25 | 5·8015723 | 7·0664616 | 25 | 5·7931034 | 7·0556834 |
| 26 | 5·7996519 | 7·0635203 | 26 | 5·7911574 | 7·0529377 | 26 | 5·7826885 | 7·0421974 |
| 27 | 5·7891615 | 7·0497435 | 27 | 5·7806670 | 7·0391972 | 27 | 5·7721981 | 7·0284940 |
| 28 | 5·7785940 | 7·0357398 | 28 | 5·7700995 | 7·0252301 | 28 | 5·7616306 | 7·0145642 |
| 29 | 5·7679472 | 7·0215006 | 29 | 5·7594527 | 7·0110263 | 29 | 5·7509838 | 7·0003980 |
| 30 | 5·7572178 | 7·0070147 | 30 | 5·7487233 | 6·9965759 | 30 | 5·7402544 | 6·9859841 |
| 31 | 5·7464018 | 6·9922704 | 31 | 5·7379073 | 6·9818667 | 31 | 5·7294384 | 6·9713118 |
| 32 | 5·7354943 | 6·9772558 | 32 | 5·7269998 | 6·9668871 | 32 | 5·7185309 | 6·9563684 |
| 33 | 5·7244896 | 6·9619583 | 33 | 5·7159951 | 6·9516242 | 33 | 5·7075262 | 6·9411413 |
| 34 | 5·7133812 | 6·9463644 | 34 | 5·7048867 | 6·9360644 | 34 | 5·6964178 | 6·9256170 |
| 35 | 5·7021617 | 6·9304595 | 35 | 5·6936672 | 6·9201934 | 35 | 5·6851983 | 6·9097810 |
| 36 | 5·6908229 | 6·9142286 | 36 | 5·6823284 | 6·9039957 | 36 | 5·6738595 | 6·8936181 |
| 37 | 5·6793557 | 6·8976551 | 37 | 5·6708612 | 6·8874555 | 37 | 5·6623923 | 6·8771120 |
| 38 | 5·6677503 | 6·8807223 | 38 | 5·6592558 | 6·8705554 | 38 | 5·6507869 | 6·8602458 |
| 39 | 5·6559959 | 6·8634116 | 39 | 5·6475014 | 6·8532772 | 39 | 5·6390325 | 6·8430010 |
| 40 | 5·6440811 | 6·8457040 | 40 | 5·6355866 | 6·8356017 | 40 | 5·6271177 | 6·8253587 |
| 41 | 5·6319934 | 6·8275786 | 41 | 5·6234989 | 6·8175084 | 41 | 5·6150300 | 6·8072979 |
| 42 | 5·6197196 | 6·8090138 | 42 | 5·6112251 | 6·7989749 | 42 | 5·6027562 | 6·7887971 |
| 43 | 5·6072456 | 6·7899864 | 43 | 5·5987511 | 6·7799785 | 43 | 5·5902822 | 6·7698325 |
| 44 | 5·5945567 | 6·7704712 | 44 | 5·5860622 | 6·7604943 | 44 | 5·5775933 | 6·7503797 |
| 45 | 5·5816370 | 6·7504411 | 45 | 5·5731425 | 6·7404952 | 45 | 5·5646736 | 6·7304123 |
| 46 | 5·5684700 | 6·7298683 | 46 | 5·5599755 | 6·7199527 | 46 | 5·5515066 | 6·7099011 |
| 47 | 5·5550383 | 6·7087216 | 47 | 5·5465438 | 6·6988363 | 47 | 5·5380749 | 6·6888153 |
| 48 | 5·5413237 | 6·6869673 | 48 | 5·5328292 | 6·6771126 | 48 | 5·5243603 | 6·6671222 |
| 49 | 5·5273071 | 6·6645703 | 49 | 5·5188126 | 6·6547453 | 49 | 5·5103437 | 6·6447856 |
| 50 | 5·5129687 | 6·6414909 | 50 | 5·5044742 | 6·6316961 | 50 | 5·4960053 | 6·6217663 |
| 51 | 5·4982877 | 6·6176869 | 51 | 5·4897932 | 6·6079221 | 51 | 5·4813243 | 6·5980225 |
| 52 | 5·4829980 | 6·5931118 | 52 | 5·4745035 | 6·5833764 | 52 | 5·4660346 | 6·5735069 |
| 53 | 5·4672635 | 6·5677343 | 53 | 5·4587690 | 6·5580290 | 53 | 5·4503001 | 6·5481891 |
| 54 | 5·4510669 | 6·5415060 | 54 | 5·4425724 | 6·5318305 | 54 | 5·4341035 | 6·5220206 |

## JOINT LIVES:—TWO MALES.

### Logarithms of the Series $D_{x, y}$ and $N_{x, y}$.

| Age of (y) | 12 | | 13 | | | 14 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda D_{x, 12}$ | $\lambda N_{x, 12}$ | Age of (x) | $\lambda D_{x, 13}$ | $\lambda N_{x, 13}$ | Age of (x) | $\lambda D_{x, 14}$ | $\lambda N_{x, 14}$ |
| 55 | 5·4343810 | 6·5143722 | 55 | 5·4258865 | 6·5047265 | 55 | 5·4174176 | 6·4949465 |
| 56 | 5·4171681 | 6·4862722 | 56 | 5·4086736 | 6·4766573 | 56 | 5·4002047 | 6·4669069 |
| 57 | 5·3993801 | 6·4571412 | 57 | 5·3908856 | 6·4475558 | 57 | 5·3824167 | 6·4378362 |
| 58 | 5·3809586 | 6·4269066 | 58 | 5·3724641 | 6·4173519 | 58 | 5·3639952 | 6·4076618 |
| 59 | 5·3618350 | 6·3954899 | 59 | 5·3533405 | 6·3859668 | 59 | 5·3448716 | 6·3763072 |
| 60 | 5·3419302 | 6·3628090 | 60 | 5·3334357 | 6·3533157 | 60 | 5·3249668 | 6·3436876 |
| 61 | 5·3211549 | 6·3287729 | 61 | 5·3126604 | 6·3193105 | 61 | 5·3041915 | 6·3097121 |
| 62 | 5·2994094 | 6·2932840 | 62 | 5·2909149 | 6·2838537 | 62 | 5·2824460 | 6·2742858 |
| 63 | 5·2765837 | 6·2562401 | 63 | 5·2680892 | 6·2468406 | 63 | 5·2596203 | 6·2373044 |
| 64 | 5·2525575 | 6·2175300 | 64 | 5·2440630 | 6·2081622 | 64 | 5·2355941 | 6·1986569 |
| 65 | 5·2272001 | 6·1770358 | 65 | 5·2187056 | 6·1677004 | 65 | 5·2102367 | 6·1582261 |
| 66 | 5·2003705 | 6·1346341 | 66 | 5·1918760 | 6·1253294 | 66 | 5·1834071 | 6·1158874 |
| 67 | 5·1719174 | 6·0901900 | 67 | 5·1634229 | 6·0809182 | 67 | 5·1549540 | 6·0715068 |
| 68 | 5·1416793 | 6·0435650 | 68 | 5·1331848 | 6·0343244 | 68 | 5·1247159 | 6·0249456 |
| 69 | 5·1094840 | 5·9946093 | 69 | 5·1009895 | 5·9854009 | 69 | 5·0925206 | 5·9760532 |
| 70 | 5·0751494 | 5·9431659 | 70 | 5·0666549 | 5·9339891 | 70 | 5·0581860 | 5·9246736 |
| 71 | 5·0384828 | 5·8890691 | 71 | 5·0299883 | 5·8799241 | 71 | 5·0215194 | 5·8706403 |
| 72 | 4·9992812 | 5·8321441 | 72 | 4·9907867 | 5·8230305 | 72 | 4·9823178 | 5·8137784 |
| 73 | 4·9573315 | 5·7722069 | 73 | 4·9488370 | 5·7631242 | 73 | 4·9403681 | 5·7539038 |
| 74 | 4·9124099 | 5·7090640 | 74 | 4·9039154 | 5·7000121 | 74 | 4·8954465 | 5·6908229 |
| 75 | 4·8642826 | 5·6425117 | 75 | 4·8557881 | 5·6334906 | 75 | 4·8473192 | 5·6243325 |
| 76 | 4·8127052 | 5·5723377 | 76 | 4·8042107 | 5·5633460 | 76 | 4·7957418 | 5·5542195 |
| 77 | 4·7574233 | 5·4983183 | 77 | 4·7489288 | 5·4893561 | 77 | 4·7404599 | 5·4802595 |
| 78 | 4·6981719 | 5·4202198 | 78 | 4·6896774 | 5·4112863 | 78 | 4·6812085 | 5·4022203 |
| 79 | 4·6346758 | 5·3377982 | 79 | 4·6261813 | 5·3288924 | 79 | 4·6177124 | 5·3198563 |
| 80 | 4·5666494 | 5·2507982 | 80 | 4·5581549 | 5·2419202 | 80 | 4·5496860 | 5·2329128 |
| 81 | 4·4937968 | 5·1589547 | 81 | 4·4853023 | 5·1501025 | 81 | 4·4768334 | 5·1411241 |
| 82 | 4·4158117 | 5·0619900 | 82 | 4·4073172 | 5·0531638 | 82 | 4·3988483 | 5·0442128 |
| 83 | 4·3323778 | 4·9596171 | 83 | 4·3238833 | 4·9508150 | 83 | 4·3154144 | 4·9418914 |
| 84 | 4·2431680 | 4·8515353 | 84 | 4·2346735 | 4·8427571 | 84 | 4·2262046 | 4·8338602 |
| 85 | 4·1478452 | 4·7374360 | 85 | 4·1393507 | 4·7286792 | 85 | 4·1308818 | 4·7198076 |
| 86 | 4·0460618 | 4·6169941 | 86 | 4·0375673 | 4·6082596 | 86 | 4·0290984 | 4·5994125 |
| 87 | 3·9374600 | 4·4898778 | 87 | 3·9289655 | 4·4811631 | 87 | 3·9204966 | 4·4723402 |
| 88 | 3·8216716 | 4·3557401 | 88 | 3·8131771 | 4·3470451 | 88 | 3·8047082 | 4·3382447 |
| 89 | 3·6983182 | 4·2142242 | 89 | 3·6898237 | 4·2055470 | 89 | 3·6813548 | 4·1967690 |
| 90 | 3·5670107 | 4·0649598 | 90 | 3·5585162 | 4·0562995 | 90 | 3·5500473 | 4·0475419 |
| 91 | 3·4273502 | 3·9075623 | 91 | 3·4188557 | 3·8989193 | 91 | 3·4103868 | 3·8901817 |
| 92 | 3·2789271 | 3·7416384 | 92 | 3·2704326 | 3·7330086 | 92 | 3·2619637 | 3·7242915 |
| 93 | 3·1213216 | 3·5667733 | 93 | 3·1128271 | 3·5581588 | 93 | 3·1043582 | 3·5494581 |
| 94 | 2·9541035 | 3·3825407 | 94 | 2·9456090 | 3·3739383 | 94 | 2·9371401 | 3·3652555 |
| 95 | 2·7768324 | 3·1884855 | 95 | 2·7683379 | 3·1798951 | 95 | 2·7598690 | 3·1712287 |
| 96 | 2·5890575 | 2·9841226 | 96 | 2·5805630 | 2·9755439 | 96 | 2·5720941 | 2·9668932 |
| 97 | 2·3903176 | 2·7689133 | 97 | 2·3818231 | 2·7603463 | 97 | 2·3733542 | 2·7517109 |
| 98 | 2·1801413 | 2·5422277 | 98 | 2·1716468 | 2·5336729 | 98 | 2·1631779 | 2·5250539 |
| 99 | 1·9580469 | 2·3032626 | 99 | 1·9495524 | 2·2947190 | 99 | 1·9410835 | 2·2861168 |
| 100 | 1·7235421 | 2·0508656 | 100 | 1·7150476 | 2·0423349 | 100 | 1·7065787 | 2·0337509 |
| 101 | 1·4761246 | 1·7831458 | 101 | 1·4676301 | 1·7746279 | 101 | 1·4591612 | 1·7660647 |
| 102 | 1·2152816 | 1·4965284 | 102 | 1·2067871 | 1·4880259 | 102 | 1·1983182 | 1·4794846 |
| 103 | 0·9404900 | 1·1832641 | 103 | 0·9319955 | 1·1747719 | 103 | 0·9235266 | 1·1662584 |
| 104 | 0·6512164 | 0·8234221 | 104 | 0·6427219 | 0·8149331 | 104 | 0·6342530 | 0·8064445 |
| 105 | 0·3469170 | | 105 | 0·3384225 | | 105 | 0·3299536 | |
| 106 | 0·0270378 | | 106 | 0·0185433 | | 106 | 0·0100744 | |
| 107 | 9·6910144 | | 107 | 9·6825199 | | 107 | 9·6740510 | |
| 108 | 9·3382721 | | 108 | 9·3297776 | | 108 | 9·3213087 | |
| 109 | 8·9682258 | | 109 | 8·9597313 | | 109 | 8·9512624 | |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 15 | | 16 | | | 17 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,15}$ | λ $N_{x,\,15}$ | Age of (x) | λ $D_{x,\,16}$ | λ $N_{x,\,16}$ | Age of (x) | λ $D_{x,\,17}$ | λ $N_{x,\,17}$ |
| 0 | 6·1496989 | 7·3394229 | 0 | 6·1410286 | 7·3275387 | 0 | 6·1321578 | 7·3154610 |
| 1 | 6·0656967 | 7·3223297 | 1 | 6·0570264 | 7·3104171 | 1 | 6·0481556 | 7·2983102 |
| 2 | 6·0304158 | 7·3094952 | 2 | 6·0217455 | 7·2975858 | 2 | 6·0128747 | 7·2854826 |
| 3 | 6·0083025 | 7·2979274 | 3 | 5·9996322 | 7·2860321 | 3 | 5·9907614 | 7·2739426 |
| 4 | 5·9914008 | 7·2869184 | 4 | 5·9827305 | 7·2750424 | 4 | 5·9738597 | 7·2629719 |
| 5 | 5·9771734 | 7·2762028 | 5 | 5·9685031 | 7·2643498 | 5 | 5·9596323 | 7·2523021 |
| 6 | 5·9648122 | 7·2656478 | 6 | 5·9561419 | 7·2538207 | 6 | 5·9472711 | 7·2417989 |
| 7 | 5·9536687 | 7·2551601 | 7 | 5·9449984 | 7·2433610 | 7 | 5·9361276 | 7·2313674 |
| 8 | 5·9432545 | 7·2446769 | 8 | 5·9345842 | 7·2329080 | 8 | 5·9257134 | 7·2209440 |
| 9 | 5·9335071 | 7·2341585 | 9 | 5·9248368 | 7·2224209 | 9 | 5·9159660 | 7·2104886 |
| 10 | 5·9242719 | 7·2235665 | 10 | 5·9156016 | 7·2118622 | 10 | 5·9067308 | 7·1999627 |
| 11 | 5·9154074 | 7·2128689 | 11 | 5·9067371 | 7·2011988 | 11 | 5·8978663 | 7·1893333 |
| 12 | 5·9067854 | 7·2020392 | 12 | 5·8981151 | 7·1904039 | 12 | 5·8892443 | 7·1785738 |
| 13 | 5·8982909 | 7·1910557 | 13 | 5·8896206 | 7·1794567 | 13 | 5·8807498 | 7·1676626 |
| 14 | 5·8898220 | 7·1799026 | 14 | 5·8811517 | 7·1683401 | 14 | 5·8722809 | 7·1565830 |
| 15 | 5·8812902 | 7·1685674 | 15 | 5·8726199 | 7·1570422 | 15 | 5·8637491 | 7·1453226 |
| 16 | 5·8726199 | 7·1570422 | 16 | 5·8639496 | 7·1455550 | 16 | 5·8550788 | 7·1338738 |
| 17 | 5·8637491 | 7·1453226 | 17 | 5·8550788 | 7·1338738 | 17 | 5·8462080 | 7·1222316 |
| 18 | 5·8546286 | 7·1334083 | 18 | 5·8459583 | 7·1219978 | 18 | 5·8370875 | 7·1103951 |
| 19 | 5·8452228 | 7·1212998 | 19 | 5·8365525 | 7·1099284 | 19 | 5·8276817 | 7·0983654 |
| 20 | 5·8355090 | 7·1090011 | 20 | 5·8268387 | 7·0976696 | 20 | 5·8179679 | 7·0861466 |
| 21 | 5·8254778 | 7·0965183 | 21 | 5·8168075 | 7·0852260 | 21 | 5·8079367 | 7·0737440 |
| 22 | 5·8153662 | 7·6838565 | 22 | 5·8066959 | 7·0726046 | 22 | 5·7978251 | 7·0611632 |
| 23 | 5·8051769 | 7·0710100 | 23 | 5·7965066 | 7·0597981 | 23 | 5·7876358 | 7·0483987 |
| 24 | 5·7949117 | 7·0579713 | 24 | 5·7862414 | 7·0467998 | 24 | 5·7773706 | 7·0354417 |
| 25 | 5·7845716 | 7·0447330 | 25 | 5·7759013 | 7·0336015 | 25 | 5·7670305 | 7·0222852 |
| 26 | 5·7741567 | 7·0312856 | 26 | 5·7654864 | 7·0201951 | 26 | 5·7566156 | 7·0089203 |
| 27 | 5·7636663 | 7·0176218 | 27 | 5·7549960 | 7·0065713 | 27 | 5·7461252 | 6·9953383 |
| 28 | 5·7530988 | 7·0037306 | 28 | 5·7444285 | 6·9927205 | 28 | 5·7355577 | 6·9815291 |
| 29 | 5·7424520 | 6·9896027 | 29 | 5·7337817 | 6·9786325 | 29 | 5·7249109 | 6·9674827 |
| 30 | 5·7317226 | 6·9752274 | 30 | 5·7230523 | 6·9642966 | 30 | 5·7141815 | 6·9531880 |
| 31 | 5·7209066 | 6·9605926 | 31 | 5·7122363 | 6·9497015 | 31 | 5·7033655 | 6·9386336 |
| 32 | 5·7099991 | 6·9456870 | 32 | 5·7013288 | 6·9348346 | 32 | 5·6924580 | 6·9238074 |
| 33 | 5·6989944 | 6·9304971 | 33 | 5·6903241 | 6·9196834 | 33 | 5·6814533 | 6·9086960 |
| 34 | 5·6878860 | 6·9150095 | 34 | 5·6792157 | 6·9042339 | 34 | 5·6703449 | 6·8932864 |
| 35 | 5·6766665 | 6·8992099 | 35 | 5·6679962 | 6·8884718 | 35 | 5·6591254 | 6·8775633 |
| 36 | 5·6653277 | 6·8830828 | 36 | 5·6566574 | 6·8723820 | 36 | 5·6477866 | 6·8615119 |
| 37 | 5·6538605 | 6·8666122 | 37 | 5·6451902 | 6·8559480 | 37 | 5·6363194 | 6·8451160 |
| 38 | 5·6422551 | 6·8497809 | 38 | 5·6335848 | 6·8391529 | 38 | 5·6247140 | 6·8283582 |
| 39 | 5·6305007 | 6·8325707 | 39 | 5·6218304 | 6·8219782 | 39 | 5·6129596 | 6·8112206 |
| 40 | 5·6185859 | 6·8149622 | 40 | 5·6099156 | 6·8044049 | 40 | 5·6010448 | 6·7936834 |
| 41 | 5·6064982 | 6·7969351 | 41 | 5·5978279 | 6·7864123 | 41 | 5·5889571 | 6·7757266 |
| 42 | 5·5942244 | 6·7784674 | 42 | 5·5855541 | 6·7679787 | 42 | 5·5766833 | 6·7573279 |
| 43 | 5·5817504 | 6·7595360 | 43 | 5·5730801 | 6·7490807 | 43 | 5·5642093 | 6·7384643 |
| 44 | 5·5690615 | 6·7401153 | 44 | 5·5603912 | 6·7296934 | 44 | 5·5515204 | 6·7191110 |
| 45 | 5·5561418 | 6·7201795 | 45 | 5·5474715 | 6·7097901 | 45 | 5·5386007 | 6·6992413 |
| 46 | 5·5429748 | 6·6997001 | 46 | 5·5343045 | 6·6893424 | 46 | 5·5254337 | 6·6788262 |
| 47 | 5·5295431 | 6·6786458 | 47 | 5·5208728 | 6·6683200 | 47 | 5·5120020 | 6·6578357 |
| 48 | 5·5158285 | 6·6569833 | 48 | 5·5071582 | 6·6466891 | 48 | 5·4982874 | 6·6362366 |
| 49 | 5·5018119 | 6·6346776 | 49 | 5·4931416 | 6·6244137 | 49 | 5·4842708 | 6·6139928 |
| 50 | 5·4874735 | 6·6116888 | 50 | 5·4788032 | 6·6014557 | 50 | 5·4699324 | 6·5910649 |
| 51 | 5·4727925 | 6·5879747 | 51 | 5·4641222 | 6·5777718 | 51 | 5·4552514 | 6·5674116 |
| 52 | 5·4575028 | 6·5634892 | 52 | 5·4488325 | 6·5533156 | 52 | 5·4399617 | 6·5429852 |
| 53 | 5·4417683 | 6·5382012 | 53 | 5·4330980 | 6·5280573 | 53 | 5·4242272 | 6·5177557 |
| 54 | 5·4255717 | 6·5120619 | 54 | 5·4169014 | 6·5019474 | 54 | 5·4080306 | 6·4916751 |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 15 | | 16 | | | 17 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,15}$ | λ $N_{x,\,15}$ | Age of (x) | λ $D_{x,\,16}$ | λ $N_{x,\,16}$ | Age of (x) | λ $D_{x,\,17}$ | λ $N_{x,\,17}$ |
| 55 | 5·4088858 | 6·4850175 | 55 | 5·4002155 | 6·4749319 | 55 | 5·3913447 | 6·4646880 |
| 56 | 5·3916729 | 6·4570074 | 56 | 5·3830026 | 6·4469506 | 56 | 5·3741318 | 6·4367352 |
| 57 | 5·3738849 | 6·4279659 | 57 | 5·3652146 | 6·4179380 | 57 | 5·3563438 | 6·4077503 |
| 58 | 5·3554634 | 6·3978215 | 58 | 5·3467931 | 6·3878220 | 58 | 5·3379223 | 6·3776622 |
| 59 | 5·3363398 | 6·3664958 | 59 | 5·3276695 | 6·3565253 | 59 | 5·3187987 | 6·3463929 |
| 60 | 5·3164350 | 6·3339061 | 60 | 5·3077647 | 6·3239633 | 60 | 5·2988939 | 6·3138588 |
| 61 | 5·2956597 | 6·2999612 | 61 | 5·2869894 | 6·2900471 | 61 | 5·2781186 | 6·2799689 |
| 62 | 5·2739142 | 6·2645637 | 62 | 5·2652439 | 6·2546791 | 62 | 5·2563731 | 6·2446281 |
| 63 | 5·2510885 | 6·2276121 | 63 | 5·2424182 | 6·2177548 | 63 | 5·2335474 | 6·2077316 |
| 64 | 5·2270623 | 6·1889951 | 64 | 5·2183920 | 6·1791662 | 64 | 5·2095212 | 6·1691685 |
| 65 | 5·2017049 | 6·1485943 | 65 | 5·1930346 | 6·1387942 | 65 | 5·1841638 | 6·1288233 |
| 66 | 5·1748753 | 6·1062858 | 66 | 5·1662050 | 6·0965138 | 66 | 5·1573342 | 6·0865695 |
| 67 | 5·1464222 | 6·0619363 | 67 | 5·1377519 | 6·0521929 | 67 | 5·1288811 | 6·0422746 |
| 68 | 5·1161841 | 6·0154046 | 68 | 5·1075138 | 6·0056905 | 68 | 5·0986430 | 5·9957984 |
| 69 | 5·0839888 | 5·9665434 | 69 | 5·0753185 | 5·9568573 | 69 | 5·0664477 | 5·9469918 |
| 70 | 5·0496542 | 5·9151940 | 70 | 5·0409839 | 5·9055368 | 70 | 5·0321131 | 5·8956976 |
| 71 | 5·0129876 | 5·8611914 | 71 | 5·0043173 | 5·8515623 | 71 | 4·9954465 | 5·8417492 |
| 72 | 4·9737860 | 5·8043603 | 72 | 4·9651157 | 5·7947600 | 72 | 4·9562449 | 5·7849726 |
| 73 | 4·9318363 | 5·7445165 | 73 | 4·9231660 | 5·7349449 | 73 | 4·9142952 | 5·7251834 |
| 74 | 4·8869147 | 5·6814662 | 74 | 4·8782444 | 5·6719233 | 74 | 4·8693736 | 5·6621877 |
| 75 | 4·8387874 | 5·6150062 | 75 | 4·8301171 | 5·6054919 | 75 | 4·8212463 | 5·5957820 |
| 76 | 4·7872100 | 5·5449234 | 76 | 4·7785397 | 5·5354375 | 76 | 4·7696689 | 5·5257533 |
| 77 | 4·7319281 | 5·4709944 | 77 | 4·7232578 | 5·4615365 | 77 | 4·7143870 | 5·4518778 |
| 78 | 4·6726767 | 5·3929842 | 78 | 4·6640064 | 5·3835556 | 78 | 4·6551356 | 5·3739219 |
| 79 | 4·6091806 | 5·3106502 | 79 | 4·6005103 | 5·3012486 | 79 | 4·5916395 | 5·2916416 |
| 80 | 4·5411542 | 5·2237363 | 80 | 4·5324839 | 5·2143629 | 80 | 4·5236131 | 5·2047795 |
| 81 | 4·4683016 | 5·1319761 | 81 | 4·4596313 | 5·1226307 | 81 | 4·4507605 | 5·1130730 |
| 82 | 4·3903165 | 5·0350938 | 82 | 4·3816462 | 5·0257752 | 82 | 4·3727754 | 5·0162425 |
| 83 | 4·3068826 | 4·9327998 | 83 | 4·2982123 | 4·9235087 | 83 | 4·2893415 | 4·9140003 |
| 84 | 4·2176728 | 4·8247960 | 84 | 4·2090025 | 4·8155313 | 84 | 4·2001317 | 4·8060469 |
| 85 | 4·1223500 | 4·7107704 | 85 | 4·1136797 | 4·7015317 | 85 | 4·1048089 | 4·6920719 |
| 86 | 4·0205666 | 4·5904015 | 86 | 4·0118963 | 4·5811882 | 86 | 4·0030255 | 4·5717519 |
| 87 | 3·9119648 | 4·4633542 | 87 | 3·9032945 | 4·4541669 | 87 | 3·8944237 | 4·4447536 |
| 88 | 3·7961764 | 4·3292840 | 88 | 3·7875061 | 4·3201206 | 88 | 3·7786353 | 4·3107309 |
| 89 | 3·6728230 | 4·1878314 | 89 | 3·6641527 | 4·1786930 | 89 | 3·6552819 | 4·1693252 |
| 90 | 3·5415155 | 4·0386281 | 90 | 3·5328452 | 4·0295124 | 90 | 3·5239744 | 4·0201678 |
| 91 | 3·4018550 | 3·8812899 | 91 | 3·3931847 | 3·8721977 | 91 | 3·3843139 | 3·8628740 |
| 92 | 3·2534319 | 3·7154208 | 92 | 3·2447616 | 3·7063507 | 92 | 3·2358908 | 3·6970488 |
| 93 | 3·0958264 | 3·5406097 | 93 | 3·0871561 | 3·5315607 | 93 | 3·0782853 | 3·5222799 |
| 94 | 2·9286083 | 3·3564259 | 94 | 2·9199380 | 3·3473982 | 94 | 2·9110672 | 3·3381372 |
| 95 | 2·7513372 | 3·1624183 | 95 | 2·7426669 | 3·1534115 | 95 | 2·7337961 | 3·1441706 |
| 96 | 2·5635623 | 2·9581016 | 96 | 2·5548920 | 2·9491147 | 96 | 2·5460212 | 2·9398940 |
| 97 | 2·3648224 | 2·7429379 | 97 | 2·3561521 | 2·7339704 | 97 | 2·3472813 | 2·7247697 |
| 98 | 2·1546461 | 2·5162986 | 98 | 2·1459758 | 2·5073512 | 98 | 2·1371050 | 2·4981699 |
| 99 | 1·9325517 | 2·2773825 | 99 | 1·9238814 | 2·2684565 | 99 | 1·9150106 | 2·2592959 |
| 100 | 1·6980469 | 2·0250391 | 100 | 1·6893766 | 2·0161375 | 100 | 1·6805058 | 2·0070006 |
| 101 | 1·4506294 | 1·7573786 | 101 | 1·4419591 | 1·7485067 | 101 | 1·4330883 | 1·7393991 |
| 102 | 1·1897864 | 1·4708293 | 102 | 1·1811161 | 1·4619935 | 102 | 1·1722453 | 1·4529252 |
| 103 | 0·9149948 | 1·1576381 | 103 | 0·9063245 | 1·1488462 | 103 | 0·8974537 | 1·1398287 |
| 104 | 0·6257212 | 0·7978697 | 104 | 0·6170509 | 0·7891363 | 104 | 0·6081801 | 0·7801804 |
| 105 | 0·3214218 | | 105 | 0·3127515 | | 105 | 0·3038807 | |
| 106 | 0·0015426 | | 106 | 9·9928723 | | 106 | 9·9840015 | |
| 107 | 9·6655192 | | 107 | 9·6568489 | | 107 | 9·6479781 | |
| 108 | 9·3127769 | | 108 | 9·3041066 | | 108 | 9·2952358 | |
| 109 | 8·9427306 | | 109 | 8·9340603 | | 109 | 8·9251895 | |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 18 | | 19 | | | 20 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,18}$ | λ $N_{x,\,18}$ | Age of (x) | λ $D_{x,\,19}$ | λ $N_{x,\,19}$ | Age of (x) | λ $D_{x,\,20}$ | λ $N_{x,\,20}$ |
| 0 | 6·1230373 | 7·3031875 | 0 | 6·1136315 | 7·2907198 | 0 | 6·1039177 | 7·2780616 |
| 1 | 6·0390351 | 7·2860082 | 1 | 6·0296293 | 7·2735126 | 1 | 6·0199155 | 7·2608277 |
| 2 | 6·0037542 | 7·2731838 | 2 | 5·9943484 | 7·2606916 | 2 | 5·9846346 | 7·2480098 |
| 3 | 5·9816409 | 7·2616575 | 3 | 5·9722351 | 7·2491788 | 3 | 5·9625213 | 7·2365106 |
| 4 | 5·9647392 | 7·2507061 | 4 | 5·9553334 | 7·2382464 | 4 | 5·9456196 | 7·2255969 |
| 5 | 5·9505118 | 7·2400591 | 5 | 5·9411060 | 7·2276222 | 5 | 5·9313922 | 7·2149953 |
| 6 | 5·9381506 | 7·2295816 | 6 | 5·9287448 | 7·2171698 | 6 | 5·9190310 | 7·2045682 |
| 7 | 5·9270071 | 7·2191775 | 7 | 5·9176013 | 7·2067938 | 7 | 5·9078875 | 7·1942198 |
| 8 | 5·9165929 | 7·2087841 | 8 | 5·9071871 | 7·1964299 | 8 | 5·8974733 | 7·1838854 |
| 9 | 5·9068455 | 7·1983601 | 9 | 5·8974397 | 7·1860374 | 9 | 5·8877259 | 7·1735243 |
| 10 | 5·8976103 | 7·1878669 | 10 | 5·8882045 | 7·1755771 | 10 | 5·8784907 | 7·1630966 |
| 11 | 5·8887458 | 7·1772718 | 11 | 5·8793400 | 7·1650160 | 11 | 5·8696262 | 7·1525699 |
| 12 | 5·8801238 | 7·1665476 | 12 | 5·8707180 | 7·1543272 | 12 | 5·8610042 | 7·1419164 |
| 13 | 5·8716293 | 7·1556727 | 13 | 5·8622235 | 7·1434888 | 13 | 5·8525097 | 7·1311142 |
| 14 | 5·8631604 | 7·1446303 | 14 | 5·8537546 | 7·1324835 | 14 | 5·8440408 | 7·1201470 |
| 15 | 5·8546286 | 7·1334083 | 15 | 5·8452228 | 7·1212998 | 15 | 5·8355090 | 7·1090011 |
| 16 | 5·8459583 | 7·1219978 | 16 | 5·8365525 | 7·1099284 | 16 | 5·8268387 | 7·0976696 |
| 17 | 5·8370875 | 7·1103951 | 17 | 5·8276817 | 7·0983654 | 17 | 5·8179679 | 7·0861466 |
| 18 | 5·8279670 | 7·0985984 | 18 | 5·8185612 | 7·0866093 | 18 | 5·8088474 | 7·0744316 |
| 19 | 5·8185612 | 7·0866093 | 19 | 5·8091554 | 7·0746618 | 19 | 5·7994416 | 7·0625256 |
| 20 | 5·8088474 | 7·0744316 | 20 | 5·7994416 | 7·0625256 | 20 | 5·7897278 | 7·0504327 |
| 21 | 5·7988162 | 7·0620703 | 21 | 5·7894104 | 7·0502069 | 21 | 5·7796966 | 7·0381574 |
| 22 | 5·7887046 | 7·0495320 | 22 | 5·7792988 | 7·0377117 | 22 | 5·7695850 | 7·0257060 |
| 23 | 5·7785153 | 7·0368097 | 23 | 5·7691095 | 7·0250329 | 23 | 5·7593957 | 7·0130725 |
| 24 | 5·7682501 | 7·0238958 | 24 | 5·7588443 | 7·0121629 | 24 | 5·7491305 | 7·0002479 |
| 25 | 5·7579100 | 7·0107823 | 25 | 5·7485042 | 6·9990941 | 25 | 5·7387904 | 6·9872243 |
| 26 | 5·7474951 | 6·9974606 | 26 | 5·7380893 | 6·9858170 | 26 | 5·7283755 | 6·9739935 |
| 27 | 5·7370047 | 6·9839217 | 27 | 5·7275989 | 6·9723227 | 27 | 5·7178851 | 6·9605455 |
| 28 | 5·7264372 | 6·9701557 | 28 | 5·7170314 | 6·9586011 | 28 | 5·7073176 | 6·9468706 |
| 29 | 5·7157904 | 6·9561521 | 29 | 5·7063846 | 6·9446429 | 29 | 5·6966708 | 6·9329584 |
| 30 | 5·7050610 | 6·9419003 | 30 | 5·6956552 | 6·9304353 | 30 | 5·6859414 | 6·9187973 |
| 31 | 5·6942450 | 6·9273884 | 31 | 5·6848392 | 6·9159677 | 31 | 5·6751254 | 6·9043756 |
| 32 | 5·6833375 | 6·9126041 | 32 | 5·6739317 | 6·9012272 | 32 | 5·6642179 | 6·8896812 |
| 33 | 5·6723328 | 6·8975347 | 33 | 5·6629270 | 6·8862012 | 33 | 5·6532132 | 6·8747005 |
| 34 | 5·6612244 | 6·8821659 | 34 | 5·6518186 | 6·8708757 | 34 | 5·6421048 | 6·8594198 |
| 35 | 5·6500049 | 6·8664839 | 35 | 5·6405991 | 6·8552357 | 35 | 5·6308853 | 6·8438247 |
| 36 | 5·6386661 | 6·8504725 | 36 | 5·6292603 | 6·8392666 | 36 | 5·6195465 | 6·8278992 |
| 37 | 5·6271989 | 6·8341160 | 37 | 5·6177931 | 6·8229514 | 37 | 5·6080793 | 6·8116275 |
| 38 | 5·6155935 | 6·8173973 | 38 | 5·6061877 | 6·8062732 | 38 | 5·5964739 | 6·7949919 |
| 39 | 5·6038391 | 6·8002978 | 39 | 5·5944333 | 6·7892136 | 39 | 5·5847195 | 6·7779741 |
| 40 | 5·5919243 | 6·7827984 | 40 | 5·5825185 | 6·7717535 | 40 | 5·5728047 | 6·7605551 |
| 41 | 5·5798366 | 6·7648784 | 41 | 5·5704308 | 6·7538720 | 41 | 5·5607170 | 6·7427140 |
| 42 | 5·5675628 | 6·7465161 | 42 | 5·5581570 | 6·7355475 | 42 | 5·5484432 | 6·7244290 |
| 43 | 5·5550888 | 6·7276880 | 43 | 5·5456830 | 6·7167567 | 43 | 5·5359692 | 6·7056769 |
| 44 | 5·5423999 | 6·7083697 | 44 | 5·5329941 | 6·6974744 | 44 | 5·5232803 | 6·6864328 |
| 45 | 5·5294802 | 6·6885341 | 45 | 5·5200744 | 6·6776743 | 45 | 5·5103606 | 6·6666698 |
| 46 | 5·5163132 | 6·6681532 | 46 | 5·5069074 | 6·6573279 | 46 | 5·4971936 | 6·6463597 |
| 47 | 5·5028815 | 6·6471953 | 47 | 5·4934757 | 6·6364047 | 47 | 5·4837619 | 6·6254716 |
| 48 | 5·4891669 | 6·6256283 | 48 | 5·4797611 | 6·6148708 | 48 | 5·4700473 | 6·6039730 |
| 49 | 5·4751503 | 6·6034163 | 49 | 5·4657445 | 6·5926910 | 49 | 5·4560307 | 6·5818268 |
| 50 | 5·4608119 | 6·5805200 | 50 | 5·4514061 | 6·5698267 | 50 | 5·4416923 | 6·5589952 |
| 51 | 5·4461309 | 6·5568966 | 51 | 5·4367251 | 6·5462348 | 51 | 5·4270113 | 6·5354357 |
| 52 | 5·4308412 | 6·5325005 | 52 | 5·4214354 | 6·5218686 | 52 | 5·4117216 | 6·5111012 |
| 53 | 5·4151067 | 6·5073005 | 53 | 5·4057009 | 6·4966989 | 53 | 5·3959871 | 6·4859613 |
| 54 | 5·3989101 | 6·4812484 | 54 | 5·3895043 | 6·4706757 | 54 | 5·3797905 | 6·4599687 |

## JOINT LIVES :—Two Males.

## Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 18 | | 19 | | | 20 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda D_{x,18}$ | $\lambda N_{x,18}$ | Age of (x) | $\lambda D_{x,19}$ | $\lambda N_{x,19}$ | Age of (x) | $\lambda D_{x,20}$ | $\lambda N_{x,20}$ |
| 55 | 5·3822242 | 6·4542900 | 55 | 5·3728184 | 6·4437457 | 55 | 5·3631046 | 6·4330676 |
| 56 | 5·3650113 | 6·4263648 | 56 | 5·3556055 | 6·4158487 | 56 | 5·3458917 | 6·4051989 |
| 57 | 5·3472233 | 6·3974075 | 57 | 5·3378175 | 6·3869188 | 57 | 5·3281037 | 6·3762970 |
| 58 | 5·3288018 | 6·3673464 | 58 | 5·3193960 | 6·3568844 | 58 | 5·3096822 | 6·3462894 |
| 59 | 5·3096782 | 6·3361039 | 59 | 5·3002724 | 6·3256679 | 59 | 5·2905586 | 6·3150994 |
| 60 | 5·2897734 | 6·3035960 | 60 | 5·2803676 | 6·2931857 | 60 | 5·2706538 | 6·2826427 |
| 61 | 5·2689981 | 6·2697326 | 61 | 5·2595923 | 6·2593475 | 61 | 5·2498785 | 6·2488295 |
| 62 | 5·2472526 | 6·2344165 | 62 | 5·2378468 | 6·2240566 | 62 | 5·2281330 | 6·2135629 |
| 63 | 5·2244269 | 6·1975458 | 63 | 5·2150211 | 6·1872090 | 63 | 5·2053073 | 6·1767394 |
| 64 | 5·2004007 | 6·1590086 | 64 | 5·1909949 | 6·1486961 | 64 | 5·1812811 | 6·1382483 |
| 65 | 5·1750433 | 6·1186869 | 65 | 5·1656375 | 6·1083986 | 65 | 5·1559237 | 6·0979740 |
| 66 | 5·1482137 | 6·0764581 | 66 | 5·1388079 | 6·0661914 | 66 | 5·1290941 | 6·0557891 |
| 67 | 5·1197606 | 6·0321875 | 67 | 5·1103548 | 6·0219436 | 67 | 5·1006410 | 6·0115615 |
| 68 | 5·0895225 | 5·9857350 | 68 | 5·0801167 | 5·9755131 | 68 | 5·0704029 | 5·9651523 |
| 69 | 5·0573272 | 5·9369518 | 69 | 5·0479214 | 5·9267514 | 69 | 5·0382076 | 5·9164108 |
| 70 | 5·0229926 | 5·8856812 | 70 | 5·0135868 | 5·8755017 | 70 | 5·0038730 | 5·8651804 |
| 71 | 4·9863260 | 5·8317563 | 71 | 4·9769202 | 5·8215979 | 71 | 4·9672064 | 5·8112955 |
| 72 | 4·9471244 | 5·7750028 | 72 | 4·9377186 | 5·7648649 | 72 | 4·9280048 | 5·7545809 |
| 73 | 4·9051747 | 5·7152364 | 73 | 4·8957689 | 5·7051185 | 73 | 4·8860551 | 5·6948527 |
| 74 | 4·8602531 | 5·6522635 | 74 | 4·8508473 | 5·6421652 | 74 | 4·8411335 | 5·6319168 |
| 75 | 4·8121258 | 5·5858805 | 75 | 4·8027200 | 5·5758018 | 75 | 4·7930062 | 5·5655701 |
| 76 | 4·7605484 | 5·5158741 | 76 | 4·7511426 | 5·5058146 | 76 | 4·7414288 | 5·4955995 |
| 77 | 4·7052665 | 5·4420210 | 77 | 4·6958607 | 5·4319802 | 77 | 4·6861469 | 5·4217812 |
| 78 | 4·6460151 | 5·3640868 | 78 | 4·6366093 | 5·3540648 | 78 | 4·6268955 | 5·3438814 |
| 79 | 4·5825190 | 5·2818278 | 79 | 4·5731132 | 5·2718237 | 79 | 4·5633994 | 5·2616559 |
| 80 | 4·5144926 | 5·1949892 | 80 | 4·5050868 | 5·1850025 | 80 | 4·4953730 | 5·1748489 |
| 81 | 4·4416400 | 5·1033025 | 81 | 4·4322342 | 5·0933352 | 81 | 4·4225204 | 5·0831955 |
| 82 | 4·3636549 | 5·0064938 | 82 | 4·3542491 | 4·9965423 | 82 | 4·3445353 | 4·9864184 |
| 83 | 4·2802210 | 4·9042729 | 83 | 4·2708152 | 4·8943393 | 83 | 4·2611014 | 4·8842271 |
| 84 | 4·1910112 | 4·7963405 | 84 | 4·1816054 | 4·7864242 | 84 | 4·1718916 | 4·7763256 |
| 85 | 4·0956884 | 4·6823861 | 85 | 4·0862826 | 4·6724858 | 85 | 4·0765688 | 4·6624008 |
| 86 | 3·9939050 | 4·5620865 | 86 | 3·9844992 | 4·5522031 | 86 | 3·9747854 | 4·5421305 |
| 87 | 3·8853032 | 4·4351082 | 87 | 3·8758974 | 4·4252412 | 87 | 3·8661836 | 4·4151807 |
| 88 | 3·7695148 | 4·3011053 | 88 | 3·7601090 | 4·2912541 | 88 | 3·7503952 | 4·2812057 |
| 89 | 3·6461614 | 4·1597199 | 89 | 3·6367556 | 4·1498842 | 89 | 3·6270418 | 4·1398473 |
| 90 | 3·5148539 | 4·0105811 | 90 | 3·5054481 | 4·0007616 | 90 | 3·4957343 | 3·9907357 |
| 91 | 3·3751934 | 3·8533076 | 91 | 3·3657876 | 3·8435019 | 91 | 3·3560738 | 3·8334882 |
| 92 | 3·2267703 | 3·6875004 | 92 | 3·2173645 | 3·6777119 | 92 | 3·2076507 | 3·6677070 |
| 93 | 3·0691648 | 3·5127498 | 93 | 3·0597590 | 3·5029758 | 93 | 3·0500452 | 3·4929838 |
| 94 | 2·9019467 | 3·3286258 | 94 | 2·8925409 | 3·3188661 | 94 | 2·8828271 | 3·3088840 |
| 95 | 2·7246756 | 3·1346768 | 95 | 2·7152698 | 3·1249315 | 95 | 2·7055560 | 3·1149597 |
| 96 | 2·5369007 | 2·9304177 | 96 | 2·5274949 | 2·9206867 | 96 | 2·5177811 | 2·9107253 |
| 97 | 2·3381608 | 2·7153121 | 97 | 2·3287550 | 2·7055952 | 97 | 2·3190412 | 2·6956437 |
| 98 | 2·1279845 | 2·4887312 | 98 | 2·1185787 | 2·4790294 | 98 | 2·1088649 | 2·4690882 |
| 99 | 1·9058901 | 2·2498751 | 99 | 1·8964843 | 2·2401895 | 99 | 1·8867705 | 2·2302596 |
| 100 | 1·6713853 | 1·9976004 | 100 | 1·6619795 | 1·9879312 | 100 | 1·6522657 | 1·9780138 |
| 101 | 1·4239678 | 1·7300244 | 101 | 1·4145620 | 1·7203751 | 101 | 1·4048482 | 1·7104703 |
| 102 | 1·1631248 | 1·4435868 | 102 | 1·1537190 | 1·4339633 | 102 | 1·1440052 | 1·4240760 |
| 103 | 0·8883332 | 1·1305428 | 103 | 0·8789274 | 1·1209653 | 103 | 0·8692136 | 1·1111011 |
| 104 | 0·5990596 | 0·7709698 | 104 | 0·5896538 | 0·7614617 | 104 | 0·5799400 | 0·7516486 |
| 105 | 0·2947602 | | 105 | 0·2853544 | | 105 | 0·2756406 | |
| 106 | 9·9748810 | | 106 | 9·9654752 | | 106 | 9·9557614 | |
| 107 | 9·6388576 | | 107 | 9·6294518 | | 107 | 9·6197380 | |
| 108 | 9·2861153 | | 108 | 9·2767095 | | 108 | 9·2669957 | |
| 109 | 8·9160690 | | 109 | 8·9066632 | | 109 | 8·8969494 | |

## JOINT LIVES:—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of ($y$) | 21 | | | 22 | | | 23 | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$) | $\lambda\ D_{x,\,21}$ | $\lambda\ N_{x,\,21}$ | Age of ($x$) | $\lambda\ D_{x,\,22}$ | $\lambda\ N_{x,\,22}$ | Age of ($x$) | $\lambda\ D_{x,\,23}$ | $\lambda\ N_{x,\,23}$ |
| 0 | 6·0938865 | 7·2652201 | 0 | 6·0837749 | 7·2522053 | 0 | 6·0735856 | 7·2390113 |
| 1 | 6·0098843 | 7·2479590 | 1 | 5·9997727 | 7·2349149 | 1 | 5·9895834 | 7·2216897 |
| 2 | 5·9746034 | 7·2351445 | 2 | 5·9644918 | 7·2221023 | 2 | 5·9543025 | 7·2088779 |
| 3 | 5·9524901 | 7·2236582 | 3 | 5·9423785 | 7·2106288 | 3 | 5·9321892 | 7·1974159 |
| 4 | 5·9355884 | 7·2127633 | 4 | 5·9254768 | 7·1997516 | 4 | 5·9152875 | 7·1865566 |
| 5 | 5·9213610 | 7·2021836 | 5 | 5·9112494 | 7·1891943 | 5 | 5·9010601 | 7·1760204 |
| 6 | 5·9089998 | 7·1917820 | 6 | 5·8988882 | 7·1788172 | 6 | 5·8886989 | 7·1656680 |
| 7 | 5·8978563 | 7·1814609 | 7 | 5·8877447 | 7·1685237 | 7 | 5·8775554 | 7·1554013 |
| 8 | 5·8874421 | 7·1711558 | 8 | 5·8773305 | 7·1582478 | 8 | 5·8671412 | 7·1451548 |
| 9 | 5·8776947 | 7·1608258 | 9 | 5·8675831 | 7·1479488 | 9 | 5·8573938 | 7·1348866 |
| 10 | 5·8684595 | 7·1504310 | 10 | 5·8583479 | 7·1375867 | 10 | 5·8481586 | 7·1245571 |
| 11 | 5·8595950 | 7·1399385 | 11 | 5·8494834 | 7·1271282 | 11 | 5·8392941 | 7·1141324 |
| 12 | 5·8509730 | 7·1293206 | 12 | 5·8408614 | 7·1165456 | 12 | 5·8306721 | 7·1035851 |
| 13 | 5·8424785 | 7·1185547 | 13 | 5·8323669 | 7·1058166 | 13 | 5·8221776 | 7·0928932 |
| 14 | 5·8340096 | 7·1076251 | 14 | 5·8238980 | 7·0949244 | 14 | 5·8137087 | 7·0820389 |
| 15 | 5·8254778 | 7·0965183 | 15 | 5·8153662 | 7·0838565 | 15 | 5·8051769 | 7·0710100 |
| 16 | 5·8168075 | 7·0852260 | 16 | 5·8066959 | 7·0726046 | 16 | 5·7965066 | 7·0597981 |
| 17 | 5·8079367 | 7·0737440 | 17 | 5·7978251 | 7·0611632 | 17 | 5·7876358 | 7·0483987 |
| 18 | 5·7988162 | 7·0620703 | 18 | 5·7887046 | 7·0495320 | 18 | 5·7785153 | 7·0368097 |
| 19 | 5·7894104 | 7·0502069 | 19 | 5·7792988 | 7·0377117 | 19 | 5·7691095 | 7·0250329 |
| 20 | 5·7796966 | 7·0381574 | 20 | 5·7695850 | 7·0257060 | 20 | 5·7593957 | 7·0130725 |
| 21 | 5·7696654 | 7·0259266 | 21 | 5·7595538 | 7·0135205 | 21 | 5·7493645 | 7·0009323 |
| 22 | 5·7595538 | 7·0135205 | 22 | 5·7494422 | 7·0011610 | 22 | 5·7392529 | 6·9886199 |
| 23 | 5·7493645 | 7·0009323 | 23 | 5·7392529 | 6·9886199 | 23 | 5·7290636 | 6·9761273 |
| 24 | 5·7390993 | 6·9881547 | 24 | 5·7289877 | 6·9758899 | 24 | 5·7187984 | 6·9634465 |
| 25 | 5·7287592 | 6·9751785 | 25 | 5·7186476 | 6·9629625 | 25 | 5·7084583 | 6·9505690 |
| 26 | 5·7183443 | 6·9619951 | 26 | 5·7082327 | 6·9498284 | 26 | 5·6980434 | 6·9374857 |
| 27 | 5·7078539 | 6·9485953 | 27 | 5·6977423 | 6·9364782 | 27 | 5·6875530 | 6·9241867 |
| 28 | 5·6972864 | 6·9349684 | 28 | 5·6871748 | 6·9229016 | 28 | 5·6769855 | 6·9106620 |
| 29 | 5·6866396 | 6·9211044 | 29 | 5·6765280 | 6·9090877 | 29 | 5·6663387 | 6·8969004 |
| 30 | 5·6759102 | 6·9069917 | 30 | 5·6657986 | 6·8950252 | 30 | 5·6556093 | 6·8828903 |
| 31 | 5·6650942 | 6·8926184 | 31 | 5·6549826 | 6·8807023 | 31 | 5·6447933 | 6·8686197 |
| 32 | 5·6541867 | 6·8779716 | 32 | 5·6440751 | 6·8661060 | 32 | 5·6338858 | 6·8540760 |
| 33 | 5·6431820 | 6·8630388 | 33 | 5·6330704 | 6·8512227 | 33 | 5·6228811 | 6·8392454 |
| 34 | 5·6320736 | 6·8478052 | 34 | 5·6219620 | 6·8360391 | 34 | 5·6117727 | 6·8241136 |
| 35 | 5·6208541 | 6·8322567 | 35 | 5·6107425 | 6·8205396 | 35 | 5·6005532 | 6·8086662 |
| 36 | 5·6095153 | 6·8163777 | 36 | 5·5994037 | 6·8047091 | 36 | 5·5892144 | 6·7928867 |
| 37 | 5·5980481 | 6·8001511 | 37 | 5·5879365 | 6·7885312 | 37 | 5·5777472 | 6·7767594 |
| 38 | 5·5864427 | 6·7835606 | 38 | 5·5763311 | 6·7719877 | 38 | 5·5661418 | 6·7602664 |
| 39 | 5·5746883 | 6·7665871 | 39 | 5·5645767 | 6·7550609 | 39 | 5·5543874 | 6·7433889 |
| 40 | 5·5627735 | 6·7492113 | 40 | 5·5526619 | 6·7377312 | 40 | 5·5424726 | 6·7261078 |
| 41 | 5·5506858 | 6·7314129 | 41 | 5·5405742 | 6·7199778 | 41 | 5·5303849 | 6·7084022 |
| 42 | 5·5384120 | 6·7131695 | 42 | 5·5283004 | 6·7017789 | 42 | 5·5181111 | 6·6902502 |
| 43 | 5·5259380 | 6·6944583 | 43 | 5·5158264 | 6·6831109 | 43 | 5·5056371 | 6·6716284 |
| 44 | 5·5132491 | 6·6752541 | 44 | 5·5031375 | 6·6639492 | 44 | 5·4929482 | 6·6525118 |
| 45 | 5·5003294 | 6·6555304 | 45 | 5·4902178 | 6·6442669 | 45 | 5·4800285 | 6·6328737 |
| 46 | 5·4871624 | 6·6352585 | 46 | 5·4770508 | 6·6240357 | 46 | 5·4668615 | 6·6126855 |
| 47 | 5·4737307 | 6·6144079 | 47 | 5·4636191 | 6·6032248 | 47 | 5·4534298 | 6·5919170 |
| 48 | 5·4600161 | 6·5929453 | 48 | 5·4499045 | 6·5818010 | 48 | 5·4397152 | 6·5705343 |
| 49 | 5·4459995 | 6·5708353 | 49 | 5·4358879 | 6·5597284 | 49 | 5·4256986 | 6·5485021 |
| 50 | 5·4316611 | 6·5480380 | 50 | 5·4215495 | 6·5369687 | 50 | 5·4113602 | 6·5257810 |
| 51 | 5·4169801 | 6·5245120 | 51 | 5·4068685 | 6·5134781 | 51 | 5·3966792 | 6·5023294 |
| 52 | 5·4016904 | 6·5002104 | 52 | 5·3915788 | 6·4892112 | 52 | 5·3813895 | 6·4780991 |
| 53 | 5·3859559 | 6·4751031 | 53 | 5·3758443 | 6·4641380 | 53 | 5·3656550 | 6·4530619 |
| 54 | 5·3697593 | 6·4491409 | 54 | 5·3596477 | 6·4382092 | 54 | 5·3494584 | 6·4271684 |

## JOINT LIVES :—TWO MALES.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 21 | | 22 | | | 23 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda D_{x,21}$ | $\lambda N_{x,21}$ | Age of (x) | $\lambda D_{x,22}$ | $\lambda N_{x,22}$ | Age of (x) | $\lambda D_{x,23}$ | $\lambda N_{x,23}$ |
| 55 | 5·3530734 | 6·4222707 | 55 | 5·3429618 | 6·4113705 | 55 | 5·3327725 | 6·4003643 |
| 56 | 5·3358605 | 6·3944314 | 56 | 5·3257489 | 6·3835629 | 56 | 5·3155596 | 6·3725893 |
| 57 | 5·3180725 | 6·3655579 | 57 | 5·3079609 | 6·3547197 | 57 | 5·2977716 | 6·3437788 |
| 58 | 5·2996510 | 6·3355784 | 58 | 5·2895394 | 6·3247699 | 58 | 5·2793501 | 6·3138601 |
| 59 | 5·2805274 | 6·3044153 | 59 | 5·2704158 | 6·2936354 | 59 | 5·2602265 | 6·2827559 |
| 60 | 5·2606226 | 6·2719851 | 60 | 5·2505110 | 6·2612327 | 60 | 5·2403217 | 6·2503830 |
| 61 | 5·2398473 | 6·2381972 | 61 | 5·2297357 | 6·2274720 | 61 | 5·2195464 | 6·2166504 |
| 62 | 5·2181018 | 6·2029553 | 62 | 5·2079902 | 6·1922559 | 62 | 5·1978009 | 6·1814623 |
| 63 | 5·1952761 | 6·1661559 | 63 | 5·1851645 | 6·1554818 | 63 | 5·1749752 | 6·1447146 |
| 64 | 5·1712499 | 6·1276885 | 64 | 5·1611383 | 6·1170389 | 64 | 5·1509490 | 6·1062973 |
| 65 | 5·1458925 | 6·0874354 | 65 | 5·1357809 | 6·0768096 | 65 | 5·1255916 | 6·0660932 |
| 66 | 5·1190629 | 6·0452729 | 66 | 5·1089513 | 6·0346690 | 66 | 5·0987620 | 6·0239768 |
| 67 | 5·0906098 | 6·0010671 | 67 | 5·0804982 | 5·9904854 | 67 | 5·0703089 | 5·9798155 |
| 68 | 5·0603717 | 5·9546771 | 68 | 5·0502601 | 5·9441173 | 68 | 5·0400708 | 5·9334701 |
| 69 | 5·0281764 | 5·9059555 | 69 | 5·0180648 | 5·8954154 | 69 | 5·0078755 | 5·8847903 |
| 70 | 4·9938418 | 5·8547442 | 70 | 4·9837302 | 5·8442240 | 70 | 4·9735409 | 5·8336190 |
| 71 | 4·9571752 | 5·8008774 | 71 | 4·9470636 | 5·7903764 | 71 | 4·9368743 | 5·7797910 |
| 72 | 4·9179736 | 5·7441804 | 72 | 4·9078620 | 5·7336975 | 72 | 4·8976727 | 5·7231314 |
| 73 | 4·8760239 | 5·6844688 | 73 | 4·8659123 | 5·6740035 | 73 | 4·8557230 | 5·6634556 |
| 74 | 4·8311023 | 5·6215495 | 74 | 4·8209907 | 5·6111008 | 74 | 4·8108014 | 5·6005703 |
| 75 | 4·7829750 | 5·5552184 | 75 | 4·7728634 | 5·5447862 | 75 | 4·7626741 | 5·5342724 |
| 76 | 4·7313976 | 5·4852627 | 76 | 4·7212860 | 5·4748460 | 76 | 4·7110967 | 5·4643485 |
| 77 | 4·6761157 | 5·4114591 | 77 | 4·6660041 | 5·4010569 | 77 | 4·6558148 | 5·3905748 |
| 78 | 4·6168643 | 5·3335732 | 78 | 4·6067527 | 5·3231857 | 78 | 4·5965634 | 5·3127180 |
| 79 | 4·5533682 | 5·2513610 | 79 | 4·5432566 | 5·2409872 | 79 | 4·5330673 | 5·2305338 |
| 80 | 4·4853418 | 5·1645673 | 80 | 4·4752302 | 5·1542063 | 80 | 4·4650409 | 5·1437665 |
| 81 | 4·4124892 | 5·0729252 | 81 | 4·4023776 | 5·0625775 | 81 | 4·3921883 | 5·0521505 |
| 82 | 4·3345041 | 4·9761596 | 82 | 4·3243925 | 4·9658229 | 82 | 4·3142032 | 4·9554087 |
| 83 | 4·2510702 | 4·8739817 | 83 | 4·2409586 | 4·8636559 | 83 | 4·2307693 | 4·8532528 |
| 84 | 4·1618604 | 4·7660893 | 84 | 4·1517488 | 4·7557766 | 84 | 4·1415595 | 4·7453840 |
| 85 | 4·0665376 | 4·6521757 | 85 | 4·0564260 | 4·6418715 | 85 | 4·0462367 | 4·6314915 |
| 86 | 3·9647542 | 4·5319151 | 86 | 3·9546426 | 4·5216217 | 86 | 3·9444533 | 4·5112508 |
| 87 | 3·8561524 | 4·4049748 | 87 | 3·8460408 | 4·3946910 | 87 | 3·8358515 | 4·3843299 |
| 88 | 3·7403640 | 4·2710089 | 88 | 3·7302524 | 4·2607340 | 88 | 3·7200631 | 4·2503825 |
| 89 | 3·6170106 | 4·1296593 | 89 | 3·6068990 | 4·1193932 | 89 | 3·5967097 | 4·1090501 |
| 90 | 3·4857031 | 3·9805556 | 90 | 3·4755915 | 3·9702981 | 90 | 3·4654022 | 3·9599634 |
| 91 | 3·3460426 | 3·8233158 | 91 | 3·3359310 | 3·8130657 | 91 | 3·3257417 | 3·8027395 |
| 92 | 3·1976195 | 3·6575434 | 92 | 3·1875079 | 3·6473008 | 92 | 3·1773186 | 3·6369811 |
| 93 | 3·0400140 | 3·4828250 | 93 | 3·0299024 | 3·4725912 | 93 | 3·0197131 | 3·4622797 |
| 94 | 2·8727959 | 3·2987341 | 94 | 2·8626843 | 3·2885059 | 94 | 2·8524950 | 3·2782015 |
| 95 | 2·6955248 | 3·1048169 | 95 | 2·6854132 | 3·0945959 | 95 | 2·6752239 | 3·0842974 |
| 96 | 2·5077499 | 2·9005888 | 96 | 2·4976383 | 2·8903746 | 96 | 2·4874490 | 2·8800838 |
| 97 | 2·3090100 | 2·6855134 | 97 | 2·2988984 | 2·6753062 | 97 | 2·2887091 | 2·6650216 |
| 98 | 2·0988337 | 2·4589641 | 98 | 2·0887221 | 2·4487619 | 98 | 2·0785328 | 2·4384854 |
| 99 | 1·8767393 | 2·2201429 | 99 | 1·8666277 | 2·2099475 | 99 | 1·8564384 | 2·1996759 |
| 100 | 1·6422345 | 1·9679049 | 100 | 1·6321229 | 1·9577169 | 100 | 1·6219336 | 1·9474523 |
| 101 | 1·3948170 | 1·7003705 | 101 | 1·3847054 | 1·6901917 | 101 | 1·3745161 | 1·6799355 |
| 102 | 1·1339740 | 1·4139850 | 102 | 1·1238624 | 1·4038169 | 102 | 1·1136731 | 1·3935717 |
| 103 | 0·8591824 | 1·1010249 | 103 | 0·8490708 | 1·0908680 | 103 | 0·8388815 | 1·0806373 |
| 104 | 0·5699088 | 0·7415849 | 104 | 0·5597972 | 0·7314518 | 104 | 0·5496079 | 0·7212334 |
| 105 | 0·2656094 | | 105 | 0·2554978 | | 105 | 0·2453085 | |
| 106 | 9·9457302 | | 106 | 9·9356186 | | 106 | 9·9254293 | |
| 107 | 9·6097068 | | 107 | 9·5995952 | | 107 | 9·5894059 | |
| 108 | 9·2569645 | | 108 | 9·2468529 | | 108 | 9·2366636 | |
| 109 | 8·8869182 | | 109 | 8·8768066 | | 109 | 8·8666173 | |

## JOINT LIVES :—Two Males.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 24 | | | 25 | | | 26 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,24}$ | λ $N_{x,\,24}$ | Age of (x) | λ $D_{x,\,25}$ | λ $N_{x,\,25}$ | Age of (x) | λ $D_{x,\,26}$ | λ $N_{x,\,26}$ |
| 0 | 6·0633204 | 7·2256318 | 0 | 6·0529803 | 7·2120597 | 0 | 6·0425654 | 7·1982876 |
| 1 | 5·9793182 | 7·2082761 | 1 | 5·9689781 | 7·1946676 | 1 | 5·9585632 | 7·1808556 |
| 2 | 5·9440373 | 7·1954640 | 2 | 5·9336972 | 7·1818539 | 2 | 5·9232823 | 7·1680394 |
| 3 | 5·9219240 | 7·1840131 | 3 | 5·9115839 | 7·1704131 | 3 | 5·9011690 | 7·1566079 |
| 4 | 5·9050223 | 7·1731708 | 4 | 5·8946822 | 7·1595874 | 4 | 5·8842673 | 7·1457979 |
| 5 | 5·8907949 | 7·1626558 | 5 | 5·8804548 | 7·1490928 | 5 | 5·8700399 | 7·1353238 |
| 6 | 5·8784337 | 7·1523278 | 6 | 5·8680936 | 7·1387885 | 6 | 5·8576787 | 7·1250429 |
| 7 | 5·8672902 | 7·1420878 | 7 | 5·8569501 | 7·1285750 | 7 | 5·8465352 | 7·1148554 |
| 8 | 5·8568760 | 7·1318698 | 8 | 5·8465359 | 7·1183858 | 8 | 5·8361210 | 7·1046943 |
| 9 | 5·8471286 | 7·1216324 | 9 | 5·8367885 | 7·1081789 | 9 | 5·8263736 | 7·0945180 |
| 10 | 5·8378934 | 7·1113355 | 10 | 5·8275533 | 7·0979139 | 10 | 5·8171384 | 7·0842849 |
| 11 | 5·8290289 | 7·1009447 | 11 | 5·8186888 | 7·0875571 | 11 | 5·8082739 | 7·0739620 |
| 12 | 5·8204069 | 7·0904330 | 12 | 5·8100668 | 7·0770807 | 12 | 5·7996519 | 7·0635203 |
| 13 | 5·8119124 | 7·0797773 | 13 | 5·8015723 | 7·0664616 | 13 | 5·7911574 | 7·0529377 |
| 14 | 5·8034435 | 7·0689614 | 14 | 5·7931034 | 7·0556834 | 14 | 5·7826885 | 7·0421974 |
| 15 | 5·7949117 | 7·0579713 | 15 | 5·7845716 | 7·0447330 | 15 | 5·7741567 | 7·0312856 |
| 16 | 5·7862414 | 7·0467998 | 16 | 5·7759013 | 7·0336015 | 16 | 5·7654864 | 7·0201951 |
| 17 | 5·7773706 | 7·0354417 | 17 | 5·7670305 | 7·0222852 | 17 | 5·7566156 | 7·0089203 |
| 18 | 5·7682501 | 7·0238958 | 18 | 5·7579100 | 7·0107823 | 18 | 5·7474951 | 6·9974606 |
| 19 | 5·7588443 | 7·0121629 | 19 | 5·7485042 | 6·9990941 | 19 | 5·7380893 | 6·9858170 |
| 20 | 5·7491305 | 7·0002479 | 20 | 5·7387904 | 6·9872243 | 20 | 5·7283755 | 6·9739935 |
| 21 | 5·7390993 | 6·9881547 | 21 | 5·7287592 | 6·9751785 | 21 | 5·7183443 | 6·9619951 |
| 22 | 5·7289877 | 6·9758899 | 22 | 5·7186476 | 6·9629625 | 22 | 5·7082327 | 6·9498284 |
| 23 | 5·7187984 | 6·9634465 | 23 | 5·7084583 | 6·9505690 | 23 | 5·6980434 | 6·9374857 |
| 24 | 5·7085332 | 6·9508161 | 24 | 5·6981931 | 6·9379897 | 24 | 5·6877782 | 6·9249586 |
| 25 | 5·6981931 | 6·9379897 | 25 | 5·6878530 | 6·9252161 | 25 | 5·6774381 | 6·9122384 |
| 26 | 5·6877782 | 6·9249586 | 26 | 5·6774381 | 6·9122384 | 26 | 5·6670232 | 6·8993158 |
| 27 | 5·6772878 | 6·9117127 | 27 | 5·6669477 | 6·8990469 | 27 | 5·6565328 | 6·8861800 |
| 28 | 5·6667203 | 6·8982415 | 28 | 5·6563802 | 6·8856311 | 28 | 5·6459653 | 6·8728209 |
| 29 | 5·6560735 | 6·8845339 | 29 | 5·6457334 | 6·8719794 | 29 | 5·6353185 | 6·8592272 |
| 30 | 5·6453441 | 6·8705785 | 30 | 5·6350040 | 6·8580804 | 30 | 5·6245891 | 6·8453864 |
| 31 | 5·6345281 | 6·8563626 | 31 | 5·6241880 | 6·8439216 | 31 | 5·6137731 | 6·8312865 |
| 32 | 5·6236206 | 6·8418736 | 32 | 5·6132805 | 6·8294895 | 32 | 5·6028656 | 6·8169141 |
| 33 | 5·6126159 | 6·8270978 | 33 | 5·6022758 | 6·8147709 | 33 | 5·5918609 | 6·8022549 |
| 34 | 5·6015075 | 6·8120209 | 34 | 5·5911674 | 6·7997512 | 34 | 5·5807525 | 6·7872948 |
| 35 | 5·5902880 | 6·7966274 | 35 | 5·5799479 | 6·7844151 | 35 | 5·5695330 | 6·7720184 |
| 36 | 5·5789492 | 6·7809023 | 36 | 5·5686091 | 6·7687463 | 36 | 5·5581942 | 6·7564095 |
| 37 | 5·5674820 | 6·7648282 | 37 | 5·5571419 | 6·7527287 | 37 | 5·5467270 | 6·7404508 |
| 38 | 5·5558766 | 6·7483880 | 38 | 5·5455365 | 6·7363441 | 38 | 5·5351216 | 6·7241251 |
| 39 | 5·5441222 | 6·7315631 | 39 | 5·5337821 | 6·7195743 | 39 | 5·5233672 | 6·7074133 |
| 40 | 5·5322074 | 6·7143332 | 40 | 5·5218673 | 6·7023993 | 40 | 5·5114524 | 6·6902958 |
| 41 | 5·5201197 | 6·6966784 | 41 | 5·5097796 | 6·6847978 | 41 | 5·4993647 | 6·6727514 |
| 42 | 5·5078459 | 6·6785762 | 42 | 5·4975058 | 6·6667486 | 42 | 5·4870909 | 6·6547578 |
| 43 | 5·4953719 | 6·6600033 | 43 | 5·4850318 | 6·6482275 | 43 | 5·4746169 | 6·6362920 |
| 44 | 5·4826830 | 6·6409346 | 44 | 5·4723429 | 6·6292098 | 44 | 5·4619280 | 6·6173283 |
| 45 | 5·4697633 | 6·6213435 | 45 | 5·4594232 | 6·6096686 | 45 | 5·4490083 | 6·5978402 |
| 46 | 5·4565963 | 6·6012014 | 46 | 5·4462562 | 6·5895754 | 46 | 5·4358413 | 6·5777992 |
| 47 | 5·4431646 | 6·5804775 | 47 | 5·4328245 | 6·5688993 | 47 | 5·4224096 | 6·5571739 |
| 48 | 5·4294500 | 6·5591390 | 48 | 5·4191099 | 6·5476072 | 48 | 5·4086950 | 6·5359315 |
| 49 | 5·4154334 | 6·5371494 | 49 | 5·4050933 | 6·5256635 | 49 | 5·3946784 | 6·5140363 |
| 50 | 5·4010950 | 6·5144702 | 50 | 5·3907549 | 6·5030287 | 50 | 5·3803400 | 6·4914491 |
| 51 | 5·3864140 | 6·4910587 | 51 | 5·3760739 | 6·4796607 | 51 | 5·3656590 | 6·4681272 |
| 52 | 5·3711243 | 6·4668689 | 52 | 5·3607842 | 6·4555127 | 52 | 5·3503693 | 6·4440244 |
| 53 | 5·3553898 | 6·4418697 | 53 | 5·3450497 | 6·4305553 | 53 | 5·3346348 | 6·4191103 |
| 54 | 5·3391932 | 6·4160134 | 54 | 5·3288531 | 6·4047384 | 54 | 5·3184382 | 6·3933370 |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 24 | | 25 | | | 26 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,24}$ | $\lambda\ N_{x,\,24}$ | Age of (x) | $\lambda\ D_{x,\,25}$ | $\lambda\ N_{x,\,25}$ | Age of (x) | $\lambda\ D_{x,\,26}$ | $\lambda\ N_{x,\,26}$ |
| 55 | 5·3225073 | 6·3892459 | 55 | 5·3121672 | 6·3780095 | 55 | 5·3017523 | 6·3666492 |
| 56 | 5·3052944 | 6·3615067 | 56 | 5·2949543 | 6·3503083 | 56 | 5·2845394 | 6·3389879 |
| 57 | 5·2875064 | 6·3327299 | 57 | 5·2771663 | 6·3215686 | 57 | 5·2667514 | 6·3102873 |
| 58 | 5·2690849 | 6·3028448 | 58 | 5·2587448 | 6·2917184 | 58 | 5·2483299 | 6·2804757 |
| 59 | 5·2499613 | 6·2717731 | 59 | 5·2396212 | 6·2606814 | 59 | 5·2292063 | 6·2494748 |
| 60 | 5·2300565 | 6·2394311 | 60 | 5·2197164 | 6·2283729 | 60 | 5·2093015 | 6·2172020 |
| 61 | 5·2092812 | 6·2057290 | 61 | 5·1989411 | 6·1947030 | 61 | 5·1885262 | 6·1835668 |
| 62 | 5·1875357 | 6·1705701 | 62 | 5·1771956 | 6·1595750 | 62 | 5·1667807 | 6·1484722 |
| 63 | 5·1647100 | 6·1338507 | 63 | 5·1543699 | 6·1228860 | 63 | 5·1439550 | 6·1118147 |
| 64 | 5·1406838 | 6·0954609 | 64 | 5·1303437 | 6·0845252 | 64 | 5·1199288 | 6·0734852 |
| 65 | 5·1153264 | 6·0552828 | 65 | 5·1049863 | 6·0443751 | 65 | 5·0945714 | 6·0333650 |
| 66 | 5·0884968 | 6·0131920 | 66 | 5·0781567 | 6·0023109 | 66 | 5·0677418 | 5·9913298 |
| 67 | 5·0600437 | 5·9690556 | 67 | 5·0497036 | 5·9582006 | 67 | 5·0392887 | 5·9472464 |
| 68 | 5·0298056 | 5·9227327 | 68 | 5·0194655 | 5·9119030 | 68 | 5·0090506 | 5·9009758 |
| 69 | 4·9976103 | 5·8740756 | 69 | 4·9872702 | 5·8632695 | 69 | 4·9768553 | 5·8523678 |
| 70 | 4·9632757 | 5·8229265 | 70 | 4·9529356 | 5·8121435 | 70 | 4·9425207 | 5·8012658 |
| 71 | 4·9266091 | 5·7691194 | 71 | 4·9162690 | 5·7583584 | 71 | 4·9058541 | 5·7475043 |
| 72 | 4·8874075 | 5·7124796 | 72 | 4·8770674 | 5·7017398 | 72 | 4·8666525 | 5·6909082 |
| 73 | 4·8454578 | 5·6528232 | 73 | 4·8351177 | 5·6421035 | 73 | 4·8247028 | 5·6312933 |
| 74 | 4·8005362 | 5·5899562 | 74 | 4·7901961 | 5·5792562 | 74 | 4·7797812 | 5·5684664 |
| 75 | 4·7524089 | 5·5236757 | 75 | 4·7420688 | 5·5129941 | 75 | 4·7316539 | 5·5022242 |
| 76 | 4·7008315 | 5·4537686 | 76 | 4·6904914 | 5·4431045 | 76 | 4·6800765 | 5·4323530 |
| 77 | 4·6455496 | 5·3800112 | 77 | 4·6352095 | 5·3693640 | 77 | 4·6247946 | 5·3586304 |
| 78 | 4·5862982 | 5·3021697 | 78 | 4·5759581 | 5·2915386 | 78 | 4·5655432 | 5·2808221 |
| 79 | 4·5228021 | 5·2200000 | 79 | 4·5124620 | 5·2093842 | 79 | 4·5020471 | 5·1986841 |
| 80 | 4·4547757 | 5·1332469 | 80 | 4·4444356 | 5·1226458 | 80 | 4·4340207 | 5·1119608 |
| 81 | 4·3819231 | 5·0416446 | 81 | 4·3715830 | 5·0310572 | 81 | 4·3611681 | 5·0203869 |
| 82 | 4·3039380 | 4·9449152 | 82 | 4·2935979 | 4·9343419 | 82 | 4·2831830 | 4·9236853 |
| 83 | 4·2205041 | 4·8427720 | 83 | 4·2101640 | 4·8322105 | 83 | 4·1997491 | 4·8215679 |
| 84 | 4·1312943 | 4·7349142 | 84 | 4·1209542 | 4·7243660 | 84 | 4·1105393 | 4·7137349 |
| 85 | 4·0359715 | 4·6210318 | 85 | 4·0256314 | 4·6104941 | 85 | 4·0152165 | 4·5998766 |
| 86 | 3·9341881 | 4·5008027 | 86 | 3·9238480 | 4·4902756 | 86 | 3·9134331 | 4·4796688 |
| 87 | 3·8255863 | 4·3738917 | 87 | 3·8152462 | 4·3633754 | 87 | 3·8048313 | 4·3527788 |
| 88 | 3·7097979 | 4·2399536 | 88 | 3·6994578 | 4·2294472 | 88 | 3·6890429 | 4·2188613 |
| 89 | 3·5864445 | 4·0986306 | 89 | 3·5761044 | 4·0881333 | 89 | 3·5656895 | 4·0775573 |
| 90 | 3·4551370 | 3·9495525 | 90 | 3·4447969 | 3·9390643 | 90 | 3·4343820 | 3·9284973 |
| 91 | 3·3154765 | 3·7923363 | 91 | 3·3051364 | 3·7818566 | 91 | 3·2947215 | 3·7712986 |
| 92 | 3·1670534 | 3·6265867 | 92 | 3·1567133 | 3·6161141 | 92 | 3·1462984 | 3·6055647 |
| 93 | 3·0094479 | 3·4518907 | 93 | 2·9991078 | 3·4414269 | 93 | 2·9886929 | 3·4308847 |
| 94 | 2·8422298 | 3·2678207 | 94 | 2·8318897 | 3·2573641 | 94 | 2·8214748 | 3·2468295 |
| 95 | 2·6649587 | 3·0739240 | 95 | 2·6546186 | 3·0634742 | 95 | 2·6442037 | 3·0529474 |
| 96 | 2·4771838 | 2·8697157 | 96 | 2·4668437 | 2·8592728 | 96 | 2·4564288 | 2·8487530 |
| 97 | 2·2784439 | 2·6546616 | 97 | 2·2681038 | 2·6442239 | 97 | 2·2576889 | 2·6337108 |
| 98 | 2·0682676 | 2·4281316 | 98 | 2·0579275 | 2·4177024 | 98 | 2·0475126 | 2·4071954 |
| 99 | 1·8461732 | 2·1893288 | 99 | 1·8358331 | 2·1789065 | 99 | 1·8254182 | 2·1684080 |
| 100 | 1·6116684 | 1·9371125 | 100 | 1·6013283 | 1·9266974 | 100 | 1·5909134 | 1·9162065 |
| 101 | 1·3642509 | 1·6696042 | 101 | 1·3539108 | 1·6591972 | 101 | 1·3434959 | 1·6487141 |
| 102 | 1·1034079 | 1·3832515 | 102 | 1·0930678 | 1·3728550 | 102 | 1·0826529 | 1·3623826 |
| 103 | 0·8286163 | 1·0703298 | 103 | 0·8182762 | 1·0599495 | 103 | 0·8078613 | 1·0494894 |
| 104 | 0·5393427 | 0·7109462 | 104 | 0·5290026 | 0·7005826 | 104 | 0·5185877 | 0·6901429 |
| 105 | 0·2350433 | | 105 | 0·2247032 | | 105 | 0·2142883 | |
| 106 | 9·9151641 | | 106 | 9·9048240 | | 106 | 9·8944091 | |
| 107 | 9·5791407 | | 107 | 9·5688006 | | 107 | 9·5583857 | |
| 108 | 9·2263984 | | 108 | 9·2160583 | | 108 | 9·2056434 | |
| 109 | 8·8563521 | | 109 | 8·8460120 | | 109 | 8·8355971 | |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 27 | | 28 | | | 29 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,27}$ | λ $N_{x,\,27}$ | Age of (x) | λ $D_{x,\,28}$ | λ $N_{x,\,28}$ | Age of (x) | λ $D_{x,\,29}$ | λ $N_{x,\,29}$ |
| 0 | 6·0320750 | 7·1843070 | 0 | 6·0215075 | 7·1701094 | 0 | 6·0108607 | 7·1556845 |
| 1 | 5·9480728 | 7·1668323 | 1 | 5·9375053 | 7·1525883 | 1 | 5·9268585 | 7·1381144 |
| 2 | 5·9127919 | 7·1540117 | 2 | 5·9022244 | 7·1397623 | 2 | 5·8915776 | 7·1252808 |
| 3 | 5·8906786 | 7·1425891 | 3 | 5·8801111 | 7·1283472 | 3 | 5·8694643 | 7·1138725 |
| 4 | 5·8737769 | 7·1317941 | 4 | 5·8632094 | 7·1175670 | 4 | 5·8525626 | 7·1031059 |
| 5 | 5·8595495 | 7·1213398 | 5 | 5·8489820 | 7·1071316 | 5 | 5·8383352 | 7·0926895 |
| 6 | 5·8471883 | 7·1110820 | 6 | 5·8366208 | 7·0968965 | 6 | 5·8259740 | 7·0824766 |
| 7 | 5·8360448 | 7·1009204 | 7 | 5·8254773 | 7·0867601 | 7 | 5·8148305 | 7·0723654 |
| 8 | 5·8256306 | 7·0907873 | 8 | 5·8150631 | 7·0766550 | 8 | 5·8044163 | 7·0622875 |
| 9 | 5·8158832 | 7·0806406 | 9 | 5·8053157 | 7·0665383 | 9 | 5·7946689 | 7·0522002 |
| 10 | 5·8066480 | 7·0704398 | 10 | 5·7960805 | 7·0563686 | 10 | 5·7854337 | 7·0420622 |
| 11 | 5·7977835 | 7·0601499 | 11 | 5·7872160 | 7·0461122 | 11 | 5·7765692 | 7·0318381 |
| 12 | 5·7891615 | 7·0497435 | 12 | 5·7785940 | 7·0357398 | 12 | 5·7679472 | 7·0215006 |
| 13 | 5·7806670 | 7·0391972 | 13 | 5·7700995 | 7·0252301 | 13 | 5·7594527 | 7·0110263 |
| 14 | 5·7721981 | 7·0284940 | 14 | 5·7616306 | 7·0145642 | 14 | 5·7509838 | 7·0003980 |
| 15 | 5·7636663 | 7·0176218 | 15 | 5·7530988 | 7·0037306 | 15 | 5·7424520 | 6·9896027 |
| 16 | 5·7549960 | 7·0065713 | 16 | 5·7444285 | 6·9927205 | 16 | 5·7337817 | 6·9786325 |
| 17 | 5·7461252 | 6·9953383 | 17 | 5·7355577 | 6·9815291 | 17 | 5·7249109 | 6·9674827 |
| 18 | 5·7370047 | 6·9839217 | 18 | 5·7264372 | 6·9701557 | 18 | 5·7157904 | 6·9561521 |
| 19 | 5·7275989 | 6·9723227 | 19 | 5·7170314 | 6·9586011 | 19 | 5·7063846 | 6.9446429 |
| 20 | 5·7178851 | 6·9605455 | 20 | 5·7073176 | 6·9468706 | 20 | 5·6966708 | 6·9329584 |
| 21 | 5·7078539 | 6·9485953 | 21 | 5·6972864 | 6·9349684 | 21 | 5·6866396 | 6·9211044 |
| 22 | 5·6977423 | 6·9364782 | 22 | 5·6871748 | 6·9229016 | 22 | 5·6765280 | 6·9090877 |
| 23 | 5·6875530 | 6·9241867 | 23 | 5·6769855 | 6·9106620 | 23 | 5·6663387 | 6·8969004 |
| 24 | 5·6772878 | 6·9117127 | 24 | 5·6667203 | 6·8982415 | 24 | 5·6560735 | 6·8845339 |
| 25 | 5·6669477 | 6·8990469 | 25 | 5·6563802 | 6·8856311 | 25 | 5·6457334 | 6·8719794 |
| 26 | 5·6565328 | 6·8861800 | 26 | 5·6459653 | 6·8728209 | 26 | 5·6353185 | 6·8592272 |
| 27 | 5·6460424 | 6·8731017 | 27 | 5·6354749 | 6·8598008 | 27 | 5·6248281 | 6·8462664 |
| 28 | 5·6354749 | 6·8598008 | 28 | 5·6249074 | 6·8465601 | 28 | 5·6142606 | 6·8330864 |
| 29 | 5·6248281 | 6·8462664 | 29 | 5·6142606 | 6·8330864 | 29 | 5·6036138 | 6·8196753 |
| 30 | 5·6140987 | 6·8324863 | 30 | 5·6035312 | 6·8193680 | 30 | 5·5928844 | 6·8060206 |
| 31 | 5·6032827 | 6·8184470 | 31 | 5·5927152 | 6·8053922 | 31 | 5·5820684 | 6·7921093 |
| 32 | 5·5923752 | 6·8041361 | 32 | 5·5818077 | 6·7911448 | 32 | 5·5711609 | 6·7779279 |
| 33 | 5·5813705 | 6·7895392 | 33 | 5·5708030 | 6·7766120 | 33 | 5·5601562 | 6·7634616 |
| 34 | 5·5702621 | 6·7746412 | 34 | 5·5596946 | 6·7617790 | 34 | 5·5490478 | 6·7486957 |
| 35 | 5·5590426 | 6·7594271 | 35 | 5·5484751 | 6·7466297 | 35 | 5·5378283 | 6·7336143 |
| 36 | 5·5477038 | 6·7438805 | 36 | 5·5371363 | 6·7311481 | 36 | 5·5264895 | 6·7182004 |
| 37 | 5·5362366 | 6·7279841 | 37 | 5·5256691 | 6·7153171 | 37 | 5·5150223 | 6·7024371 |
| 38 | 5·5246312 | 6·7117201 | 38 | 5·5140637 | 6·6991180 | 38 | 5·5034169 | 6·6863061 |
| 39 | 5·5128768 | 6·6950696 | 39 | 5·5023093 | 6·6825318 | 39 | 5·4916625 | 6·6697879 |
| 40 | 5·5009620 | 6·6780128 | 40 | 5·4903945 | 6·6655390 | 40 | 5·4797477 | 6·6528622 |
| 41 | 5·4888743 | 6·6605284 | 41 | 5·4783068 | 6·6481180 | 41 | 5·4676600 | 6·6355081 |
| 42 | 5·4766005 | 6·6425944 | 42 | 5·4660330 | 6·6302464 | 42 | 5·4553862 | 6·6177027 |
| 43 | 5·4641265 | 6·6241866 | 43 | 5·4535590 | 6·6119009 | 43 | 5·4429122 | 6·5994222 |
| 44 | 5·4514376 | 6·6052805 | 44 | 5·4408701 | 6·5930553 | 44 | 5·4302233 | 6·5806417 |
| 45 | 5·4385179 | 6·5858488 | 45 | 5·4279504 | 6·5736835 | 45 | 5·4173036 | 6·5613332 |
| 46 | 5·4253509 | 6·5658629 | 46 | 5·4147834 | 6·5537566 | 46 | 5·4041366 | 6·5414686 |
| 47 | 5·4119192 | 6·5452920 | 47 | 5·4013517 | 6·5332432 | 47 | 5·3907049 | 6·5210165 |
| 48 | 5·3982046 | 6·5241027 | 48 | 5·3876371 | 6·5121105 | 48 | 5·3769903 | 6·4999437 |
| 49 | 5·3841880 | 6·5022591 | 49 | 5·3736205 | 6·4903223 | 49 | 5·3629737 | 6·4782145 |
| 50 | 5·3698496 | 6·4797224 | 50 | 5·3592821 | 6·4678392 | 50 | 5·3486353 | 6·4557892 |
| 51 | 5·3551686 | 6·4564501 | 51 | 5·3446011 | 6·4446193 | 51 | 5·3339543 | 6·4326252 |
| 52 | 5·3398789 | 6·4323950 | 52 | 5·3293114 | 6·4206160 | 52 | 5·3186646 | 6·4086764 |
| 53 | 5·3241444 | 6·4075279 | 53 | 5·3135769 | 6·3957987 | 53 | 5·3029301 | 6·3839130 |
| 54 | 5·3079478 | 6·3817998 | 54 | 5·2973803 | 6·3701194 | 54 | 5·2867335 | 6·3582856 |

## JOINT LIVES:—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 27 | | | 28 | | | 29 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,27}$ | $\lambda\ N_{x,\,27}$ | Age of (x) | $\lambda\ D_{x,\,28}$ | $\lambda\ N_{x,\,28}$ | Age of (x) | $\lambda\ D_{x,\,29}$ | $\lambda\ N_{x,\,29}$ |
| 55 | 5·2912619 | 6·3551570 | 55 | 5·2806944 | 6·3435237 | 55 | 5·2700476 | 6·3317404 |
| 56 | 5·2740490 | 6·3275383 | 56 | 5·2634815 | 6·3159517 | 56 | 5·2528347 | 6·3042176 |
| 57 | 5·2562610 | 6·2988795 | 57 | 5·2456935 | 6·2873370 | 57 | 5·2350467 | 6·2756513 |
| 58 | 5·2378395 | 6·2691084 | 58 | 5·2272720 | 6·2576092 | 58 | 5·2166252 | 6·2459695 |
| 59 | 5·2187159 | 6·2381475 | 59 | 5·2081484 | 6·2266901 | 59 | 5·1975016 | 6·2150954 |
| 60 | 5·1988111 | 6·2059121 | 60 | 5·1882436 | 6·1944963 | 60 | 5·1775968 | 6·1829449 |
| 61 | 5·1780358 | 6·1723136 | 61 | 5·1674683 | 6·1609365 | 61 | 5·1568215 | 6·1494280 |
| 62 | 5·1562903 | 6·1372547 | 62 | 5·1457228 | 6·1259158 | 62 | 5·1350760 | 6·1144472 |
| 63 | 5·1334646 | 6·1006321 | 63 | 5·1228971 | 6·0893296 | 63 | 5·1122503 | 6·0779007 |
| 64 | 5·1094384 | 6·0623348 | 64 | 5·0988709 | 6·0510684 | 64 | 5·0882241 | 6·0396770 |
| 65 | 5·0840810 | 6·0222469 | 65 | 5·0735135 | 6·0110140 | 65 | 5·0628667 | 5·9996594 |
| 66 | 5·0572514 | 5·9802421 | 66 | 5·0466839 | 5·9690421 | 66 | 5·0360371 | 5·9577227 |
| 67 | 5·0287983 | 5·9361889 | 67 | 5·0182308 | 5·9250201 | 67 | 5·0075840 | 5·9137344 |
| 68 | 4·9985602 | 5·8899458 | 68 | 4·9879927 | 5·8788075 | 68 | 4·9773459 | 5·8675540 |
| 69 | 4·9663649 | 5·8413651 | 69 | 4·9557974 | 5·8302557 | 69 | 4·9451506 | 5·8190333 |
| 70 | 4·9320303 | 5·7902891 | 70 | 4·9214628 | 5·7792077 | 70 | 4·9108160 | 5·7680149 |
| 71 | 4·8953637 | 5·7365525 | 71 | 4·8847962 | 5·7254976 | 71 | 4·8741494 | 5·7143334 |
| 72 | 4·8561621 | 5·6799803 | 72 | 4·8455946 | 5·6689507 | 72 | 4·8349478 | 5·6578137 |
| 73 | 4·8142124 | 5·6203883 | 73 | 4·8036449 | 5·6093831 | 73 | 4·7929981 | 5·5982720 |
| 74 | 4·7692908 | 5·5575831 | 74 | 4·7587233 | 5·5466013 | 74 | 4·7480765 | 5·5355152 |
| 75 | 4·7211635 | 5·4913616 | 75 | 4·7105960 | 5·4804020 | 75 | 4·6999492 | 5·4693396 |
| 76 | 4·6695861 | 5·4215107 | 76 | 4·6590186 | 5·4105721 | 76 | 4·6483718 | 5·3995322 |
| 77 | 4·6143042 | 5·3478066 | 77 | 4·6037367 | 5·3368884 | 77 | 4·5930899 | 5·3258701 |
| 78 | 4·5550528 | 5·2700163 | 78 | 4·5444853 | 5·2591170 | 78 | 4·5338385 | 5·2481195 |
| 79 | 4·4915567 | 5·1878953 | 79 | 4·4809892 | 5·1770145 | 79 | 4·4703424 | 5·1660360 |
| 80 | 4·4235303 | 5·1011888 | 80 | 4·4129628 | 5·0903251 | 80 | 4·4023160 | 5·0793651 |
| 81 | 4·3506777 | 5·0096302 | 81 | 4·3401102 | 4·9987832 | 81 | 4·3294634 | 4·9878410 |
| 82 | 4·2726926 | 4·9129433 | 82 | 4·2621251 | 4·9021117 | 82 | 4·2514783 | 4·8911861 |
| 83 | 4·1892587 | 4·8108399 | 83 | 4·1786912 | 4·8000232 | 83 | 4·1680444 | 4·7891130 |
| 84 | 4·1000489 | 4·7030204 | 84 | 4·0894814 | 4·6922184 | 84 | 4·0788346 | 4·6813227 |
| 85 | 4·0047261 | 4·5891741 | 85 | 3·9941586 | 4·5783852 | 85 | 3·9835118 | 4·5675045 |
| 86 | 3·9029427 | 4·4689790 | 86 | 3·8923752 | 4·4582023 | 86 | 3·8817284 | 4·4473354 |
| 87 | 3·7943409 | 4·3421004 | 87 | 3·7837734 | 4·3313362 | 87 | 3·7731266 | 4·3204815 |
| 88 | 3·6785525 | 4·2081927 | 88 | 3·6679850 | 4·1974402 | 88 | 3·6573382 | 4·1865982 |
| 89 | 3·5551991 | 4·0668996 | 89 | 3·5446316 | 4·0561568 | 89 | 3·5339848 | 4·0453265 |
| 90 | 3·4238916 | 3·9178494 | 90 | 3·4133241 | 3·9071178 | 90 | 3·4026773 | 3·8962969 |
| 91 | 3·2842311 | 3·7606600 | 91 | 3·2736636 | 3·7499380 | 91 | 3·2630168 | 3·7391283 |
| 92 | 3·1358080 | 3·5949348 | 92 | 3·1252405 | 3·5842215 | 92 | 3·1145937 | 3·5734228 |
| 93 | 2·9782025 | 3·4202631 | 93 | 2·9676350 | 3·4095590 | 93 | 2·9569882 | 3·3987683 |
| 94 | 2·8109844 | 3·2362157 | 94 | 2·8004169 | 3·2255196 | 94 | 2·7897701 | 3·2147382 |
| 95 | 2·6337133 | 3·0423408 | 95 | 2·6231458 | 3·0316528 | 95 | 2·6124990 | 3·0208794 |
| 96 | 2·4459384 | 2·8381543 | 96 | 2·4353709 | 2·8274740 | 96 | 2·4247241 | 2·8167085 |
| 97 | 2·2471985 | 2·6231200 | 97 | 2·2366310 | 2·6124469 | 97 | 2·2259842 | 2·6016896 |
| 98 | 2·0370222 | 2·3966107 | 98 | 2·0264547 | 2·3859457 | 98 | 2·0158079 | 2·3751971 |
| 99 | 1·8149278 | 2·1578308 | 99 | 1·8043603 | 2·1471734 | 99 | 1·7937135 | 2·1364326 |
| 100 | 1·5804230 | 1·9056383 | 100 | 1·5698555 | 1·8949892 | 100 | 1·5592087 | 1·8842571 |
| 101 | 1·3330055 | 1·6381557 | 101 | 1·3224380 | 1·6275174 | 101 | 1·3117912 | 1·6167947 |
| 102 | 1·0721625 | 1·3518330 | 102 | 1·0615950 | 1·3412069 | 102 | 1·0509482 | 1·3304990 |
| 103 | 0·7973709 | 1·0389538 | 103 | 0·7868034 | 1·0283394 | 103 | 0·7761566 | 1·0176468 |
| 104 | 0·5080973 | 0·6796277 | 104 | 0·4975298 | 0·6690285 | 104 | 0·4868830 | 0·6583549 |
| 105 | 0·2037979 | | 105 | 0·1932304 | | 105 | 0·1825836 | |
| 106 | 9·8839187 | | 106 | 9·8733512 | | 106 | 9·8627044 | |
| 107 | 9·5478953 | | 107 | 9·5373278 | | 107 | 9·5266810 | |
| 108 | 9·1951530 | | 108 | 9·1845855 | | 108 | 9·1739387 | |
| 109 | 8·8251067 | | 109 | 8·8145392 | | 109 | 8·8038924 | |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of ($y$) | 30 | | | 31 | | | 32 | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$) | $\lambda\ D_{x,\,30}$ | $\lambda\ N_{x,\,30}$ | Age of ($x$) | $\lambda\ D_{x,\,31}$ | $\lambda\ N_{x,\,31}$ | Age of ($x$) | $\lambda\ D_{x,\,32}$ | $\lambda\ N_{x,\,32}$ |
| 0 | 6·0001313 | 7·1410228 | 0 | 5·9893153 | 7·1261132 | 0 | 5·9784078 | 7·1109438 |
| 1 | 5·9161291 | 7·1233995 | 1 | 5·9053131 | 7·1084327 | 1 | 5·8944056 | 7·0932024 |
| 2 | 5·8808482 | 7·1105570 | 2 | 5·8700322 | 7·0955797 | 2 | 5·8591247 | 7·0803371 |
| 3 | 5·8587349 | 7·0991545 | 3 | 5·8479189 | 7·0841818 | 3 | 5·8370114 | 7·0689428 |
| 4 | 5·8418332 | 7·0884012 | 4 | 5·8310172 | 7·0734412 | 4 | 5·8201097 | 7·0582138 |
| 5 | 5·8276058 | 7·0780027 | 5 | 5·8167898 | 7·0630601 | 5 | 5·8058823 | 7·0478497 |
| 6 | 5·8152446 | 7·0678119 | 6 | 5·8044286 | 7·0528905 | 6 | 5·7935211 | 7·0377013 |
| 7 | 5·8041011 | 7·0577255 | 7 | 5·7932851 | 7·0428286 | 7 | 5·7823776 | 7·0276631 |
| 8 | 5·7936869 | 7·0476747 | 8 | 5·7828709 | 7·0328044 | 8 | 5·7719634 | 7·0176656 |
| 9 | 5·7839395 | 7·0376165 | 9 | 5·7731235 | 7·0227751 | 9 | 5·7622160 | 7·0076650 |
| 10 | 5·7747043 | 7·0275090 | 10 | 5·7638883 | 7·0126988 | 10 | 5·7529808 | 6·9976187 |
| 11 | 5·7658398 | 7·0173180 | 11 | 5·7550238 | 7·0025401 | 11 | 5·7441163 | 6·9874920 |
| 12 | 5·7572178 | 7·0070147 | 12 | 5·7464018 | 6·9922704 | 12 | 5·7354943 | 6·9772558 |
| 13 | 5·7487233 | 6·9965759 | 13 | 5·7379073 | 6·9818667 | 13 | 5·7269998 | 6·9668871 |
| 14 | 5·7402544 | 6·9859841 | 14 | 5·7294384 | 6·9713118 | 14 | 5·7185309 | 6·9563684 |
| 15 | 5·7317226 | 6·9752274 | 15 | 5·7209066 | 6·9605926 | 15 | 5·7099991 | 6·9456870 |
| 16 | 5·7230523 | 6·9642966 | 16 | 5·7122363 | 6·9497015 | 16 | 5·7013288 | 6·9348346 |
| 17 | 5·7141815 | 6·9531880 | 17 | 5·7033655 | 6·9386336 | 17 | 5·6924580 | 6·9238074 |
| 18 | 5·7050610 | 6·9419003 | 18 | 5·6942450 | 6·9273884 | 18 | 5·6833375 | 6·9126041 |
| 19 | 5·6956552 | 6·9304353 | 19 | 5·6848392 | 6·9159677 | 19 | 5·6739317 | 6·9012272 |
| 20 | 5·6859414 | 6·9187973 | 20 | 5·6751254 | 6·9043756 | 20 | 5·6642179 | 6·8896812 |
| 21 | 5·6759102 | 6·9069917 | 21 | 5·6650942 | 6·8926184 | 21 | 5·6541867 | 6·8779716 |
| 22 | 5·6657986 | 6·8950252 | 22 | 5·6549826 | 6·8807023 | 22 | 5·6440751 | 6·8661060 |
| 23 | 5·6556093 | 6·8828903 | 23 | 5·6447933 | 6·8686197 | 23 | 5·6338858 | 6·8540760 |
| 24 | 5·6453441 | 6·8705785 | 24 | 5·6345281 | 6·8563626 | 24 | 5·6236206 | 6·8418736 |
| 25 | 5·6350040 | 6·8580804 | 25 | 5·6241880 | 6·8439216 | 25 | 5·6132805 | 6·8294895 |
| 26 | 5·6245891 | 6·8453864 | 26 | 5·6137731 | 6·8312865 | 26 | 5·6028656 | 6·8169141 |
| 27 | 5·6140987 | 6·8324863 | 27 | 5·6032827 | 6·8184470 | 27 | 5·5923752 | 6·8041361 |
| 28 | 5·6035312 | 6·8193680 | 28 | 5·5927152 | 6·8053922 | 28 | 5·5818077 | 6·7911448 |
| 29 | 5·5928844 | 6·8060206 | 29 | 5·5820684 | 6·7921093 | 29 | 5·5711609 | 6·7779279 |
| 30 | 5·5821550 | 6·7924312 | 30 | 5·5713390 | 6·7785863 | 30 | 5·5604315 | 6·7644724 |
| 31 | 5·5713390 | 6·7785863 | 31 | 5·5605230 | 6·7648097 | 31 | 5·5496155 | 6·7507653 |
| 32 | 5·5604315 | 6·7644724 | 32 | 5·5496155 | 6·7507653 | 32 | 5·5387080 | 6·7367922 |
| 33 | 5·5494268 | 6·7500752 | 33 | 5·5386108 | 6·7364385 | 33 | 5·5277033 | 6·7225379 |
| 34 | 5·5383184 | 6·7353785 | 34 | 5·5275024 | 6·7218140 | 34 | 5·5165949 | 6·7079871 |
| 35 | 5·5270989 | 6·7203672 | 35 | 5·5162829 | 6·7068750 | 35 | 5·5053754 | 6·6931234 |
| 36 | 5·5157601 | 6·7050242 | 36 | 5·5049441 | 6·6916053 | 36 | 5·4940366 | 6·6779293 |
| 37 | 5·5042929 | 6·6893317 | 37 | 5·4934769 | 6·6759869 | 37 | 5·4825694 | 6·6623875 |
| 38 | 5·4926875 | 6·6732714 | 38 | 5·4818715 | 6·6600006 | 38 | 5·4709640 | 6·6464784 |
| 39 | 5·4809331 | 6·6568244 | 39 | 5·4701171 | 6·6436273 | 39 | 5·4592096 | 6·6301826 |
| 40 | 5·4690183 | 6·6399696 | 40 | 5·4582023 | 6·6268469 | 40 | 5·4472948 | 6·6134792 |
| 41 | 5·4569306 | 6·6226856 | 41 | 5·4461146 | 6·6096369 | 41 | 5·4352071 | 6·5963467 |
| 42 | 5·4446568 | 6·6049501 | 42 | 5·4338408 | 6·5919746 | 42 | 5·4229333 | 6·5787618 |
| 43 | 5·4321828 | 6·5867387 | 43 | 5·4213668 | 6·5738361 | 43 | 5·4104593 | 6·5606998 |
| 44 | 5·4194939 | 6·5680260 | 44 | 5·4086779 | 6·5551955 | 44 | 5·3977704 | 6·5421354 |
| 45 | 5·4065742 | 6·5487854 | 45 | 5·3957582 | 6·5360258 | 45 | 5·3848507 | 6·5230408 |
| 46 | 5·3934072 | 6·5289866 | 46 | 5·3825912 | 6·5162978 | 46 | 5·3716837 | 6·5033870 |
| 47 | 5·3799755 | 6·5085997 | 47 | 5·3691595 | 6·4959798 | 47 | 5·3582520 | 6·4831428 |
| 48 | 5·3662609 | 6·4875909 | 48 | 5·3554449 | 6·4750389 | 48 | 5·3445374 | 6·4622737 |
| 49 | 5·3522443 | 6·4659241 | 49 | 5·3414283 | 6·4534388 | 49 | 5·3305208 | 6·4407444 |
| 50 | 5·3379059 | 6·4435602 | 50 | 5·3270899 | 6·4311400 | 50 | 5·3161824 | 6·4185153 |
| 51 | 5·3232249 | 6·4204566 | 51 | 5·3124089 | 6·4081001 | 51 | 5·3015014 | 6·3955433 |
| 52 | 5·3079352 | 6·3965659 | 52 | 5·2971192 | 6·3842723 | 52 | 5·2862117 | 6·3717819 |
| 53 | 5·2922007 | 6·3718592 | 53 | 5·2813847 | 6·3596262 | 53 | 5·2704772 | 6·3472012 |
| 54 | 5·2760041 | 6·3462879 | 54 | 5·2651881 | 6·3341140 | 54 | 5·2542806 | 6·3217521 |

## JOINT LIVES:—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 30 | | | 31 | | | 32 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,30}$ | $\lambda\ N_{x,\,30}$ | Age of (x) | $\lambda\ D_{x,\,31}$ | $\lambda\ N_{x,\,31}$ | Age of (x) | $\lambda\ D_{x,\,32}$ | $\lambda\ N_{x,\,32}$ |
| 55 | 5·2593182 | 6·3197969 | 55 | 5·2485022 | 6·3076813 | 55 | 5·2375947 | 6·2953810 |
| 56 | 5·2421053 | 6·2923265 | 56 | 5·2312893 | 6·2802673 | 56 | 5·2203818 | 6·2680277 |
| 57 | 5·2243173 | 6·2638114 | 57 | 5·2135013 | 6·2518068 | 57 | 5·2025938 | 6·2396261 |
| 58 | 5·2058958 | 6·2341798 | 58 | 5·1950798 | 6·2222283 | 58 | 5·1841723 | 6·2101041 |
| 59 | 5·1867722 | 6·2033533 | 59 | 5·1759562 | 6·1914541 | 59 | 5·1650487 | 6·1793852 |
| 60 | 5·1668674 | 6·1712495 | 60 | 5·1560514 | 6·1593996 | 60 | 5·1451439 | 6·1473851 |
| 61 | 5·1460921 | 6·1377774 | 61 | 5·1352761 | 6·1259762 | 61 | 5·1243686 | 6·1140125 |
| 62 | 5·1243466 | 6·1028410 | 62 | 5·1135306 | 6·0910863 | 62 | 5·1026231 | 6·0791729 |
| 63 | 5·1015209 | 6·0663360 | 63 | 5·0907049 | 6·0546269 | 63 | 5·0797974 | 6·0427617 |
| 64 | 5·0774947 | 6·0281534 | 64 | 5·0666787 | 6·0164872 | 64 | 5·0557712 | 6·0046691 |
| 65 | 5·0521373 | 5·9881744 | 65 | 5·0413213 | 5·9765508 | 65 | 5·0304138 | 5·9647771 |
| 66 | 5·0253077 | 5·9462754 | 66 | 5·0144917 | 5·9346918 | 66 | 5·0035842 | 5·9229620 |
| 67 | 4·9968546 | 5·9023232 | 67 | 4·9860386 | 5·8907783 | 67 | 4·9751311 | 5·8790898 |
| 68 | 4·9666165 | 5·8561778 | 68 | 4·9558005 | 5·8446699 | 68 | 4·9448930 | 5·8330215 |
| 69 | 4·9344212 | 5·8076902 | 69 | 4·9236052 | 5·7962183 | 69 | 4·9126977 | 5·7846080 |
| 70 | 4·9000866 | 5·7567038 | 70 | 4·8892706 | 5·7452659 | 70 | 4·8783631 | 5·7336925 |
| 71 | 4·8634200 | 5·7030525 | 71 | 4·8526040 | 5·6916475 | 71 | 4·8416965 | 5·6801091 |
| 72 | 4·8242184 | 5·6465623 | 72 | 4·8134024 | 5·6351882 | 72 | 4·8024949 | 5·6236834 |
| 73 | 4·7822687 | 5·5870484 | 73 | 4·7714527 | 5·5757045 | 73 | 4·7605452 | 5·5642315 |
| 74 | 4·7373471 | 5·5243178 | 74 | 4·7265311 | 5·5130022 | 74 | 4·7156236 | 5·5015602 |
| 75 | 4·6892198 | 5·4581678 | 75 | 4·6784038 | 5·4468793 | 75 | 4·6674963 | 5·4354661 |
| 76 | 4·6376424 | 5·3883847 | 76 | 4·6268264 | 5·3771222 | 76 | 4·6159189 | 5·3657367 |
| 77 | 4·5823605 | 5·3147455 | 77 | 4·5715445 | 5·3035077 | 77 | 4·5606370 | 5·2921488 |
| 78 | 4·5231091 | 5·2370169 | 78 | 4·5122931 | 5·2258025 | 78 | 4·5013856 | 5·2144688 |
| 79 | 4·4596130 | 5·1549544 | 79 | 4·4487970 | 5·1437625 | 79 | 4·4378895 | 5·1324524 |
| 80 | 4·3915866 | 5·0683028 | 80 | 4·3807706 | 5·0571327 | 80 | 4·3698631 | 5·0458454 |
| 81 | 4·3187340 | 4·9767974 | 81 | 4·3079180 | 4·9656466 | 81 | 4·2970105 | 4·9543819 |
| 82 | 4·2407489 | 4·8801611 | 82 | 4·2299329 | 4·8690292 | 82 | 4·2190254 | 4·8577841 |
| 83 | 4·1573150 | 4·7781049 | 83 | 4·1464990 | 4·7669918 | 83 | 4·1355915 | 4·7557659 |
| 84 | 4·0681052 | 4·6703303 | 84 | 4·0572892 | 4·6592343 | 84 | 4·0463817 | 4·6480271 |
| 85 | 3·9727824 | 4·5565273 | 85 | 3·9619664 | 4·5454474 | 85 | 3·9510589 | 4·5342575 |
| 86 | 3·8709990 | 4·4363724 | 86 | 3·8601830 | 4·4253075 | 86 | 3·8492755 | 4·4141347 |
| 87 | 3·7623972 | 4·3095324 | 87 | 3·7515812 | 4·2984823 | 87 | 3·7406737 | 4·2873244 |
| 88 | 3·6466088 | 4·1756613 | 88 | 3·6357928 | 4·1646253 | 88 | 3·6248853 | 4·1534823 |
| 89 | 3·5232554 | 4·0344026 | 89 | 3·5124394 | 4·0233788 | 89 | 3·5015319 | 4·0122503 |
| 90 | 3·3919479 | 3·8853849 | 90 | 3·3811319 | 3·8743739 | 90 | 3·3702244 | 3·8632580 |
| 91 | 3·2522874 | 3·7282255 | 91 | 3·2414714 | 3·7172276 | 91 | 3·2305639 | 3·7061244 |
| 92 | 3·1038643 | 3·5625308 | 92 | 3·0930483 | 3·5515415 | 92 | 3·0821408 | 3·5404521 |
| 93 | 2·9462588 | 3·3878870 | 93 | 2·9354428 | 3·3769089 | 93 | 2·9245353 | 3·3658289 |
| 94 | 2·7790407 | 3·2038659 | 94 | 2·7682247 | 3·1928987 | 94 | 2·7573172 | 3·1818287 |
| 95 | 2·6017696 | 3·0100166 | 95 | 2·5909536 | 2·9990583 | 95 | 2·5800461 | 2·9879999 |
| 96 | 2·4139947 | 2·8058541 | 96 | 2·4031787 | 2·7949054 | 96 | 2·3922712 | 2·7838564 |
| 97 | 2·2152548 | 2·5908429 | 97 | 2·2044388 | 2·5799036 | 97 | 2·1935313 | 2·5688644 |
| 98 | 2·0050785 | 2·3643596 | 98 | 1·9942625 | 2·3534284 | 98 | 1·9833550 | 2·3423988 |
| 99 | 1·7829841 | 2·1256039 | 99 | 1·7721681 | 2·1146827 | 99 | 1·7612606 | 2·1036628 |
| 100 | 1·5484793 | 1·8734381 | 100 | 1·5376633 | 1·8625267 | 100 | 1·5267558 | 1·8515176 |
| 101 | 1·3010618 | 1·6059866 | 101 | 1·2902458 | 1·5950871 | 101 | 1·2793383 | 1·5840903 |
| 102 | 1·0402188 | 1·3197014 | 102 | 1·0294028 | 1·3088161 | 102 | 1·0184953 | 1·2978349 |
| 103 | 0·7654272 | 1·0068724 | 103 | 0·7546112 | 0·9959991 | 103 | 0·7437037 | 0·9850356 |
| 104 | 0·4761536 | 0·6475981 | 104 | 0·4653376 | 0·6367586 | 104 | 0·4544301 | 0·6258164 |
| 105 | 0·1718542 | | 105 | 0·1610382 | | 105 | 0·1501307 | |
| 106 | 9·8519750 | | 106 | 9·8411590 | | 106 | 9·8302515 | |
| 107 | 9·5159516 | | 107 | 9·5051356 | | 107 | 9·4942281 | |
| 108 | 9·1632093 | | 108 | 9·1523933 | | 108 | 9·1414858 | |
| 109 | 8·7931630 | | 109 | 8·7823470 | | 109 | 8·7714395 | |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (*y*) | 33 | | | 34 | | | 35 | |
|---|---|---|---|---|---|---|---|---|
| Age of (*x*) | λ $D_{x,\,33}$ | λ $N_{x,\,33}$ | Age of (*x*) | λ $D_{x,\,34}$ | λ $N_{x,\,34}$ | Age of (*x*) | λ $D_{x,\,35}$ | λ $N_{x,\,35}$ |
| 0 | 5·9674031 | 7·0955023 | 0 | 5·9562947 | 7·0797759 | 0 | 5·9450752 | 7·0637503 |
| 1 | 5·8834009 | 7·0776960 | 1 | 5·8722925 | 7·0618994 | 1 | 5·8610730 | 7·0457992 |
| 2 | 5·8481200 | 7·0648165 | 2 | 5·8370116 | 7·0490039 | 2 | 5·8257921 | 7·0328854 |
| 3 | 5·8260067 | 7·0534242 | 3 | 5·8148983 | 7·0376133 | 3 | 5·8036788 | 7·0214953 |
| 4 | 5·8091050 | 7·0427062 | 4 | 5·7979966 | 7·0269053 | 4 | 5·7867771 | 7·0107963 |
| 5 | 5·7948776 | 7·0323589 | 5 | 5·7837692 | 7·0165737 | 5 | 5·7725497 | 7·0004797 |
| 6 | 5·7825164 | 7·0222308 | 6 | 5·7714080 | 7·0064655 | 6 | 5·7601885 | 6·9903914 |
| 7 | 5·7713729 | 7·0122161 | 7 | 5·7602645 | 6·9964743 | 7 | 5·7490450 | 6·9804231 |
| 8 | 5·7609587 | 7·0022448 | 8 | 5·7498503 | 6·9865288 | 8 | 5·7386308 | 6·9705029 |
| 9 | 5·7512113 | 6·9922725 | 9 | 5·7401029 | 6·9765842 | 9 | 5·7288834 | 6·9605862 |
| 10 | 5·7419761 | 6·9822564 | 10 | 5·7308677 | 6·9665982 | 10 | 5·7196482 | 6·9506296 |
| 11 | 5·7331116 | 6·9721614 | 11 | 5·7220032 | 6·9565346 | 11 | 5·7107837 | 6·9405973 |
| 12 | 5·7244896 | 6·9619583 | 12 | 5·7133812 | 6·9463644 | 12 | 5·7021617 | 6·9304595 |
| 13 | 5·7159951 | 6·9516242 | 13 | 5·7048867 | 6·9360644 | 13 | 5·6936672 | 6·9201934 |
| 14 | 5·7075262 | 6·9411413 | 14 | 5·6964178 | 6·9256170 | 14 | 5·6851983 | 6·9097810 |
| 15 | 5·6989944 | 6·9304971 | 15 | 5·6878860 | 6·9150095 | 15 | 5·6766665 | 6·8992099 |
| 16 | 5·6903241 | 6·9196834 | 16 | 5·6792157 | 6·9042339 | 16 | 5·6679962 | 6·8884718 |
| 17 | 5·6814533 | 6·9086960 | 17 | 5·6703449 | 6·8932864 | 17 | 5·6591254 | 6·8775633 |
| 18 | 5·6723328 | 6·8975347 | 18 | 5·6612244 | 6·8821659 | 18 | 5·6500049 | 6·8664839 |
| 19 | 5·6629270 | 6·8862012 | 19 | 5·6518186 | 6·8708757 | 19 | 5·6405991 | 6·8552357 |
| 20 | 5·6532132 | 6·8747005 | 20 | 5·6421048 | 6·8594198 | 20 | 5·6308853 | 6·8438247 |
| 21 | 5·6431820 | 6·8630388 | 21 | 5·6320736 | 6·8478052 | 21 | 5·6208541 | 6·8322567 |
| 22 | 5·6330704 | 6·8512227 | 22 | 5·6219620 | 6·8360391 | 22 | 5·6107425 | 6·8205396 |
| 23 | 5·6228811 | 6·8392454 | 23 | 5·6117727 | 6·8241136 | 23 | 5·6005532 | 6·8086662 |
| 24 | 5·6126159 | 6·8270978 | 24 | 5·6015075 | 6·8120209 | 24 | 5·5902880 | 6·7966274 |
| 25 | 5·6022758 | 6·8147709 | 25 | 5·5911674 | 6·7997512 | 25 | 5·5799479 | 6·7844151 |
| 26 | 5·5918609 | 6·8022549 | 26 | 5·5807525 | 6·7872948 | 26 | 5·5695330 | 6·7720184 |
| 27 | 5·5813705 | 6·7895392 | 27 | 5·5702621 | 6·7746412 | 27 | 5·5590426 | 6·7594271 |
| 28 | 5·5708030 | 6·7766120 | 28 | 5·5596946 | 6·7617790 | 28 | 5·5484751 | 6·7466297 |
| 29 | 5·5601562 | 6·7634616 | 29 | 5·5490478 | 6·7486957 | 29 | 5·5378283 | 6·7336143 |
| 30 | 5·5494268 | 6·7500752 | 30 | 5·5383184 | 6·7353785 | 30 | 5·5270989 | 6·7203672 |
| 31 | 5·5386108 | 6·7364385 | 31 | 5·5275024 | 6·7218140 | 31 | 5·5162829 | 6·7068750 |
| 32 | 5·5277033 | 6·7225379 | 32 | 5·5165949 | 6·7079871 | 32 | 5·5053754 | 6·6931234 |
| 33 | 5·5166986 | 6·7083580 | 33 | 5·5055902 | 6·6938830 | 33 | 5·4943707 | 6·6790965 |
| 34 | 5·5055902 | 6·6938830 | 34 | 5·4944818 | 6·6794857 | 34 | 5·4832623 | 6·6647783 |
| 35 | 5·4943707 | 6·6790965 | 35 | 5·4832623 | 6·6647783 | 35 | 5·4720428 | 6·6501522 |
| 36 | 5·4830319 | 6·6639811 | 36 | 5·4719235 | 6·6497434 | 36 | 5·4607040 | 6·6352000 |
| 37 | 5·4715647 | 6·6485180 | 37 | 5·4604563 | 6·6343627 | 37 | 5·4492368 | 6·6199034 |
| 38 | 5·4599593 | 6·6326892 | 38 | 5·4488509 | 6·6186163 | 38 | 5·4376314 | 6·6042431 |
| 39 | 5·4482049 | 6·6164739 | 39 | 5·4370965 | 6·6024849 | 39 | 5·4258770 | 6·5881976 |
| 40 | 5·4362901 | 6·5998514 | 40 | 5·4251817 | 6·5859465 | 40 | 5·4139622 | 6·5717469 |
| 41 | 5·4242024 | 6·5827996 | 41 | 5·4130940 | 6·5689792 | 41 | 5·4018745 | 6·5548675 |
| 42 | 5·4119286 | 6·5652957 | 42 | 5·4008202 | 6·5515596 | 42 | 5·3896007 | 6·5375362 |
| 43 | 5·3994546 | 6·5473144 | 43 | 5·3883462 | 6·5336628 | 43 | 5·3771267 | 6·5197276 |
| 44 | 5·3867657 | 6·5288298 | 44 | 5·3756573 | 6·5152628 | 44 | 5·3644378 | 6·5014156 |
| 45 | 5·3738460 | 6·5098148 | 45 | 5·3627376 | 6·4963310 | 45 | 5·3515181 | 6·4825722 |
| 46 | 5·3606790 | 6·4902395 | 46 | 5·3495706 | 6·4768387 | 46 | 5·3383511 | 6·4631669 |
| 47 | 5·3472473 | 6·4700726 | 47 | 5·3361389 | 6·4567539 | 47 | 5·3249194 | 6·4431688 |
| 48 | 5·3335327 | 6·4492805 | 48 | 5·3224243 | 6·4360426 | 48 | 5·3112048 | 6·4225430 |
| 49 | 5·3195161 | 6·4278262 | 49 | 5·3084077 | 6·4146686 | 49 | 5·2971882 | 6·4012533 |
| 50 | 5·3051777 | 6·4056707 | 50 | 5·2940693 | 6·3925913 | 50 | 5·2828498 | 6·3792599 |
| 51 | 5·2904967 | 6·3827714 | 51 | 5·2793883 | 6·3697688 | 51 | 5·2681688 | 6·3565190 |
| 52 | 5·2752070 | 6·3590808 | 52 | 5·2640986 | 6·3461538 | 52 | 5·2528791 | 6·3329841 |
| 53 | 5·2594725 | 6·3345696 | 53 | 5·2483641 | 6·3217163 | 53 | 5·2371446 | 6·3086254 |
| 54 | 5·2432759 | 6·3091887 | 54 | 5·2321675 | 6·2964078 | 54 | 5·2209480 | 6·2833940 |

## JOINT LIVES:—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 33 | | | 34 | | | 35 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,33}$ | λ $N_{x,\,33}$ | Age of (x) | λ $D_{x,\,34}$ | λ $N_{x,\,34}$ | Age of (x) | λ $D_{x,\,35}$ | λ $N_{x,\,35}$ |
| 55 | 5·2265900 | 6·2828833 | 55 | 5·2154816 | 6·2701734 | 55 | 5·2042621 | 6·2572352 |
| 56 | 5·2093771 | 6·2555943 | 56 | 5·1982687 | 6·2429529 | 56 | 5·1870492 | 6·2300886 |
| 57 | 5·1915891 | 6·2272554 | 57 | 5·1804807 | 6·2146809 | 57 | 5·1692612 | 6·2018880 |
| 58 | 5·1731676 | 6·1977949 | 58 | 5·1620592 | 6·1852860 | 58 | 5·1508397 | 6·1725624 |
| 59 | 5·1540440 | 6·1671347 | 59 | 5·1429356 | 6·1546893 | 59 | 5·1317161 | 6·1420342 |
| 60 | 5·1341392 | 6·1351918 | 60 | 5·1230308 | 6·1228078 | 60 | 5·1118113 | 6·1102182 |
| 61 | 5·1133639 | 6·1018759 | 61 | 5·1022555 | 6·0895512 | 61 | 5·0910360 | 6·0770254 |
| 62 | 5·0916184 | 6·0670892 | 62 | 5·0805100 | 6·0548229 | 62 | 5·0692905 | 6·0423589 |
| 63 | 5·0687927 | 6·0307300 | 63 | 5·0576843 | 6·0185188 | 63 | 5·0464648 | 6·0061150 |
| 64 | 5·0447665 | 5·9926874 | 64 | 5·0336581 | 5·9805297 | 64 | 5·0224386 | 5·9681831 |
| 65 | 5·0194091 | 5·9528438 | 65 | 5·0083007 | 5·9407381 | 65 | 4·9970812 | 5·9284472 |
| 66 | 4·9925795 | 5·9110747 | 66 | 4·9814711 | 5·8990189 | 66 | 4·9702516 | 5·8867813 |
| 67 | 4·9641264 | 5·8672474 | 67 | 4·9530180 | 5·8552394 | 67 | 4·9417985 | 5·8430536 |
| 68 | 4·9338883 | 5·8212219 | 68 | 4·9227799 | 5·8092600 | 68 | 4·9115604 | 5·7971234 |
| 69 | 4·9016930 | 5·7728496 | 69 | 4·8905846 | 5·7609317 | 69 | 4·8793651 | 5·7488425 |
| 70 | 4·8673584 | 5·7219732 | 70 | 4·8562500 | 5·7100977 | 70 | 4·8450305 | 5·6980538 |
| 71 | 4·8306918 | 5·6684277 | 71 | 4·8195834 | 5·6565926 | 71 | 4·8083639 | 5·6445922 |
| 72 | 4·7914902 | 5·6120379 | 72 | 4·7803818 | 5·6002417 | 72 | 4·7691623 | 5·5882828 |
| 73 | 4·7495405 | 5·5526206 | 73 | 4·7384321 | 5·5408611 | 73 | 4·7272126 | 5·5289421 |
| 74 | 4·7046189 | 5·4899819 | 74 | 4·6935105 | 5·4782577 | 74 | 4·6822910 | 5·4663765 |
| 75 | 4·6564916 | 5·4239194 | 75 | 4·6453832 | 5·4122287 | 75 | 4·6341637 | 5·4003837 |
| 76 | 4·6049142 | 5·3542196 | 76 | 4·5938058 | 5·3425612 | 76 | 4·5825863 | 5·3307505 |
| 77 | 4·5496323 | 5·2806601 | 77 | 4·5385239 | 5·2690322 | 77 | 4·5273044 | 5·2572544 |
| 78 | 4·4903809 | 5·2030071 | 78 | 4·4792725 | 5·1914080 | 78 | 4·4680530 | 5·1796616 |
| 79 | 4·4268848 | 5·1210166 | 79 | 4·4157764 | 5·1094449 | 79 | 4·4045569 | 5·0977279 |
| 80 | 4·3588584 | 5·0344335 | 80 | 4·3477500 | 5·0228884 | 80 | 4·3365305 | 5·0111995 |
| 81 | 4·2860058 | 4·9429931 | 81 | 4·2748974 | 4·9314726 | 81 | 4·2636779 | 4·9198105 |
| 82 | 4·2080207 | 4·8464181 | 82 | 4·1969123 | 4·8349214 | 82 | 4·1856928 | 4·8232845 |
| 83 | 4·1245868 | 4·7444198 | 83 | 4·1134784 | 4·7329459 | 83 | 4·1022589 | 4·7213332 |
| 84 | 4·0353770 | 4·6367015 | 84 | 4·0242686 | 4·6252476 | 84 | 4·0130491 | 4·6136579 |
| 85 | 3·9400542 | 4·5229503 | 85 | 3·9289458 | 4·5115170 | 85 | 3·9177263 | 4·4999484 |
| 86 | 3·8382708 | 4·4028451 | 86 | 3·8271624 | 4·3914309 | 86 | 3·8159429 | 4·3798827 |
| 87 | 3·7296690 | 4·2760521 | 87 | 3·7185606 | 4·2646559 | 87 | 3·7073411 | 4·2531271 |
| 88 | 3·6138806 | 4·1422252 | 88 | 3·6027722 | 4·1308466 | 88 | 3·5915527 | 4·1193361 |
| 89 | 3·4905272 | 4·0010081 | 89 | 3·4794188 | 3·9896447 | 89 | 3·4681993 | 3·9781522 |
| 90 | 3·3592197 | 3·8520308 | 90 | 3·3481113 | 3·8406825 | 90 | 3·3368918 | 3·8292054 |
| 91 | 3·2195592 | 3·6949096 | 91 | 3·2084508 | 3·6835765 | 91 | 3·1972313 | 3·6721145 |
| 92 | 3·0711361 | 3·5292506 | 92 | 3·0600277 | 3·5179305 | 92 | 3·0488082 | 3·5064834 |
| 93 | 2·9135306 | 3·3546395 | 93 | 2·9024222 | 3·3433332 | 93 | 2·8912027 | 3·3319002 |
| 94 | 2·7463125 | 3·1706510 | 94 | 2·7352041 | 3·1593566 | 94 | 2·7239846 | 3·1479378 |
| 95 | 2·5690414 | 2·9768321 | 95 | 2·5579330 | 2·9655497 | 95 | 2·5467135 | 2·9541431 |
| 96 | 2·3812665 | 2·7727008 | 96 | 2·3701581 | 2·7614286 | 96 | 2·3589386 | 2·7500345 |
| 97 | 2·1825266 | 2·5577189 | 97 | 2·1714182 | 2·5464600 | 97 | 2·1601987 | 2·5350763 |
| 98 | 1·9723503 | 2·3312633 | 98 | 1·9612419 | 2·3200148 | 98 | 1·9500224 | 2·3086445 |
| 99 | 1·7502559 | 2·0925382 | 99 | 1·7391475 | 2·0813012 | 99 | 1·7279280 | 2·0699433 |
| 100 | 1·5157511 | 1·8404041 | 100 | 1·5046427 | 1·8291796 | 100 | 1·4934232 | 1·8178356 |
| 101 | 1·2683336 | 1·5729900 | 101 | 1·2572252 | 1·5617785 | 101 | 1·2460057 | 1·5504497 |
| 102 | 1·0074906 | 1·2867505 | 102 | 0·9963822 | 1·2755555 | 102 | 0·9851627 | 1·2642439 |
| 103 | 0·7326990 | 0·9739725 | 103 | 0·7215906 | 0·9628001 | 103 | 0·7103711 | 0·9515124 |
| 104 | 0·4434254 | 0·6147707 | 104 | 0·4323170 | 0·6036315 | 104 | 0·4210975 | 0·5923766 |
| 105 | 0·1391260 | | 105 | 0·1280176 | | 105 | 0·1167981 | |
| 106 | 9·8192468 | | 106 | 9·8081384 | | 106 | 9·7969189 | |
| 107 | 9·4832234 | | 107 | 9·4721150 | | 107 | 9·4608955 | |
| 108 | 9·1304811 | | 108 | 9·1193727 | | 108 | 9·1081532 | |
| 109 | 8·7604348 | | 109 | 8·7493264 | | 109 | 8·7381069 | |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 36 | | | 37 | | | 38 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,36}$ | $\lambda\ N_{x,\,36}$ | Age of (x) | $\lambda\ D_{x,\,37}$ | $\lambda\ N_{x,\,37}$ | Age of (x) | $\lambda\ D_{x,\,38}$ | $\lambda\ N_{x,\,38}$ |
| 0 | 5·9337364 | 7·0474104 | 0 | 5·9222692 | 7·0307410 | 0 | 5·9106638 | 7·0137252 |
| 1 | 5·8497342 | 7·0293801 | 1 | 5·8382670 | 7·0126260 | 1 | 5·8266616 | 6·9955196 |
| 2 | 5·8144533 | 7·0164462 | 2 | 5·8029861 | 6·9996696 | 2 | 5·7913807 | 6·9825385 |
| 3 | 5·7923400 | 7·0050543 | 3 | 5·7808728 | 6·9882753 | 3 | 5·7692674 | 6·9711405 |
| 4 | 5·7754383 | 6·9943644 | 4 | 5·7639711 | 6·9775926 | 4 | 5·7523657 | 6·9604645 |
| 5 | 5·7612109 | 6·9840625 | 5 | 5·7497437 | 6·9673050 | 5 | 5·7381383 | 6·9501899 |
| 6 | 5·7488497 | 6·9739929 | 6 | 5·7373825 | 6·9572542 | 6 | 5·7257771 | 6·9401576 |
| 7 | 5·7377062 | 6·9640471 | 7 | 5·7262390 | 6·9473302 | 7 | 5·7146336 | 6·9302556 |
| 8 | 5·7272920 | 6·9541522 | 8 | 5·7158248 | 6·9374601 | 8 | 5·7042194 | 6·9204097 |
| 9 | 5·7175446 | 6·9442628 | 9 | 5·7060774 | 6·9275979 | 9 | 5·6944720 | 6·9105743 |
| 10 | 5·7083094 | 6·9343355 | 10 | 5·6968422 | 6·9176996 | 10 | 5·6852368 | 6·9007048 |
| 11 | 5·6994449 | 6·9243339 | 11 | 5·6879777 | 6·9077286 | 11 | 5·6763723 | 6·8907640 |
| 12 | 5·6908229 | 6·9142286 | 12 | 5·6793557 | 6·8976551 | 12 | 5·6677503 | 6·8807223 |
| 13 | 5·6823284 | 6·9039957 | 13 | 5·6708612 | 6·8874555 | 13 | 5·6592558 | 6·8705554 |
| 14 | 5·6738595 | 6·8936181 | 14 | 5·6623923 | 6·8771120 | 14 | 5·6507869 | 6·8602458 |
| 15 | 5·6653277 | 6·8830828 | 15 | 5·6538605 | 6·8666122 | 15 | 5·6422551 | 6·8497809 |
| 16 | 5·6566574 | 6·8723820 | 16 | 5·6451902 | 6·8559480 | 16 | 5·6335848 | 6·8391529 |
| 17 | 5·6477866 | 6·8615119 | 17 | 5·6363194 | 6·8451160 | 17 | 5·6247140 | 6·8283582 |
| 18 | 5·6386661 | 6·8504725 | 18 | 5·6271989 | 6·8341160 | 18 | 5·6155935 | 6·8173973 |
| 19 | 5·6292603 | 6·8392666 | 19 | 5·6177931 | 6·8229514 | 19 | 5·6061877 | 6·8062732 |
| 20 | 5·6195465 | 6·8278992 | 20 | 5·6080793 | 6·8116275 | 20 | 5·5964739 | 6·7949919 |
| 21 | 5·6095153 | 6·8163777 | 21 | 5·5980481 | 6·8001511 | 21 | 5·5864427 | 6·7835606 |
| 22 | 5·5994037 | 6·8047091 | 22 | 5·5879365 | 6·7885312 | 22 | 5·5763311 | 6·7719877 |
| 23 | 5·5892144 | 6·7928867 | 23 | 5·5777472 | 6·7767594 | 23 | 5·5661418 | 6.7602664 |
| 24 | 5·5789492 | 6·7809023 | 24 | 5·5674820 | 6·7648282 | 24 | 5·5558766 | 6·7483880 |
| 25 | 5·5686091 | 6·7687463 | 25 | 5·5571419 | 6·7527287 | 25 | 5·5455365 | 6·7363441 |
| 26 | 5·5581942 | 6·7564095 | 26 | 5·5467270 | 6·7404508 | 26 | 5·5351216 | 6·7241251 |
| 27 | 5·5477038 | 6·7438805 | 27 | 5·5362366 | 6·7279841 | 27 | 5·5246312 | 6·7117201 |
| 28 | 5·5371363 | 6·7311481 | 28 | 5·5256691 | 6·7153171 | 28 | 5·5140637 | 6·6991180 |
| 29 | 5·5264895 | 6·7182004 | 29 | 5·5150223 | 6·7024371 | 29 | 5·5034169 | 6·6863061 |
| 30 | 5·5157601 | 6·7050242 | 30 | 5·5042929 | 6·6893317 | 30 | 5·4926875 | 6·6732714 |
| 31 | 5·5049441 | 6·6916053 | 31 | 5·4934769 | 6·6759869 | 31 | 5·4818715 | 6·6600006 |
| 32 | 5·4940366 | 6·6779293 | 32 | 5·4825694 | 6·6623875 | 32 | 5·4709640 | 6·6464784 |
| 33 | 5·4830319 | 6·6639811 | 33 | 5·4715647 | 6·6485180 | 33 | 5·4599593 | 6·6326892 |
| 34 | 5·4719235 | 6·6497434 | 34 | 5·4604563 | 6·6343627 | 34 | 5·4488509 | 6·6186163 |
| 35 | 5·4607040 | 6·6352000 | 35 | 5·4492368 | 6·6199034 | 35 | 5·4376314 | 6·6042431 |
| 36 | 5·4493652 | 6·6203329 | 36 | 5·4378980 | 6·6051226 | 36 | 5·4262926 | 6·5895502 |
| 37 | 5·4378980 | 6·6051226 | 37 | 5·4264308 | 6·5900013 | 37 | 5·4148254 | 6·5745191 |
| 38 | 5·4262926 | 6·5895502 | 38 | 5·4148254 | 6·5745191 | 38 | 5·4032200 | 6·5591297 |
| 39 | 5·4145382 | 6·5735947 | 39 | 5·4030710 | 6·5586556 | 39 | 5·3914656 | 6·5433606 |
| 40 | 5·4026234 | 6·5572339 | 40 | 5·3911562 | 6·5423888 | 40 | 5·3795508 | 6·5271898 |
| 41 | 5·3905357 | 6·5404462 | 41 | 5·3790685 | 6·5256948 | 41 | 5·3674631 | 6·5105941 |
| 42 | 5·3782619 | 6·5232065 | 42 | 5·3667947 | 6·5085511 | 42 | 5·3551893 | 6·4935486 |
| 43 | 5·3657879 | 6·5054902 | 43 | 5·3543207 | 6·4909307 | 43 | 5·3427153 | 6·4760282 |
| 44 | 5·3530990 | 6·4872705 | 44 | 5·3416318 | 6·4728073 | 44 | 5·3300264 | 6·4580052 |
| 45 | 5·3401793 | 6·4685190 | 45 | 5·3287121 | 6·4541524 | 45 | 5·3171067 | 6·4394508 |
| 46 | 5·3270123 | 6·4492060 | 46 | 5·3155451 | 6·4349352 | 46 | 5·3039397 | 6·4203348 |
| 47 | 5·3135806 | 6·4292987 | 47 | 5·3021134 | 6·4151245 | 47 | 5·2905080 | 6·4006240 |
| 48 | 5·2998660 | 6·4087636 | 48 | 5·2883988 | 6·3946842 | 48 | 5·2767934 | 6·3802845 |
| 49 | 5·2858494 | 6·3875632 | 49 | 5·2743822 | 6·3735783 | 49 | 5·2627768 | 6·3592778 |
| 50 | 5·2715110 | 6·3656577 | 50 | 5·2600438 | 6·3517662 | 50 | 5·2484384 | 6·3375643 |
| 51 | 5·2568300 | 6·3430043 | 51 | 5·2453628 | 6·3292044 | 51 | 5·2337574 | 6·3151001 |
| 52 | 5·2415403 | 6·3195545 | 52 | 5·2300731 | 6·3058458 | 52 | 5·2184677 | 6·2918371 |
| 53 | 5·2258058 | 6·2952793 | 53 | 5·2143386 | 6·2816597 | 53 | 5·2027332 | 6·2677461 |
| 54 | 5·2096092 | 6·2701301 | 54 | 5·1981420 | 6·2565975 | 54 | 5·1865366 | 6·2427766 |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 36 | | 37 | | | 38 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,36}$ | $\lambda\ N_{x,\,36}$ | Age of (x) | $\lambda\ D_{x,\,37}$ | $\lambda\ N_{x,\,37}$ | Age of (x) | $\lambda\ D_{x,\,38}$ | $\lambda\ N_{x,\,38}$ |
| 55 | 5·1929233 | 6·2440516 | 55 | 5·1814561 | 6·2306048 | 55 | 5·1698507 | 6·2168746 |
| 56 | 5·1757104 | 6·2169839 | 56 | 5·1642432 | 6·2036206 | 56 | 5·1526378 | 6·1899802 |
| 57 | 5·1579224 | 6·1888602 | 57 | 5·1464552 | 6·1755791 | 57 | 5·1348498 | 6·1620258 |
| 58 | 5·1395009 | 6·1596090 | 58 | 5·1280337 | 6·1464080 | 58 | 5·1164283 | 6·1329400 |
| 59 | 5·1203773 | 6·1291528 | 59 | 5·1089101 | 6·1160293 | 59 | 5·0973047 | 6·1026450 |
| 60 | 5·1004725 | 6·0974083 | 60 | 5·0890053 | 6·0843596 | 60 | 5·0773999 | 6·0710557 |
| 61 | 5·0796972 | 6·0642835 | 61 | 5·0682300 | 6·0513088 | 61 | 5·0566246 | 6·0380830 |
| 62 | 5·0579517 | 6·0296828 | 62 | 5·0464845 | 6·0167789 | 62 | 5·0348791 | 6·0036298 |
| 63 | 5·0351260 | 5·9935033 | 63 | 5·0236588 | 5·9806677 | 63 | 5·0120534 | 5·9675920 |
| 64 | 5·0110998 | 5·9556338 | 64 | 4·9996326 | 5·9428647 | 64 | 4·9880272 | 5·9298598 |
| 65 | 4·9857424 | 5·9159569 | 65 | 4·9742752 | 5·9032520 | 65 | 4·9626698 | 5·8903160 |
| 66 | 4·9589128 | 5·8743484 | 66 | 4·9474456 | 5·8617051 | 66 | 4·9358402 | 5·8488354 |
| 67 | 4·9304597 | 5·8306758 | 67 | 4·9189925 | 5·8180919 | 67 | 4·9073871 | 5·8052856 |
| 68 | 4·9002216 | 5·7847988 | 68 | 4·8887544 | 5·7722718 | 68 | 4·8771490 | 5·7595268 |
| 69 | 4·8680263 | 5·7365688 | 69 | 4·8565591 | 5·7240966 | 69 | 4·8449537 | 5·7114103 |
| 70 | 4·8336917 | 5·6858291 | 70 | 4·8222245 | 5·6734092 | 70 | 4·8106191 | 5·6607795 |
| 71 | 4·7970251 | 5·6324140 | 71 | 4·7855579 | 5·6200445 | 71 | 4·7739525 | 5·6074687 |
| 72 | 4·7578235 | 5·5761495 | 72 | 4·7463563 | 5·5638277 | 72 | 4·7347509 | 5·5513037 |
| 73 | 4·7158738 | 5·5168513 | 73 | 4·7044066 | 5·5045756 | 73 | 4·6928012 | 5·4921007 |
| 74 | 4·6709522 | 5·4543267 | 74 | 4·6594850 | 5·4420947 | 74 | 4·6478796 | 5·4296672 |
| 75 | 4·6228249 | 5·3883724 | 75 | 4·6113577 | 5·3761826 | 75 | 4·5997523 | 5·3637995 |
| 76 | 4·5712475 | 5·3187765 | 76 | 4·5597803 | 5·3066259 | 76 | 4·5481749 | 5·2942863 |
| 77 | 4·5159656 | 5·2453152 | 77 | 4·5044984 | 5·2332027 | 77 | 4·4928930 | 5·2209035 |
| 78 | 4·4567142 | 5·1677559 | 78 | 4·4452470 | 5·1556794 | 78 | 4·4336416 | 5·1434190 |
| 79 | 4·3932181 | 5·0858545 | 79 | 4·3817509 | 5·0738122 | 79 | 4·3701455 | 5·0615882 |
| 80 | 4·3251917 | 4·9993559 | 80 | 4·3137245 | 4·9873462 | 80 | 4·3021191 | 4·9751578 |
| 81 | 4·2523391 | 4·9079957 | 81 | 4·2408719 | 4·8960167 | 81 | 4·2292665 | 4·8838612 |
| 82 | 4·1743540 | 4·8114966 | 82 | 4·1628868 | 4·7995473 | 82 | 4·1512814 | 4·7874229 |
| 83 | 4·0909201 | 4·7095718 | 83 | 4·0794529 | 4·6976495 | 83 | 4·0678475 | 4·6855555 |
| 84 | 4·0017103 | 4·6019210 | 84 | 3·9902431 | 4·5900250 | 84 | 3·9786377 | 4·5779592 |
| 85 | 3·9063875 | 4·4882343 | 85 | 3·8949203 | 4·4763637 | 85 | 3·8833149 | 4·4643243 |
| 86 | 3·8046041 | 4·3681904 | 86 | 3·7931369 | 4·3563432 | 86 | 3·7815315 | 4·3443292 |
| 87 | 3·6960023 | 4·2414557 | 87 | 3·6845351 | 4·2296304 | 87 | 3·6729297 | 4·2176403 |
| 88 | 3·5802139 | 4·1076844 | 88 | 3·5687467 | 4·0958804 | 88 | 3·5571413 | 4·0839127 |
| 89 | 3·4568605 | 3·9665191 | 89 | 3·4453933 | 3·9547354 | 89 | 3·4337879 | 3·9427891 |
| 90 | 3·3255530 | 3·8175905 | 90 | 3·3140858 | 3·8058256 | 90 | 3·3024804 | 3·7939000 |
| 91 | 3·1858925 | 3·6605155 | 91 | 3·1744253 | 3·6487697 | 91 | 3·1628199 | 3·6368628 |
| 92 | 3·0374694 | 3·4949000 | 92 | 3·0260022 | 3·4831692 | 92 | 3·0143968 | 3·4712829 |
| 93 | 2·8798639 | 3·3203322 | 93 | 2·8683967 | 3·3086184 | 93 | 2·8567913 | 3·2967472 |
| 94 | 2·7126458 | 3·1363834 | 94 | 2·7011786 | 3·1246851 | 94 | 2·6895732 | 3·1128308 |
| 95 | 2·5353747 | 2·9426037 | 95 | 2·5239075 | 2·9309195 | 95 | 2·5123021 | 2·9190812 |
| 96 | 2·3475998 | 2·7385078 | 96 | 2·3361326 | 2·7268388 | 96 | 2·3245272 | 2·7150150 |
| 97 | 2·1488599 | 2·5235618 | 97 | 2·1373927 | 2·5119074 | 97 | 2·1257873 | 2·5000992 |
| 98 | 1·9386836 | 2·2971438 | 98 | 1·9272164 | 2·2855016 | 98 | 1·9156110 | 2·2737084 |
| 99 | 1·7165892 | 2·0584556 | 99 | 1·7051220 | 2·0468287 | 99 | 1·6935166 | 2·0350501 |
| 100 | 1·4820844 | 1·8063618 | 100 | 1·4706172 | 1·7947501 | 100 | 1·4590118 | 1·7829897 |
| 101 | 1·2346669 | 1·5389932 | 101 | 1·2231997 | 1·5273979 | 101 | 1·2115943 | 1·5156553 |
| 102 | 0·9738239 | 1·2528069 | 102 | 0·9623567 | 1·2412351 | 102 | 0·9507513 | 1·2295129 |
| 103 | 0·6990323 | 0·9400979 | 103 | 0·6875651 | 0·9285495 | 103 | 0·6759597 | 0·9168644 |
| 104 | 0·4097587 | 0·5809934 | 104 | 0·3982915 | 0·5694793 | 104 | 0·3866861 | 0·5578199 |
| 105 | 0·1054593 | | 105 | 0·0939921 | | 105 | 0·0823867 | |
| 106 | 9·7855801 | | 106 | 9·7741129 | | 106 | 9·7625075 | |
| 107 | 9·4495567 | | 107 | 9·4380895 | | 107 | 9·4264841 | |
| 108 | 9·0968144 | | 108 | 9·0853472 | | 108 | 9·0737418 | |
| 109 | 8·7267681 | | 109 | 8·7153009 | | 109 | 8·7036955 | |

## JOINT LIVES :—TWO MALES.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 39 | | 40 | | | 41 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,39}$ | λ $N_{x,\,39}$ | Age of (x) | λ $D_{x,\,40}$ | λ $N_{x,\,40}$ | Age of (x) | λ $D_{x,\,41}$ | λ $N_{x,\,41}$ |
| 0 | 5·8989094 | 6·9963450 | 0 | 5·8869946 | 6·9785820 | 0 | 5·8749069 | 6·9604162 |
| 1 | 5·8149072 | 6·9780436 | 1 | 5·8029924 | 6·9601785 | 1 | 5·7909047 | 6·9419039 |
| 2 | 5·7796263 | 6·9650351 | 2 | 5·7677115 | 6·9471401 | 2 | 5·7556238 | 6·9288328 |
| 3 | 5·7575130 | 6·9536318 | 3 | 5·7455982 | 6·9357299 | 3 | 5·7335105 | 6·9174143 |
| 4 | 5·7406113 | 6·9429616 | 4 | 5·7286965 | 6·9250643 | 4 | 5·7166088 | 6·9067523 |
| 5 | 5·7263839 | 6·9326998 | 5 | 5·7144691 | 6·9148146 | 5 | 5·7023814 | 6·8965139 |
| 6 | 5·7140227 | 6·9226848 | 6 | 5·7021079 | 6·9048170 | 6 | 5·6900202 | 6·8865331 |
| 7 | 5·7028792 | 6·9128045 | 7 | 5·6909644 | 6·8949573 | 7 | 5·6788767 | 6·8766940 |
| 8 | 5·6924650 | 6·9029829 | 8 | 5·6805502 | 6·8851600 | 8 | 5·6684625 | 6·8669201 |
| 9 | 5·6827176 | 6·8931739 | 9 | 5·6708028 | 6·8753774 | 9 | 5·6587151 | 6·8571639 |
| 10 | 5·6734824 | 6·8833328 | 10 | 5·6615676 | 6·8655643 | 10 | 5·6494799 | 6·8473789 |
| 11 | 5·6646179 | 6·8734222 | 11 | 5·6527031 | 6·8556835 | 11 | 5·6406154 | 6·8375273 |
| 12 | 5·6559959 | 6·8634116 | 12 | 5·6440811 | 6·8457040 | 12 | 5·6319934 | 6·8275786 |
| 13 | 5·6475014 | 6·8532772 | 13 | 5·6355866 | 6·8356017 | 13 | 5·6234989 | 6·8175084 |
| 14 | 5·6390325 | 6·8430010 | 14 | 5·6271177 | 6·8253587 | 14 | 5·6150300 | 6·8072979 |
| 15 | 5·6305007 | 6·8325707 | 15 | 5·6185859 | 6·8149622 | 15 | 5·6064982 | 6·7969351 |
| 16 | 5·6218304 | 6·8219782 | 16 | 5·6099156 | 6·8044049 | 16 | 5·5978279 | 6·7864123 |
| 17 | 5·6129596 | 6·8112206 | 17 | 5·6010448 | 6·7936834 | 17 | 5·5889571 | 6·7757266 |
| 18 | 5·6038391 | 6·8002978 | 18 | 5·5919243 | 6·7827984 | 18 | 5·5798366 | 6·7648784 |
| 19 | 5·5944333 | 6·7892136 | 19 | 5·5825185 | 6·7717535 | 19 | 5·5704308 | 6·7538720 |
| 20 | 5·5847195 | 6·7779741 | 20 | 5·5728047 | 6·7605551 | 20 | 5·5607170 | 6·7427140 |
| 21 | 5·5746883 | 6·7665871 | 21 | 5·5627735 | 6·7492113 | 21 | 5·5506858 | 6·7314129 |
| 22 | 5·5645767 | 6·7550609 | 22 | 5·5526619 | 6·7377312 | 22 | 5·5405742 | 6·7199778 |
| 23 | 5·5543874 | 6·7433889 | 23 | 5·5424726 | 6·7261078 | 23 | 5·5303849 | 6·7084022 |
| 24 | 5·5441222 | 6·7315631 | 24 | 5·5322074 | 6·7143332 | 24 | 5·5201197 | 6·6966784 |
| 25 | 5·5337821 | 6·7195743 | 25 | 5·5218673 | 6·7023993 | 25 | 5·5097796 | 6·6847978 |
| 26 | 5·5233672 | 6·7074133 | 26 | 5·5114524 | 6·6902958 | 26 | 5·4993647 | 6·6727514 |
| 27 | 5·5128768 | 6·6950696 | 27 | 5·5009620 | 6·6780128 | 27 | 5·4888743 | 6·6605284 |
| 28 | 5·5023093 | 6·6825318 | 28 | 5·4903945 | 6·6655390 | 28 | 5·4783068 | 6·6481180 |
| 29 | 5·4916625 | 6·6697879 | 29 | 5·4797477 | 6·6528622 | 29 | 5·4676600 | 6·6355081 |
| 30 | 5·4809331 | 6·6568244 | 30 | 5·4690183 | 6·6399696 | 30 | 5·4569306 | 6·6226856 |
| 31 | 5·4701171 | 6·6436273 | 31 | 5·4582023 | 6·6268469 | 31 | 5·4461146 | 6·6096369 |
| 32 | 5·4592096 | 6·6301826 | 32 | 5·4472948 | 6·6134792 | 32 | 5·4352071 | 6·5963467 |
| 33 | 5·4482049 | 6·6164739 | 33 | 5·4362901 | 6·5998514 | 33 | 5·4242024 | 6·5827996 |
| 34 | 5·4370965 | 6·6024849 | 34 | 5·4251817 | 6·5859465 | 34 | 5·4130940 | 6·5689792 |
| 35 | 5·4258770 | 6·5881976 | 35 | 5·4139622 | 6·5717469 | 35 | 5·4018745 | 6·5548675 |
| 36 | 5·4145382 | 6·5735947 | 36 | 5·4026234 | 6·5572339 | 36 | 5·3905357 | 6·5404462 |
| 37 | 5·4030710 | 6·5586556 | 37 | 5·3911562 | 6·5423888 | 37 | 5·3790685 | 6·5256948 |
| 38 | 5·3914656 | 6·5433606 | 38 | 5·3795508 | 6·5271898 | 38 | 5·3674631 | 6·5105941 |
| 39 | 5·3797112 | 6·5276884 | 39 | 5·3677964 | 6·5116163 | 39 | 5·3557087 | 6·4951213 |
| 40 | 5·3677964 | 6·5116163 | 40 | 5·3558816 | 6·4956456 | 40 | 5·3437939 | 6·4792536 |
| 41 | 5·3557087 | 6·4951213 | 41 | 5·3437939 | 6·4792536 | 41 | 5·3317062 | 6·4629675 |
| 42 | 5·3434349 | 6·4781781 | 42 | 5·3315201 | 6·4624157 | 42 | 5·3194324 | 6·4462373 |
| 43 | 5·3309609 | 6·4607605 | 43 | 5·3190461 | 6·4451051 | 43 | 5·3069584 | 6·4290368 |
| 44 | 5·3182720 | 6·4428420 | 44 | 5·3063572 | 6·4272939 | 44 | 5·2942695 | 6·4113377 |
| 45 | 5·3053523 | 6·4243926 | 45 | 5·2934375 | 6·4089538 | 45 | 5·2813498 | 6·3931096 |
| 46 | 5·2921853 | 6·4053815 | 46 | 5·2802705 | 6·3900526 | 46 | 5·2681828 | 6·3743225 |
| 47 | 5·2787536 | 6·3857765 | 47 | 5·2668388 | 6·3705572 | 47 | 5·2547511 | 6·3549418 |
| 48 | 5·2650390 | 6·3655413 | 48 | 5·2531242 | 6·3504326 | 48 | 5·2410365 | 6·3349320 |
| 49 | 5·2510224 | 6·3446400 | 49 | 5·2391076 | 6·3296401 | 49 | 5·2270199 | 6·3142549 |
| 50 | 5·2366840 | 6·3230300 | 50 | 5·2247692 | 6·3081404 | 50 | 5·2126815 | 6·2928690 |
| 51 | 5·2220030 | 6·3006685 | 51 | 5·2100882 | 6·2858871 | 51 | 5·1980005 | 6·2707308 |
| 52 | 5·2067133 | 6·2775075 | 52 | 5·1947985 | 6·2628330 | 52 | 5·1827108 | 6·2477897 |
| 53 | 5·1909788 | 6·2535164 | 53 | 5·1790640 | 6·2389484 | 53 | 5·1669763 | 6·2240169 |
| 54 | 5·1747822 | 6·2286463 | 54 | 5·1628674 | 6·2141826 | 54 | 5·1507797 | 6·1993624 |

## JOINT LIVES :—Two Males.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 39 | | 40 | | | 41 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,39}$ | λ $N_{x,\,39}$ | Age of (x) | λ $D_{x,\,40}$ | λ $N_{x,\,40}$ | Age of (x) | λ $D_{x,\,41}$ | λ $N_{x,\,41}$ |
| 55 | 5·1580963 | 6·2028413 | 55 | 5·1461815 | 6·1884810 | 55 | 5·1340938 | 6·1737700 |
| 56 | 5·1408834 | 6·1760411 | 56 | 5·1289686 | 6·1617823 | 56 | 5·1168809 | 6·1471790 |
| 57 | 5·1230954 | 6·1481805 | 57 | 5·1111806 | 6·1340202 | 57 | 5·0990929 | 6·1195224 |
| 58 | 5·1046739 | 6·1191856 | 58 | 5·0927591 | 6·1051227 | 58 | 5·0806714 | 6·0907277 |
| 59 | 5·0855503 | 6·0889790 | 59 | 5·0736355 | 6·0750109 | 59 | 5·0615478 | 6·0607175 |
| 60 | 5·0656455 | 6·0574767 | 60 | 5·0537307 | 6·0436008 | 60 | 5·0416430 | 6·0294061 |
| 61 | 5·0448702 | 6·0245875 | 61 | 5·0329554 | 6·0108018 | 61 | 5·0208677 | 5·9967030 |
| 62 | 5·0231247 | 5·9902158 | 62 | 5·0112099 | 5·9765163 | 62 | 4·9991222 | 5·9625115 |
| 63 | 5·0002990 | 5·9542570 | 63 | 4·9883842 | 5·9406428 | 63 | 4·9762965 | 5·9267278 |
| 64 | 4·9762728 | 5·9166011 | 64 | 4·9643580 | 5·9030688 | 64 | 4·9522703 | 5·8892416 |
| 65 | 4·9509154 | 5·8771308 | 65 | 4·9390006 | 5·8636775 | 65 | 4·9269129 | 5·8499352 |
| 66 | 4·9240858 | 5·8357215 | 66 | 4·9121710 | 5·8223443 | 66 | 4·9000833 | 5·8086836 |
| 67 | 4·8956327 | 5·7922402 | 67 | 4·8837179 | 5·7789367 | 67 | 4·8716302 | 5·7653549 |
| 68 | 4·8653946 | 5·7465470 | 68 | 4·8534798 | 5·7333143 | 68 | 4·8413921 | 5·7198085 |
| 69 | 4·8331993 | 5·6984937 | 69 | 4·8212845 | 5·6853286 | 69 | 4·8091968 | 5·6718960 |
| 70 | 4·7988647 | 5·6479234 | 70 | 4·7869499 | 5·6348234 | 70 | 4·7748622 | 5·6214607 |
| 71 | 4·7621981 | 5·5946707 | 71 | 4·7502833 | 5·5816331 | 71 | 4·7381956 | 5·5683375 |
| 72 | 4·7229965 | 5·5385612 | 72 | 4·7110817 | 5·5255835 | 72 | 4·6989940 | 5·5123521 |
| 73 | 4·6810468 | 5·4794114 | 73 | 4·6691320 | 5·4664908 | 73 | 4·6570443 | 5·4533210 |
| 74 | 4·6361252 | 5·4170283 | 74 | 4·6242104 | 5·4041624 | 74 | 4·6121227 | 5·3910513 |
| 75 | 4·5879979 | 5·3512096 | 75 | 4·5760831 | 5·3383953 | 75 | 4·5639954 | 5·3253405 |
| 76 | 4·5364205 | 5·2817418 | 76 | 4·5245057 | 5·2689777 | 76 | 4·5124180 | 5·2559757 |
| 77 | 4·4811386 | 5·2084035 | 77 | 4·4692238 | 5·1956857 | 77 | 4·4571361 | 5·1827355 |
| 78 | 4·4218872 | 5·1309600 | 78 | 4·4099724 | 5·1182882 | 78 | 4·3978847 | 5·1053851 |
| 79 | 4·3583911 | 5·0491692 | 79 | 4·3464763 | 5·0365395 | 79 | 4·3343886 | 5·0236836 |
| 80 | 4·2903647 | 4·9627759 | 80 | 4·2784499 | 4·9501866 | 80 | 4·2663622 | 4·9373739 |
| 81 | 4·2175121 | 4·8715158 | 81 | 4·2055973 | 4·8589647 | 81 | 4·1935096 | 4·8461929 |
| 82 | 4·1395270 | 4·7751107 | 82 | 4·1276122 | 4·7625968 | 82 | 4·1155245 | 4·7498646 |
| 83 | 4·0560931 | 4·6732753 | 83 | 4·0441783 | 4·6607953 | 83 | 4·0320906 | 4·6481003 |
| 84 | 3·9668833 | 4·5657094 | 84 | 3·9549685 | 4·5532624 | 84 | 3·9428808 | 4·5406025 |
| 85 | 3·8715605 | 4·4521036 | 85 | 3·8596457 | 4·4396873 | 85 | 3·8475580 | 4·4270609 |
| 86 | 3·7697771 | 4·3321356 | 86 | 3·7578623 | 4·3197490 | 86 | 3·7457746 | 4·3071538 |
| 87 | 3·6611753 | 4·2054726 | 87 | 3·6492605 | 4·1931132 | 87 | 3·6371728 | 4·1805484 |
| 88 | 3·5453869 | 4·0717690 | 88 | 3·5334721 | 4·0594361 | 88 | 3·5213844 | 4·0468989 |
| 89 | 3·4220335 | 3·9306684 | 89 | 3·4101187 | 3·9183602 | 89 | 3·3980310 | 3·9058498 |
| 90 | 3·2907260 | 3·7818013 | 90 | 3·2788112 | 3·7695161 | 90 | 3·2667235 | 3·7570306 |
| 91 | 3·1510655 | 3·6247852 | 91 | 3·1391507 | 3·6125222 | 91 | 3·1270630 | 3·6000609 |
| 92 | 3·0026424 | 3·4592236 | 92 | 2·9907276 | 3·4469824 | 92 | 2·9786399 | 3·4345437 |
| 93 | 2·8450369 | 3·2847075 | 93 | 2·8331221 | 3·2724863 | 93 | 2·8210344 | 3·2600695 |
| 94 | 2·6778188 | 3·1008084 | 94 | 2·6659040 | 3·0886059 | 94 | 2·6538163 | 3·0762096 |
| 95 | 2·5005477 | 2·9070758 | 95 | 2·4886329 | 2·8948913 | 95 | 2·4765452 | 2·8825143 |
| 96 | 2·3127728 | 2·7030264 | 96 | 2·3008580 | 2·6908594 | 96 | 2·2887703 | 2·6785011 |
| 97 | 2·1140329 | 2·4881261 | 97 | 2·1021181 | 2·4759761 | 97 | 2·0900304 | 2·4636362 |
| 98 | 1·9038566 | 2·2617516 | 98 | 1·8919418 | 2·2496197 | 98 | 1·8798541 | 2·2372983 |
| 99 | 1·6817622 | 2·0231105 | 99 | 1·6698474 | 2·0109959 | 99 | 1·6577597 | 1·9986939 |
| 100 | 1·4472574 | 1·7710661 | 100 | 1·4353426 | 1·7589717 | 100 | 1·4232549 | 1·7466895 |
| 101 | 1·1998399 | 1·5037553 | 101 | 1·1879251 | 1·4916796 | 101 | 1·1758374 | 1·4794227 |
| 102 | 0·9389969 | 1·2176365 | 102 | 0·9270821 | 1·2055914 | 102 | 0·9149944 | 1·1933584 |
| 103 | 0·6642053 | 0·9050129 | 103 | 0·6522905 | 0·8930012 | 103 | 0·6402028 | 0·8808079 |
| 104 | 0·3749317 | 0·5460242 | 104 | 0·3630169 | 0·5340388 | 104 | 0·3509292 | 0·5218961 |
| 105 | 0·0706323 | | 105 | 0·0587175 | | 105 | 0·0466298 | |
| 106 | 9·7507531 | | 106 | 9·7388383 | | 106 | 9·7267506 | |
| 107 | 9·4147297 | | 107 | 9·4028149 | | 107 | 9·3907272 | |
| 108 | 9·0619874 | | 108 | 9·0500726 | | 108 | 9·0379849 | |
| 109 | 8·6919411 | | 109 | 8·6800263 | | 109 | 8·6679386 | |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x, y}$ and $N_{x, y}$.

| Age of (y) | 42 | | | 43 | | | 44 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x, 42}$ | λ $N_{x, 42}$ | Age of (x) | λ $D_{x, 43}$ | λ $N_{x, 43}$ | Age of (x) | λ $D_{x, 44}$ | λ $N_{x, 44}$ |
| 0 | 5·8626331 | 6·9418262 | 0 | 5·8501591 | 6·9227893 | 0 | 5·8374702 | 6·9032813 |
| 1 | 5·7786309 | 6·9231983 | 1 | 5·7661569 | 6·9040387 | 1 | 5·7534680 | 6·8844002 |
| 2 | 5·7433500 | 6·9100917 | 2 | 5·7308760 | 6·8908934 | 2 | 5·7181871 | 6·8712130 |
| 3 | 5·7212367 | 6·8986630 | 3 | 5·7087627 | 6·8794529 | 3 | 5·6960738 | 6·8597589 |
| 4 | 5·7043350 | 6·8880038 | 4 | 5·6918610 | 6·8687949 | 4 | 5·6791721 | 6·8491013 |
| 5 | 5·6901076 | 6·8777757 | 5 | 5·6776336 | 6·8585768 | 5 | 5·6649447 | 6·8388918 |
| 6 | 5·6777464 | 6·8678110 | 6 | 5·6652724 | 6·8486277 | 6 | 5·6525835 | 6·8289581 |
| 7 | 5·6666029 | 6·8579924 | 7 | 5·6541289 | 6·8388289 | 7 | 5·6414400 | 6·8191787 |
| 8 | 5·6561887 | 6·8482419 | 8 | 5·6437147 | 6·8291016 | 8 | 5·6310258 | 6·8094740 |
| 9 | 5·6464413 | 6·8385113 | 9 | 5·6339673 | 6·8193966 | 9 | 5·6212784 | 6·7997947 |
| 10 | 5·6372061 | 6·8287544 | 10 | 5·6247321 | 6·8096671 | 10 | 5·6120432 | 6·7900929 |
| 11 | 5·6283416 | 6·8189323 | 11 | 5·6158676 | 6·7998745 | 11 | 5·6031787 | 6·7803288 |
| 12 | 5·6197196 | 6·8090138 | 12 | 5·6072456 | 6·7899864 | 12 | 5·5945567 | 6·7704712 |
| 13 | 5·6112251 | 6·7989749 | 13 | 5·5987511 | 6·7799785 | 13 | 5·5860622 | 6·7604943 |
| 14 | 5·6027562 | 6·7887971 | 14 | 5·5902822 | 6·7698325 | 14 | 5·5775933 | 6·7503797 |
| 15 | 5·5942244 | 6·7784674 | 15 | 5·5817504 | 6·7595360 | 15 | 5·5690615 | 6·7401153 |
| 16 | 5·5855541 | 6·7679787 | 16 | 5·5730801 | 6·7490807 | 16 | 5·5603912 | 6·7296934 |
| 17 | 5·5766833 | 6·7573279 | 17 | 5·5642093 | 6·7384643 | 17 | 5·5515204 | 6·7191110 |
| 18 | 5·5675628 | 6·7465161 | 18 | 5·5550888 | 6·7276880 | 18 | 5·5423999 | 6·7083697 |
| 19 | 5·5581570 | 6·7355475 | 19 | 5·5456830 | 6·7167567 | 19 | 5·5329941 | 6·6974744 |
| 20 | 5·5484432 | 6·7244290 | 20 | 5·5359692 | 6·7056769 | 20 | 5·5232803 | 6·6864328 |
| 21 | 5·5384120 | 6·7131695 | 21 | 5·5259380 | 6·6944583 | 21 | 5·5132491 | 6·6752541 |
| 22 | 5·5283004 | 6·7017789 | 22 | 5·5158264 | 6·6831109 | 22 | 5·5031375 | 6·6639492 |
| 23 | 5·5181111 | 6·6902502 | 23 | 5·5056371 | 6·6716284 | 23 | 5·4929482 | 6·6525118 |
| 24 | 5·5078459 | 6·6785762 | 24 | 5·4953719 | 6·6600033 | 24 | 5·4826830 | 6·6409346 |
| 25 | 5·4975058 | 6·6667486 | 25 | 5·4850318 | 6·6482275 | 25 | 5·4723429 | 6·6292098 |
| 26 | 5·4870909 | 6·6547578 | 26 | 5·4746169 | 6·6362920 | 26 | 5·4619280 | 6·6173283 |
| 27 | 5·4766005 | 6·6425944 | 27 | 5·4641265 | 6·6241866 | 27 | 5·4514376 | 6·6052805 |
| 28 | 5·4660330 | 6·6302464 | 28 | 5·4535590 | 6·6119009 | 28 | 5·4408701 | 6·5930553 |
| 29 | 5·4553862 | 6·6177027 | 29 | 5·4429122 | 6·5994222 | 29 | 5·4302233 | 6·5806417 |
| 30 | 5·4446568 | 6·6049501 | 30 | 5·4321828 | 6·5867387 | 30 | 5·4194939 | 6·5680260 |
| 31 | 5·4338408 | 6·5919746 | 31 | 5·4213668 | 6·5738361 | 31 | 5·4086779 | 6·5551955 |
| 32 | 5·4229333 | 6·5787618 | 32 | 5·4104593 | 6·5606998 | 32 | 5·3977704 | 6·5421354 |
| 33 | 5·4119286 | 6·5652957 | 33 | 5·3994546 | 6·5473144 | 33 | 5·3867657 | 6·5288298 |
| 34 | 5·4008202 | 6·5515596 | 34 | 5·3883462 | 6·5336628 | 34 | 5·3756573 | 6·5152628 |
| 35 | 5·3896007 | 6·5375362 | 35 | 5·3771267 | 6·5197276 | 35 | 5·3644378 | 6·5014156 |
| 36 | 5·3782619 | 6·5232065 | 36 | 5·3657879 | 6·5054902 | 36 | 5·3530990 | 6·4872705 |
| 37 | 5·3667947 | 6·5085511 | 37 | 5·3543207 | 6·4909307 | 37 | 5·3416318 | 6·4728073 |
| 38 | 5·3551893 | 6·4935486 | 38 | 5·3427153 | 6·4760282 | 38 | 5·3300264 | 6·4580052 |
| 39 | 5·3434349 | 6·4781781 | 39 | 5·3309609 | 6·4607605 | 39 | 5·3182720 | 6·4428420 |
| 40 | 5·3315201 | 6·4624157 | 40 | 5·3190461 | 6·4451051 | 40 | 5·3063572 | 6·4272939 |
| 41 | 5·3194324 | 6·4462373 | 41 | 5·3069584 | 6·4290368 | 41 | 5·2942695 | 6·4113377 |
| 42 | 5·3071586 | 6·4296178 | 42 | 5·2946846 | 6·4125299 | 42 | 5·2819957 | 6·3949457 |
| 43 | 5·2946846 | 6·4125299 | 43 | 5·2822106 | 6·3955579 | 43 | 5·2695217 | 6·3780914 |
| 44 | 5·2819957 | 6·3949457 | 44 | 5·2695217 | 6·3780914 | 44 | 5·2568328 | 6·3607461 |
| 45 | 5·2690760 | 6·3768348 | 45 | 5·2566020 | 6·3601007 | 45 | 5·2439131 | 6·3428785 |
| 46 | 5·2559090 | 6·3581651 | 46 | 5·2434350 | 6·3415534 | 46 | 5·2307461 | 6·3244567 |
| 47 | 5·2424773 | 6·3389038 | 47 | 5·2300033 | 6·3224147 | 47 | 5·2173144 | 6·3054462 |
| 48 | 5·2287627 | 6·3190138 | 48 | 5·2162887 | 6·3026495 | 48 | 5·2035998 | 6·2858091 |
| 49 | 5·2147461 | 6·2984568 | 49 | 5·2022721 | 6·2822178 | 49 | 5·1895832 | 6·2655077 |
| 50 | 5·2004077 | 6·2771912 | 50 | 5·1879337 | 6·2610778 | 50 | 5·1752448 | 6·2444985 |
| 51 | 5·1857267 | 6·2551719 | 51 | 5·1732527 | 6·2391841 | 51 | 5·1605638 | 6·2227363 |
| 52 | 5·1704370 | 6·2323510 | 52 | 5·1579630 | 6·2164873 | 52 | 5·1452741 | 6·2001705 |
| 53 | 5·1547025 | 6·2086960 | 53 | 5·1422285 | 6·1929581 | 53 | 5·1295396 | 6·1767712 |
| 54 | 5·1385059 | 6·1841584 | 54 | 5·1260319 | 6·1685435 | 54 | 5·1133430 | 6·1524880 |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 42 | | 43 | | | 44 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,42}$ | λ $N_{x,42}$ | Age of (x) | λ $D_{x,43}$ | λ $N_{x,43}$ | Age of (x) | λ $D_{x,44}$ | λ $N_{x,44}$ |
| 55 | 5·1218200 | 6·1586821 | 55 | 5·1093160 | 6·1431894 | 55 | 5·0966571 | 6·1272626 |
| 56 | 5·1046071 | 6·1322052 | 56 | 5·0921331 | 6·1168338 | 56 | 5·0794442 | 6·1010346 |
| 57 | 5·0868191 | 6·1046612 | 57 | 5·0743451 | 6·0894088 | 57 | 5·0616562 | 6·0737359 |
| 58 | 5·0683976 | 6·0759767 | 58 | 5·0559236 | 6·0608417 | 58 | 5·0432347 | 6·0452933 |
| 59 | 5·0492740 | 6·0460735 | 59 | 5·0368000 | 6·0310532 | 59 | 5·0241111 | 6·0156272 |
| 60 | 5·0293692 | 6·0148677 | 60 | 5·0168952 | 5·9999592 | 60 | 5·0042063 | 5·9846524 |
| 61 | 5·0085939 | 5·9822676 | 61 | 4·9961199 | 5·9674686 | 61 | 4·9834310 | 5·9522786 |
| 62 | 4·9868484 | 5·9481757 | 62 | 4·9743744 | 5·9334837 | 62 | 4·9616855 | 5·9184078 |
| 63 | 4·9640227 | 5·9124890 | 63 | 4·9515487 | 5·8979008 | 63 | 4·9388598 | 5·8829357 |
| 64 | 4·9399965 | 5·8750965 | 64 | 4·9275225 | 5·8606089 | 64 | 4·9148336 | 5·8457518 |
| 65 | 4·9146391 | 5·8358810 | 65 | 4·9021651 | 5·8214907 | 65 | 4·8894762 | 5·8067379 |
| 66 | 4·8878095 | 5·7947174 | 66 | 4·8753355 | 5·7804214 | 66 | 4·8626466 | 5·7657694 |
| 67 | 4·8593564 | 5·7514731 | 67 | 4·8468824 | 5·7372682 | 67 | 4·8341935 | 5·7227138 |
| 68 | 4·8291183 | 5·7060084 | 68 | 4·8166443 | 5·6918907 | 68 | 4·8039554 | 5·6774306 |
| 69 | 4·7969230 | 5·6581745 | 69 | 4·7844490 | 5·6441411 | 69 | 4·7717601 | 5·6297713 |
| 70 | 4·7625884 | 5·6078146 | 70 | 4·7501144 | 5·5938625 | 70 | 4·7374255 | 5·5795797 |
| 71 | 4·7259218 | 5·5547636 | 71 | 4·7134478 | 5·5408892 | 71 | 4·7007589 | 5·5266902 |
| 72 | 4·6867202 | 5·4988472 | 72 | 4·6742462 | 5·4850474 | 72 | 4·6615573 | 5·4709286 |
| 73 | 4·6447705 | 5·4398822 | 73 | 4·6322965 | 5·4261535 | 73 | 4·6196076 | 5·4121115 |
| 74 | 4·5998489 | 5·3776759 | 74 | 4·5873749 | 5·3640150 | 74 | 4·5746860 | 5·3500463 |
| 75 | 4·5517216 | 5·3120254 | 75 | 4·5392476 | 5·2984297 | 75 | 4·5265587 | 5·2845309 |
| 76 | 4·5001442 | 5·2427185 | 76 | 4·4876702 | 5·2291848 | 76 | 4·4749813 | 5·2153531 |
| 77 | 4·4448623 | 5·1695325 | 77 | 4·4323883 | 5·1560582 | 77 | 4·4196994 | 5·1422902 |
| 78 | 4·3856109 | 5·0922352 | 78 | 4·3731369 | 5·0788167 | 78 | 4·3604480 | 5·0651098 |
| 79 | 4·3221148 | 5·0105819 | 79 | 4·3096408 | 4·9972177 | 79 | 4·2969519 | 4·9835682 |
| 80 | 4·2540884 | 4·9243206 | 80 | 4·2416144 | 4·9110062 | 80 | 4·2289255 | 4·8974121 |
| 81 | 4·1812358 | 4·8331841 | 81 | 4·1687618 | 4·8199188 | 81 | 4·1560729 | 4·8063760 |
| 82 | 4·1032507 | 4·7368974 | 82 | 4·0907767 | 4·7236781 | 82 | 4·0780878 | 4·7101851 |
| 83 | 4·0198168 | 4·6351740 | 83 | 4·0073428 | 4·6219973 | 83 | 3·9946539 | 4·6085511 |
| 84 | 3·9306070 | 4·5277137 | 84 | 3·9181330 | 4·5145783 | 84 | 3·9054441 | 4·5011768 |
| 85 | 3·8352842 | 4·4142079 | 85 | 3·8228102 | 4·4011112 | 85 | 3·8101213 | 4·3877517 |
| 86 | 3·7335008 | 4·2943350 | 86 | 3·7210268 | 4·2812750 | 86 | 3·7083379 | 4·2679551 |
| 87 | 3·6248990 | 4·1677615 | 87 | 3·6124250 | 4·1547364 | 87 | 3·5997361 | 4·1414538 |
| 88 | 3·5091106 | 4·0341434 | 88 | 3·4966366 | 4·0211504 | 88 | 3·4839477 | 4·0079039 |
| 89 | 3·3857572 | 3·8931218 | 89 | 3·3732832 | 3·8801611 | 89 | 3·3605943 | 3·8669474 |
| 90 | 3·2544497 | 3·7443305 | 90 | 3·2419757 | 3·7313977 | 90 | 3·2292868 | 3·7182168 |
| 91 | 3·1147892 | 3·5873854 | 91 | 3·1023152 | 3·5744815 | 91 | 3·0896263 | 3·5613292 |
| 92 | 2·9663661 | 3·4218930 | 92 | 2·9538921 | 3·4090145 | 92 | 2·9412032 | 3·3958915 |
| 93 | 2·8087606 | 3·2474420 | 93 | 2·7962866 | 3·2345881 | 93 | 2·7835977 | 3·2214915 |
| 94 | 2·6415425 | 3·0636046 | 94 | 2·6290685 | 3·0507748 | 94 | 2·6163796 | 3·0377033 |
| 95 | 2·4642714 | 2·8699302 | 95 | 2·4517974 | 2·8571237 | 95 | 2·4391085 | 2·8440769 |
| 96 | 2·2764965 | 2·6659373 | 96 | 2·2640225 | 2·6531517 | 96 | 2·2513336 | 2·6401305 |
| 97 | 2·0777566 | 2·4510922 | 97 | 2·0652826 | 2·4383287 | 97 | 2·0525937 | 2·4253287 |
| 98 | 1·8675803 | 2·2247742 | 98 | 1·8551063 | 2·2120312 | 98 | 1·8424174 | 2·1990549 |
| 99 | 1·6454859 | 1·9861898 | 99 | 1·6330119 | 1·9734691 | 99 | 1·6203230 | 1·9605155 |
| 100 | 1·4109811 | 1·7342084 | 100 | 1·3985071 | 1·7215105 | 100 | 1·3858182 | 1·7085832 |
| 101 | 1·1635636 | 1·4669654 | 101 | 1·1510896 | 1·4542959 | 101 | 1·1384007 | 1·4413950 |
| 102 | 0·9027206 | 1·1809340 | 102 | 0·8902466 | 1·1682942 | 102 | 0·8775577 | 1·1554301 |
| 103 | 0·6279290 | 0·8684152 | 103 | 0·6154550 | 0·8558219 | 103 | 0·6027661 | 0·8429959 |
| 104 | 0·3386554 | 0·5095654 | 104 | 0·3261814 | 0·4970126 | 104 | 0·3134925 | 0·4842571 |
| 105 | 0·0343560 | | 105 | 0·0218820 | | 105 | 0·0091931 | |
| 106 | 9·7144768 | | 106 | 9·7020028 | | 106 | 9·6893139 | |
| 107 | 9·3784534 | | 107 | 9·3659794 | | 107 | 9·3532905 | |
| 108 | 9·0257111 | | 108 | 9·0132371 | | 108 | 9·0005482 | |
| 109 | 8·6556648 | | 109 | 8·6431908 | | 109 | 8·6305019 | |

## JOINT LIVES:—TWO MALES.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 45 | | 46 | | | 47 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda D_{x,45}$ | $\lambda N_{x,45}$ | Age of (x) | $\lambda D_{x,46}$ | $\lambda N_{x,46}$ | Age of (x) | $\lambda D_{x,47}$ | $\lambda N_{x,47}$ |
| 0 | 5·8245505 | 6·8832767 | 0 | 5·8113835 | 6·8627477 | 0 | 5·7979518 | 6·8416641 |
| 1 | 5·7405483 | 6·8642566 | 1 | 5·7273813 | 6·8435800 | 1 | 5·7139496 | 6·8223397 |
| 2 | 5·7052674 | 6·8510243 | 2 | 5·6921004 | 6·8302985 | 2 | 5·6786687 | 6·8090053 |
| 3 | 5·6831541 | 6·8395545 | 3 | 5·6699871 | 6·8188110 | 3 | 5·6565554 | 6·7974978 |
| 4 | 5·6662524 | 6·8288957 | 4 | 5·6530854 | 6·8081500 | 4 | 5·6396537 | 6·7868332 |
| 5 | 5·6520250 | 6·8186946 | 5 | 5·6388580 | 6·7979559 | 5 | 5·6254263 | 6·7766452 |
| 6 | 5·6396638 | 6·8087751 | 6 | 5·6264968 | 6·7880504 | 6 | 5·6130651 | 6·7667530 |
| 7 | 5·6285203 | 6·7990150 | 7 | 5·6153533 | 6·7783090 | 7 | 5·6019216 | 6·7570300 |
| 8 | 5·6181061 | 6·7893329 | 8 | 5·6049391 | 6·7686493 | 8 | 5·5915074 | 6·7473921 |
| 9 | 5·6083587 | 6·7796787 | 9 | 5·5951917 | 6·7590202 | 9 | 5·5817600 | 6·7377880 |
| 10 | 5·5991235 | 6·7700043 | 10 | 5·5859565 | 6·7493727 | 10 | 5·5725248 | 6·7281676 |
| 11 | 5·5902590 | 6·7602692 | 11 | 5·5770920 | 6·7396665 | 11 | 5·5636603 | 6·7184898 |
| 12 | 5·5816370 | 6·7504411 | 12 | 5·5684700 | 6·7298683 | 12 | 5·5550383 | 6·7087216 |
| 13 | 5·5731425 | 6·7404952 | 13 | 5·5599755 | 6·7199527 | 13 | 5·5465438 | 6·6988363 |
| 14 | 5·5646736 | 6·7304123 | 14 | 5·5515066 | 6·7099011 | 14 | 5·5380749 | 6·6888153 |
| 15 | 5·5561418 | 6·7201795 | 15 | 5·5429748 | 6·6997001 | 15 | 5·5295431 | 6·6786458 |
| 16 | 5·5474715 | 6·7097901 | 16 | 5·5343045 | 6·6893424 | 16 | 5·5208728 | 6·6683200 |
| 17 | 5·5386007 | 6·6992413 | 17 | 5·5254337 | 6·6788262 | 17 | 5·5120020 | 6·6578357 |
| 18 | 5·5294802 | 6·6885341 | 18 | 5·5163132 | 6·6681532 | 18 | 5·5028815 | 6·6471953 |
| 19 | 5·5200744 | 6·6776743 | 19 | 5·5069074 | 6·6573279 | 19 | 5·4934757 | 6·6364047 |
| 20 | 5·5103606 | 6·6666698 | 20 | 5·4971936 | 6·6463597 | 20 | 5·4837619 | 6·6254716 |
| 21 | 5·5003294 | 6·6555304 | 21 | 5·4871624 | 6·6352585 | 21 | 5·4737307 | 6·6144079 |
| 22 | 5·4902178 | 6·6442669 | 22 | 5·4770508 | 6·6240357 | 22 | 5·4636191 | 6·6032248 |
| 23 | 5·4800285 | 6·6328737 | 23 | 5·4668615 | 6·6126855 | 23 | 5·4534298 | 6·5919170 |
| 24 | 5·4697633 | 6·6213435 | 24 | 5·4565963 | 6·6012014 | 24 | 5·4431646 | 6·5804775 |
| 25 | 5·4594232 | 6·6096686 | 25 | 5·4462562 | 6·5895754 | 25 | 5·4328245 | 6·5688993 |
| 26 | 5·4490083 | 6·5978402 | 26 | 5·4358413 | 6·5777992 | 26 | 5·4224096 | 6·5571739 |
| 27 | 5·4385179 | 6·5858488 | 27 | 5·4253509 | 6·5658629 | 27 | 5·4119192 | 6·5452920 |
| 28 | 5·4279504 | 6·5736835 | 28 | 5·4147834 | 6·5537566 | 28 | 5·4013517 | 6·5332432 |
| 29 | 5·4173036 | 6·5613332 | 29 | 5·4041366 | 6·5414686 | 29 | 5·3907049 | 6·5210165 |
| 30 | 5·4065742 | 6·5487854 | 30 | 5·3934072 | 6·5289866 | 30 | 5·3799755 | 6·5085997 |
| 31 | 5·3957582 | 6·5360258 | 31 | 5·3825912 | 6·5162978 | 31 | 5·3691595 | 6·4959798 |
| 32 | 5·3848507 | 6·5230408 | 32 | 5·3716837 | 6·5033870 | 32 | 5·3582520 | 6·4831428 |
| 33 | 5·3738460 | 6·5098148 | 33 | 5·3606790 | 6·4902395 | 33 | 5·3472473 | 6·4700726 |
| 34 | 5·3627376 | 6·4963310 | 34 | 5·3495706 | 6·4768387 | 34 | 5·3361389 | 6·4567539 |
| 35 | 5·3515181 | 6·4825722 | 35 | 5·3383511 | 6·4631669 | 35 | 5·3249194 | 6·4431688 |
| 36 | 5·3401793 | 6·4685190 | 36 | 5·3270123 | 6·4492060 | 36 | 5·3135806 | 6·4292987 |
| 37 | 5·3287121 | 6·4541524 | 37 | 5·3155451 | 6·4349352 | 37 | 5·3021134 | 6·4151245 |
| 38 | 5·3171067 | 6·4394508 | 38 | 5·3039397 | 6·4203348 | 38 | 5·2905080 | 6·4006240 |
| 39 | 5·3053523 | 6·4243926 | 39 | 5·2921853 | 6·4053815 | 39 | 5·2787536 | 6·3857765 |
| 40 | 5·2934375 | 6·4089538 | 40 | 5·2802705 | 6·3900526 | 40 | 5·2668388 | 6·3705572 |
| 41 | 5·2813498 | 6·3931096 | 41 | 5·2681828 | 6·3743225 | 41 | 5·2547511 | 6·3549418 |
| 42 | 5·2690760 | 6·3768348 | 42 | 5·2559090 | 6·3581651 | 42 | 5·2424773 | 6·3389038 |
| 43 | 5·2566020 | 6·3601007 | 43 | 5·2434350 | 6·3415534 | 43 | 5·2300033 | 6·3224147 |
| 44 | 5·2439131 | 6·3428785 | 44 | 5·2307461 | 6·3244567 | 44 | 5·2173144 | 6·3054462 |
| 45 | 5·2309934 | 6·3251377 | 45 | 5·2178264 | 6·3068445 | 45 | 5·2043947 | 6·2879653 |
| 46 | 5·2178264 | 6·3068445 | 46 | 5·2046594 | 6·2886842 | 46 | 5·1912277 | 6·2699393 |
| 47 | 5·2043947 | 6·2879653 | 47 | 5·1912277 | 6·2699393 | 47 | 5·1777960 | 6·2513333 |
| 48 | 5·1906801 | 6·2684622 | 48 | 5·1775131 | 6·2505737 | 48 | 5·1640814 | 6·2321081 |
| 49 | 5·1766635 | 6·2482949 | 49 | 5·1634965 | 6·2305463 | 49 | 5·1500648 | 6·2122243 |
| 50 | 5·1623251 | 6·2274218 | 50 | 5·1491581 | 6·2098133 | 50 | 5·1357264 | 6·1916379 |
| 51 | 5·1476441 | 6·2057961 | 51 | 5·1344771 | 6·1883299 | 51 | 5·1210454 | 6·1703008 |
| 52 | 5·1323544 | 6·1833678 | 52 | 5·1191874 | 6·1660442 | 52 | 5·1057557 | 6·1481638 |
| 53 | 5·1166199 | 6·1601055 | 53 | 5·1034529 | 6·1429255 | 53 | 5·0900212 | 6·1251943 |
| 54 | 5·1004233 | 6·1359581 | 54 | 5·0872563 | 6·1189215 | 54 | 5·0738246 | 6·1013404 |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 45 | | 46 | | | 47 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,45}$ | λ $N_{x,\,45}$ | Age of (x) | λ $D_{x,\,46}$ | λ $N_{x,\,46}$ | Age of (x) | λ $D_{x,\,47}$ | λ $N_{x,\,47}$ |
| 55 | 5·0837374 | 6·1108701 | 55 | 5·0705704 | 6·0939754 | 55 | 5·0571387 | 6·0765439 |
| 56 | 5·0665245 | 6·0847764 | 56 | 5·0533575 | 6·0680251 | 56 | 5·0399258 | 6·0507424 |
| 57 | 5·0487365 | 6·0576110 | 57 | 5·0355695 | 6·0410005 | 57 | 5·0221378 | 6·0238670 |
| 58 | 5·0303150 | 6·0293001 | 58 | 5·0171480 | 6·0128284 | 58 | 5·0037163 | 5·9958422 |
| 59 | 5·0111914 | 5·9997637 | 59 | 4·9980244 | 5·9834296 | 59 | 4·9845927 | 5·9665885 |
| 60 | 4·9912866 | 5·9689166 | 60 | 4·9781196 | 5·9527177 | 60 | 4·9646879 | 5·9360199 |
| 61 | 4·9705113 | 5·9366672 | 61 | 4·9573443 | 5·9206009 | 61 | 4·9439126 | 5·9040439 |
| 62 | 4·9487658 | 5·9029177 | 62 | 4·9355988 | 5·8869811 | 62 | 4·9221671 | 5·8705621 |
| 63 | 4·9259401 | 5·8675644 | 63 | 4·9127731 | 5·8517538 | 63 | 4·8993414 | 5·8354697 |
| 64 | 4·9019139 | 5·8304955 | 64 | 4·8887469 | 5·8148084 | 64 | 4·8753152 | 5·7986553 |
| 65 | 4·8765565 | 5·7915935 | 65 | 4·8633895 | 5·7760260 | 65 | 4·8499578 | 5·7600011 |
| 66 | 4·8497269 | 5·7507333 | 66 | 4·8365599 | 5·7352817 | 66 | 4·8231282 | 5·7193809 |
| 67 | 4·8212738 | 5·7077822 | 67 | 4·8081068 | 5·6924428 | 67 | 4·7946751 | 5·6766622 |
| 68 | 4·7910357 | 5·6626000 | 68 | 4·7778687 | 5·6473689 | 68 | 4·7644370 | 5·6317044 |
| 69 | 4·7588404 | 5·6150383 | 69 | 4·7456734 | 5·5999115 | 69 | 4·7322417 | 5·5843591 |
| 70 | 4·7245058 | 5·5649399 | 70 | 4·7113388 | 5·5499141 | 70 | 4·6979071 | 5·5344695 |
| 71 | 4·6878392 | 5·5121403 | 71 | 4·6746722 | 5·4972107 | 71 | 4·6612405 | 5·4818705 |
| 72 | 4·6486376 | 5·4564650 | 72 | 4·6354706 | 5·4416284 | 72 | 4·6220389 | 5·4263875 |
| 73 | 4·6066879 | 5·3977308 | 73 | 4·5935209 | 5·3829832 | 73 | 4·5800892 | 5·3678381 |
| 74 | 4·5617663 | 5·3357446 | 74 | 4·5485993 | 5·3210827 | 74 | 4·5351676 | 5·3060292 |
| 75 | 4·5136390 | 5·2703047 | 75 | 4·5004720 | 5·2557240 | 75 | 4·4870403 | 5·2407589 |
| 76 | 4·4620616 | 5·2011988 | 76 | 4·4488946 | 5·1866959 | 76 | 4·4354629 | 5·1718142 |
| 77 | 4·4067797 | 5·1282050 | 77 | 4·3936127 | 5·1137760 | 77 | 4·3801810 | 5·0989745 |
| 78 | 4·3475283 | 5·0510900 | 78 | 4·3343613 | 5·0367319 | 78 | 4·3209296 | 5·0220066 |
| 79 | 4·2840322 | 4·9696111 | 79 | 4·2708652 | 4·9553202 | 79 | 4·2574335 | 4·9406679 |
| 80 | 4·2160058 | 4·8835138 | 80 | 4·2028388 | 4·8692880 | 80 | 4·1894071 | 4·8547043 |
| 81 | 4·1431532 | 4·7925346 | 81 | 4·1299862 | 4·7783690 | 81 | 4·1165545 | 4·7638524 |
| 82 | 4·0651681 | 4·6963966 | 82 | 4·0520011 | 4·6822895 | 82 | 4·0385694 | 4·6678348 |
| 83 | 3·9817342 | 4·5948140 | 83 | 3·9685672 | 4·5807613 | 83 | 3·9551355 | 4·5663664 |
| 84 | 3·8925244 | 4·4874876 | 84 | 3·8793574 | 4·4734873 | 84 | 3·8659257 | 4·4591487 |
| 85 | 3·7972016 | 4·3741083 | 85 | 3·7840346 | 4·3601572 | 85 | 3·7706029 | 4·3458726 |
| 86 | 3·6954182 | 4·2543545 | 86 | 3·6822512 | 4·2404507 | 86 | 3·6688195 | 4·2262167 |
| 87 | 3·5868164 | 4·1278942 | 87 | 3·5736494 | 4·1140343 | 87 | 3·5602177 | 4·0998487 |
| 88 | 3·4710280 | 3·9943822 | 88 | 3·4578610 | 3·9805642 | 88 | 3·4444293 | 3·9664242 |
| 89 | 3·3476746 | 3·8534627 | 89 | 3·3345076 | 3·8396841 | 89 | 3·3210759 | 3·8255871 |
| 90 | 3·2163671 | 3·7047663 | 90 | 3·2032001 | 3·6910249 | 90 | 3·1897684 | 3·6769687 |
| 91 | 3·0767066 | 3·5479112 | 91 | 3·0635396 | 3·5342064 | 91 | 3·0501079 | 3·5201887 |
| 92 | 2·9282835 | 3·3825040 | 92 | 2·9151165 | 3·3688315 | 92 | 2·9016848 | 3·3548509 |
| 93 | 2·7706780 | 3·2081338 | 93 | 2·7575110 | 3·1944929 | 93 | 2·7440793 | 3·1805465 |
| 94 | 2·6034599 | 3·0243723 | 94 | 2·5902929 | 3·0107629 | 94 | 2·5768612 | 2·9968495 |
| 95 | 2·4261888 | 2·8307721 | 95 | 2·4130218 | 2·8171904 | 95 | 2·3995901 | 2·8033096 |
| 96 | 2·2384139 | 2·6268514 | 96 | 2·2252469 | 2·6132962 | 96 | 2·2118152 | 2·5994453 |
| 97 | 2·0396740 | 2·4120774 | 97 | 2·0265070 | 2·3985493 | 97 | 2·0130753 | 2·3847261 |
| 98 | 1·8294977 | 2·1858263 | 98 | 1·8163307 | 2·1723271 | 98 | 1·8028990 | 2·1585350 |
| 99 | 1·6074033 | 1·9473137 | 99 | 1·5942363 | 1·9338425 | 99 | 1·5808046 | 1·9200816 |
| 100 | 1·3728985 | 1·6954073 | 100 | 1·3597315 | 1·6819672 | 100 | 1·3462998 | 1·6682396 |
| 101 | 1·1254810 | 1·4282514 | 101 | 1·1123140 | 1·4148430 | 101 | 1·0988823 | 1·4011558 |
| 102 | 0·8646380 | 1·1423206 | 102 | 0·8514710 | 1·1289547 | 102 | 0·8380393 | 1·1153076 |
| 103 | 0·5898464 | 0·8299403 | 103 | 0·5766794 | 0·8166191 | 103 | 0·5632477 | 0·8030267 |
| 104 | 0·3005728 | 0·4712477 | 104 | 0·2874058 | 0·4580029 | 104 | 0·2739741 | 0·4444820 |
| 105 | 9·9962734 | | 105 | 9·9831064 | | 105 | 9·9696747 | |
| 106 | 9·6763942 | | 106 | 9·6632272 | | 106 | 9·6497955 | |
| 107 | 9·3403708 | | 107 | 9·3272038 | | 107 | 9·3137721 | |
| 108 | 8·9876285 | | 108 | 8·9744615 | | 108 | 8·9610298 | |
| 109 | 8·6175822 | | 109 | 8·6044152 | | 109 | 8·5909835 | |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of $(y)$ | 48 | | 49 | | | 50 | | |
|---|---|---|---|---|---|---|---|---|
| Age of $(x)$ | λ $D_{x,\,48}$ | λ $N_{x,\,48}$ | Age of $(x)$ | λ $D_{x,\,49}$ | λ $N_{x,\,49}$ | Age of $(x)$ | λ $D_{x,\,50}$ | λ $N_{x,\,50}$ |
| 0 | 5·7842372 | 6·8199946 | 0 | 5·7702206 | 6·7977038 | 0 | 5·7558822 | 6·7747538 |
| 1 | 5·7002350 | 6·8005026 | 1 | 5·6862184 | 6·7780343 | 1 | 5·6718800 | 6·7548954 |
| 2 | 5·6649541 | 6·7871116 | 2 | 5·6509375 | 6·7645813 | 2 | 5·6365991 | 6·7413763 |
| 3 | 5·6428408 | 6·7755818 | 3 | 5·6288242 | 6·7530270 | 3 | 5·6144858 | 6·7297941 |
| 4 | 5·6259391 | 6·7649116 | 4 | 5·6119225 | 6·7423501 | 4 | 5·5975841 | 6·7191090 |
| 5 | 5·6117117 | 6·7547292 | 5 | 5·5976951 | 6·7321716 | 5 | 5·5833567 | 6·7089338 |
| 6 | 5·5993505 | 6·7448496 | 6 | 5·5853339 | 6·7223043 | 6 | 5·5709955 | 6·6990775 |
| 7 | 5·5882070 | 6·7351444 | 7 | 5·5741904 | 6·7126165 | 7 | 5·5598520 | 6·6894070 |
| 8 | 5·5777928 | 6·7255285 | 8 | 5·5637762 | 6·7030220 | 8 | 5·5494378 | 6·6798338 |
| 9 | 5·5680454 | 6·7159489 | 9 | 5·5540288 | 6·6934671 | 9 | 5·5396904 | 6·6703032 |
| 10 | 5·5588102 | 6·7063556 | 10 | 5·5447936 | 6·6839005 | 10 | 5·5304552 | 6·6607637 |
| 11 | 5·5499457 | 6·6967063 | 11 | 5·5359291 | 6·6742797 | 11 | 5·5215907 | 6·6511710 |
| 12 | 5·5413237 | 6·6869673 | 12 | 5·5273071 | 6·6645703 | 12 | 5·5129687 | 6·6414909 |
| 13 | 5·5328292 | 6·6771126 | 13 | 5·5188126 | 6·6547453 | 13 | 5·5044742 | 6·6316961 |
| 14 | 5·5243603 | 6·6671222 | 14 | 5·5103437 | 6·6447856 | 14 | 5·4960053 | 6·6217663 |
| 15 | 5·5158285 | 6·6569833 | 15 | 5·5018119 | 6·6346776 | 15 | 5·4874735 | 6·6116888 |
| 16 | 5·5071582 | 6·6466891 | 16 | 5·4931416 | 6·6244137 | 16 | 5·4788032 | 6·6014557 |
| 17 | 5·4982874 | 6·6362366 | 17 | 5·4842708 | 6·6139928 | 17 | 5·4699324 | 6·5910649 |
| 18 | 5·4891669 | 6·6256283 | 18 | 5·4751503 | 6·6034163 | 18 | 5·4608119 | 6·5805200 |
| 19 | 5·4797611 | 6·6148708 | 19 | 5·4657445 | 6·5926910 | 19 | 5·4514061 | 6·5698267 |
| 20 | 5·4700473 | 6·6039730 | 20 | 5·4560307 | 6·5818268 | 20 | 5·4416923 | 6·5589952 |
| 21 | 5·4600161 | 6·5929453 | 21 | 5·4459995 | 6·5708353 | 21 | 5·4316611 | 6·5480380 |
| 22 | 5·4499045 | 6·5818010 | 22 | 5·4358879 | 6·5597284 | 22 | 5·4215495 | 6·5369687 |
| 23 | 5·4397152 | 6·5705343 | 23 | 5·4256986 | 6·5485021 | 23 | 5·4113602 | 6·5257810 |
| 24 | 5·4294500 | 6·5591390 | 24 | 5·4154334 | 6·5371494 | 24 | 5·4010950 | 6·5144702 |
| 25 | 5·4191099 | 6·5476072 | 25 | 5·4050933 | 6·5256635 | 25 | 5·3907549 | 6·5030287 |
| 26 | 5·4086950 | 6·5359315 | 26 | 5·3946784 | 6·5140363 | 26 | 5·3803400 | 6·4914491 |
| 27 | 5·3982046 | 6·5241027 | 27 | 5·3841880 | 6·5022591 | 27 | 5·3698496 | 6·4797224 |
| 28 | 5·3876371 | 6·5121105 | 28 | 5·3736205 | 6·4903223 | 28 | 5·3592821 | 6·4678392 |
| 29 | 5·3769903 | 6·4999437 | 29 | 5·3629737 | 6·4782145 | 29 | 5·3486353 | 6·4557892 |
| 30 | 5·3662609 | 6·4875909 | 30 | 5·3522443 | 6·4659241 | 30 | 5·3379059 | 6·4435602 |
| 31 | 5·3554449 | 6·4750389 | 31 | 5·3414283 | 6·4534388 | 31 | 5·3270899 | 6·4311400 |
| 32 | 5·3445374 | 6·4622737 | 32 | 5·3305208 | 6·4407444 | 32 | 5·3161824 | 6·4185153 |
| 33 | 5·3335327 | 6·4492805 | 33 | 5·3195161 | 6·4278262 | 33 | 5·3051777 | 6·4056707 |
| 34 | 5·3224243 | 6·4360426 | 34 | 5·3084077 | 6·4146686 | 34 | 5·2940693 | 6·3925913 |
| 35 | 5·3112048 | 6·4225430 | 35 | 5·2971882 | 6·4012533 | 35 | 5·2828498 | 6·3792599 |
| 36 | 5·2998660 | 6·4087636 | 36 | 5·2858494 | 6·3875632 | 36 | 5·2715110 | 6·3656577 |
| 37 | 5·2883988 | 6·3946842 | 37 | 5·2743822 | 6·3735783 | 37 | 5·2600438 | 6·3517662 |
| 38 | 5·2767934 | 6·3802845 | 38 | 5·2627768 | 6·3592778 | 38 | 5·2484384 | 6·3375643 |
| 39 | 5·2650390 | 6·3655413 | 39 | 5·2510224 | 6·3446400 | 39 | 5·2366840 | 6·3230300 |
| 40 | 5·2531242 | 6·3504326 | 40 | 5·2391076 | 6·3296401 | 40 | 5·2247692 | 6·3081404 |
| 41 | 5·2410365 | 6·3349320 | 41 | 5·2270199 | 6·3142549 | 41 | 5·2126815 | 6·2928690 |
| 42 | 5·2287627 | 6·3190138 | 42 | 5·2147461 | 6·2984568 | 42 | 5·2004077 | 6·2771912 |
| 43 | 5·2162887 | 6·3026495 | 43 | 5·2022721 | 6·2822178 | 43 | 5·1879337 | 6·2610778 |
| 44 | 5·2035998 | 6·2858091 | 44 | 5·1895832 | 6·2655077 | 44 | 5·1752448 | 6·2444985 |
| 45 | 5·1906801 | 6·2684622 | 45 | 5·1766635 | 6·2482949 | 45 | 5·1623251 | 6·2274218 |
| 46 | 5·1775131 | 6·2505737 | 46 | 5·1634965 | 6·2305463 | 46 | 5·1491581 | 6·2098133 |
| 47 | 5·1640814 | 6·2321081 | 47 | 5·1500648 | 6·2122243 | 47 | 5·1357264 | 6·1916379 |
| 48 | 5·1503668 | 6·2130280 | 48 | 5·1363502 | 6·1932910 | 48 | 5·1220118 | 6·1728548 |
| 49 | 5·1363502 | 6·1932910 | 49 | 5·1223336 | 6·1737060 | 49 | 5·1079952 | 6·1534231 |
| 50 | 5·1220118 | 6·1728548 | 50 | 5·1079952 | 6·1534231 | 50 | 5·0936568 | 6·1332988 |
| 51 | 5·1073308 | 6·1516707 | 51 | 5·0933142 | 6·1323958 | 51 | 5·0789758 | 6·1124317 |
| 52 | 5·0920411 | 6·1296867 | 52 | 5·0780245 | 6·1105715 | 52 | 5·0636861 | 6·0907714 |
| 53 | 5·0763066 | 6·1068725 | 53 | 5·0622900 | 6·0879176 | 53 | 5·0479516 | 6·0682843 |
| 54 | 5·0601100 | 6·0831746 | 54 | 5·0460934 | 6·0643824 | 54 | 5·0317550 | 6·0449167 |

## JOINT LIVES:—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 48 | | 49 | | | 50 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,48}$ | λ $N_{x,\,48}$ | Age of (x) | λ $D_{x,\,49}$ | λ $N_{x,\,49}$ | Age of (x) | λ $D_{x,\,50}$ | λ $N_{x,\,50}$ |
| 55 | 5·0434241 | 6·0585353 | 55 | 5·0294075 | 6·0399060 | 55 | 5·0150691 | 6·0206103 |
| 56 | 5·0262112 | 6·0328902 | 56 | 5·0121946 | 6·0144247 | 56 | 4·9978562 | 5·9952995 |
| 57 | 5·0084232 | 6·0061703 | 57 | 4·9944066 | 5·9878685 | 57 | 4·9800682 | 5·9689143 |
| 58 | 4·9900017 | 5·9783009 | 58 | 4·9759851 | 5·9601619 | 58 | 4·9616467 | 5·9413784 |
| 59 | 4·9708781 | 5·9492010 | 59 | 4·9568615 | 5·9312237 | 59 | 4·9425231 | 5·9126101 |
| 60 | 4·9509733 | 5·9187838 | 60 | 4·9369567 | 5·9009667 | 60 | 4·9226183 | 5·8825218 |
| 61 | 4·9301980 | 5·8869569 | 61 | 4·9161814 | 5·8692979 | 61 | 4·9018430 | 5·8510198 |
| 62 | 4·9084525 | 5·8536217 | 62 | 4·8944359 | 5·8361180 | 62 | 4·8800975 | 5·8180043 |
| 63 | 4·8856268 | 5·8186730 | 63 | 4·8716102 | 5·8013217 | 63 | 4·8572718 | 5·7833695 |
| 64 | 4·8616006 | 5·7819989 | 64 | 4·8475840 | 5·7647967 | 64 | 4·8332456 | 5·7470030 |
| 65 | 4·8362432 | 5·7434807 | 65 | 4·8222266 | 5·7264242 | 65 | 4·8078882 | 5·7087854 |
| 66 | 4·8094136 | 5·7029935 | 66 | 4·7953970 | 5·6860780 | 66 | 4·7810586 | 5·6685903 |
| 67 | 4·7809605 | 5·6604034 | 67 | 4·7669439 | 5·6436258 | 67 | 4·7526055 | 5·6262841 |
| 68 | 4·7507224 | 5·6155702 | 68 | 4·7367058 | 5·5989257 | 68 | 4·7223674 | 5·5817266 |
| 69 | 4·7185271 | 5·5683449 | 69 | 4·7045105 | 5·5518293 | 69 | 4·6901721 | 5·5347680 |
| 70 | 4·6841925 | 5·5185712 | 70 | 4·6701759 | 5·5021797 | 70 | 4·6558375 | 5·4852515 |
| 71 | 4·6475259 | 5·4660837 | 71 | 4·6335093 | 5·4498118 | 71 | 4·6191709 | 5·4330116 |
| 72 | 4·6083243 | 5·4107083 | 72 | 4·5943077 | 5·3945515 | 72 | 4·5799693 | 5·3778746 |
| 73 | 4·5663746 | 5·3522612 | 73 | 4·5523580 | 5·3362155 | 73 | 4·5380196 | 5·3196571 |
| 74 | 4·5214530 | 5·2905512 | 74 | 4·5074364 | 5·2746106 | 74 | 4·4930980 | 5·2581666 |
| 75 | 4·4733257 | 5·2253752 | 75 | 4·4593091 | 5·2095364 | 75 | 4·4449707 | 5·1932004 |
| 76 | 4·4217483 | 5·1565216 | 76 | 4·4077317 | 5·1407798 | 76 | 4·3933933 | 5·1245482 |
| 77 | 4·3664664 | 5·0837673 | 77 | 4·3524498 | 5·0681194 | 77 | 4·3381114 | 5·0519871 |
| 78 | 4·3072150 | 5·0068822 | 78 | 4·2931984 | 4·9913218 | 78 | 4·2788600 | 4·9752856 |
| 79 | 4·2437189 | 4·9256220 | 79 | 4·2297023 | 4·9101461 | 79 | 4·2153639 | 4·8941997 |
| 80 | 4·1756925 | 4·8397332 | 80 | 4·1616759 | 4·8243380 | 80 | 4·1473375 | 4·8084784 |
| 81 | 4·1028399 | 4·7489520 | 81 | 4·0888233 | 4·7336337 | 81 | 4·0744849 | 4·7178560 |
| 82 | 4·0248548 | 4·6530030 | 82 | 4·0108382 | 4·6377578 | 82 | 3·9964998 | 4·6220585 |
| 83 | 3·9414209 | 4·5515988 | 83 | 3·9274043 | 4·5364229 | 83 | 3·9130659 | 4·5207985 |
| 84 | 3·8522111 | 4·4444422 | 84 | 3·8381945 | 4·4293326 | 84 | 3·8238561 | 4·4137793 |
| 85 | 3·7568883 | 4·3312240 | 85 | 3·7428717 | 4·3161772 | 85 | 3·7285333 | 4·3006913 |
| 86 | 3·6551049 | 4·2116235 | 86 | 3·6410883 | 4·1966360 | 86 | 3·6267499 | 4·1812142 |
| 87 | 3·5465031 | 4·0853081 | 87 | 3·5324865 | 4·0703774 | 87 | 3·5181481 | 4·0550162 |
| 88 | 3·4307147 | 3·9519332 | 88 | 3·4166981 | 3·9370568 | 88 | 3·4023597 | 3·9217536 |
| 89 | 3·3073613 | 3·8111432 | 89 | 3·2933447 | 3·7963176 | 89 | 3·2790063 | 3·7810700 |
| 90 | 3·1760538 | 3·6625690 | 90 | 3·1620372 | 3·6477926 | 90 | 3·1476988 | 3·6325970 |
| 91 | 3·0363933 | 3·5058307 | 91 | 3·0223767 | 3·4910996 | 91 | 3·0080383 | 3·4759544 |
| 92 | 2·8879702 | 3·3405336 | 92 | 2·8739536 | 3·3258464 | 92 | 2·8596152 | 3·3107483 |
| 93 | 2·7303647 | 3·1662676 | 93 | 2·7163481 | 3·1516220 | 93 | 2·7020097 | 3·1365689 |
| 94 | 2·5631466 | 2·9826059 | 94 | 2·5491300 | 2·9680008 | 94 | 2·5347916 | 2·9529909 |
| 95 | 2·3858755 | 2·7891010 | 95 | 2·3718589 | 2·7745331 | 95 | 2·3575205 | 2·7595659 |
| 96 | 2·1981006 | 2·5852712 | 96 | 2·1840840 | 2·5707402 | 96 | 2·1697456 | 2·5558124 |
| 97 | 1·9993607 | 2·3705853 | 97 | 1·9853441 | 2·3560915 | 97 | 1·9710057 | 2·3412028 |
| 98 | 1·7891844 | 2·1444250 | 98 | 1·7751678 | 2·1299672 | 98 | 1·7608294 | 2·1151197 |
| 99 | 1·5670900 | 1·9060057 | 99 | 1·5530734 | 1·8915838 | 99 | 1·5387350 | 1·8767771 |
| 100 | 1·3325852 | 1·6542016 | 100 | 1·3185686 | 1·6398201 | 100 | 1·3042302 | 1·6250551 |
| 101 | 1·0851677 | 1·3871584 | 101 | 1·0711511 | 1·3728255 | 101 | 1·0568127 | 1·3581119 |
| 102 | 0·8243247 | 1·1013656 | 102 | 0·8103081 | 1·0870854 | 102 | 0·7959697 | 1·0724374 |
| 103 | 0·5495331 | 0·7891434 | 103 | 0·5355165 | 0·7749401 | 103 | 0·5211781 | 0·7603697 |
| 104 | 0·2602595 | 0·4306716 | 104 | 0·2462429 | 0·4165573 | 104 | 0·2319045 | 0·4020894 |
| 105 | 9·9559601 | | 105 | 9·9419435 | | 105 | 9·9276051 | |
| 106 | 9·6360809 | | 106 | 9·6220643 | | 106 | 9·6077259 | |
| 107 | 9·3000575 | | 107 | 9·2860409 | | 107 | 9·2717025 | |
| 108 | 8·9473152 | | 108 | 8·9332986 | | 108 | 8·9189602 | |
| 109 | 8·5772689 | | 109 | 8·5632523 | | 109 | 8·5489139 | |

## JOINT LIVES:—Two Males.

## Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 51 | | 52 | | | 53 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,51}$ | λ $N_{x,51}$ | Age of (x) | λ $D_{x,52}$ | λ $N_{x,52}$ | Age of (x) | λ $D_{x,53}$ | λ $N_{x,53}$ |
| 0 | 5·7412012 | 6·7511029 | 0 | 5·7259115 | 6·7267019 | 0 | 5·7101770 | 6·7015258 |
| 1 | 5·6571990 | 6·7310433 | 1 | 5·6419093 | 6·7064317 | 1 | 5·6261748 | 6·6810320 |
| 2 | 5·6219181 | 6·7174537 | 2 | 5·6066284 | 6·6927662 | 2 | 5·5908939 | 6·6672856 |
| 3 | 5·5998048 | 6·7058415 | 3 | 5·5845151 | 6·6811218 | 3 | 5·5687806 | 6·6556047 |
| 4 | 5·5829031 | 6·6951456 | 4 | 5·5676134 | 6·6704140 | 4 | 5·5518789 | 6·6448832 |
| 5 | 5·5686757 | 6·6849728 | 5 | 5·5533860 | 6·6602415 | 5 | 5·5376515 | 6·6347103 |
| 6 | 5·5563145 | 6·6751272 | 6 | 5·5410248 | 6·6504063 | 6 | 5·5252903 | 6·6248835 |
| 7 | 5·5451710 | 6·6654731 | 7 | 5·5298813 | 6·6407684 | 7 | 5·5141468 | 6·6152618 |
| 8 | 5·5347568 | 6·6559210 | 8 | 5·5194671 | 6·6312367 | 8 | 5·5037326 | 6·6057507 |
| 9 | 5·5250094 | 6·6464150 | 9 | 5·5097197 | 6·6217552 | 9 | 5·4939852 | 6·5962930 |
| 10 | 5·5157742 | 6·6369018 | 10 | 5·5004845 | 6·6122689 | 10 | 5·4847500 | 6·5868338 |
| 11 | 5·5069097 | 6·6273378 | 11 | 5·4916200 | 6·6027330 | 11 | 5·4758855 | 6·5773264 |
| 12 | 5·4982877 | 6·6176869 | 12 | 5·4829980 | 6·5931118 | 12 | 5·4672635 | 6·5677343 |
| 13 | 5·4897932 | 6·6079221 | 13 | 5·4745035 | 6·5833764 | 13 | 5·4587690 | 6·5580290 |
| 14 | 5·4813243 | 6·5980225 | 14 | 5·4660346 | 6·5735069 | 14 | 5·4503001 | 6·5481891 |
| 15 | 5·4727925 | 6·5879747 | 15 | 5·4575028 | 6·5634892 | 15 | 5·4417683 | 6·5382012 |
| 16 | 5·4641222 | 6·5777718 | 16 | 5·4488325 | 6·5533156 | 16 | 5·4330980 | 6·5280573 |
| 17 | 5·4552514 | 6·5674116 | 17 | 5·4399617 | 6·5429852 | 17 | 5·4242272 | 6·5177557 |
| 18 | 5·4461309 | 6·5568966 | 18 | 5·4308412 | 6·5325005 | 18 | 5·4151067 | 6·5073005 |
| 19 | 5·4367251 | 6·5462348 | 19 | 5·4214354 | 6·5218686 | 19 | 5·4057009 | 6·4966989 |
| 20 | 5·4270113 | 6·5354357 | 20 | 5·4117216 | 6·5111012 | 20 | 5·3959871 | 6·4859613 |
| 21 | 5·4169801 | 6·5245120 | 21 | 5·4016904 | 6·5002104 | 21 | 5·3859559 | 6·4751031 |
| 22 | 5·4068685 | 6·5134781 | 22 | 5·3915788 | 6·4892112 | 22 | 5·3758443 | 6·4641380 |
| 23 | 5·3966792 | 6·5023294 | 23 | 5·3813895 | 6·4780991 | 23 | 5·3656550 | 6·4530619 |
| 24 | 5·3864140 | 6·4910587 | 24 | 5·3711243 | 6·4668689 | 24 | 5·3553898 | 6·4418697 |
| 25 | 5·3760739 | 6·4796607 | 25 | 5·3607842 | 6·4555127 | 25 | 5·3450497 | 6·4305553 |
| 26 | 5·3656590 | 6·4681272 | 26 | 5·3503693 | 6·4440244 | 26 | 5·3346348 | 6·4191103 |
| 27 | 5·3551686 | 6·4564501 | 27 | 5·3398789 | 6·4323950 | 27 | 5·3241444 | 6·4075279 |
| 28 | 5·3446011 | 6·4446193 | 28 | 5·3293114 | 6·4206160 | 28 | 5·3135769 | 6·3957987 |
| 29 | 5·3339543 | 6·4326252 | 29 | 5·3186646 | 6·4086764 | 29 | 5·3029301 | 6·3839130 |
| 30 | 5·3232249 | 6·4204566 | 30 | 5·3079352 | 6·3965659 | 30 | 5·2922007 | 6·3718592 |
| 31 | 5·3124089 | 6·4081001 | 31 | 5·2971192 | 6·3842723 | 31 | 5·2813847 | 6·3596262 |
| 32 | 5·3015014 | 6·3955433 | 32 | 5·2862117 | 6·3717819 | 32 | 5·2704772 | 6·3472012 |
| 33 | 5·2904967 | 6·3827714 | 33 | 5·2752070 | 6·3590808 | 33 | 5·2594725 | 6·3345696 |
| 34 | 5·2793883 | 6·3697688 | 34 | 5·2640986 | 6·3461538 | 34 | 5·2483641 | 6·3217163 |
| 35 | 5·2681688 | 6·3565190 | 35 | 5·2528791 | 6·3329841 | 35 | 5·2371446 | 6·3086254 |
| 36 | 5·2568300 | 6·3430043 | 36 | 5·2415403 | 6·3195545 | 36 | 5·2258058 | 6·2952793 |
| 37 | 5·2453628 | 6·3292044 | 37 | 5·2300731 | 6·3058458 | 37 | 5·2143386 | 6·2816597 |
| 38 | 5·2337574 | 6·3151001 | 38 | 5·2184677 | 6·2918371 | 38 | 5·2027332 | 6·2677461 |
| 39 | 5·2220030 | 6·3006685 | 39 | 5·2067133 | 6·2775075 | 39 | 5·1909788 | 6·2535164 |
| 40 | 5·2100882 | 6·2858871 | 40 | 5·1947985 | 6·2628330 | 40 | 5·1790640 | 6·2389484 |
| 41 | 5·1980005 | 6·2707308 | 41 | 5·1827108 | 6·2477897 | 41 | 5·1669763 | 6·2240169 |
| 42 | 5·1857267 | 6·2551719 | 42 | 5·1704370 | 6·2323510 | 42 | 5·1547025 | 6·2086960 |
| 43 | 5·1732527 | 6·2391841 | 43 | 5·1579630 | 6·2164873 | 43 | 5·1422285 | 6·1929581 |
| 44 | 5·1605638 | 6·2227363 | 44 | 5·1452741 | 6·2001705 | 44 | 5·1295396 | 6·1767712 |
| 45 | 5·1476441 | 6·2057961 | 45 | 5·1323544 | 6·1833678 | 45 | 5·1166199 | 6·1601055 |
| 46 | 5·1344771 | 6·1883299 | 46 | 5·1191874 | 6·1660442 | 46 | 5·1034529 | 6·1429255 |
| 47 | 5·1210454 | 6·1703008 | 47 | 5·1057557 | 6·1481638 | 47 | 5·0900212 | 6·1251943 |
| 48 | 5·1073308 | 6·1516707 | 48 | 5·0920411 | 6·1296867 | 48 | 5·0763066 | 6·1068725 |
| 49 | 5·0933142 | 6·1323958 | 49 | 5·0780245 | 6·1105715 | 49 | 5·0622900 | 6·0879176 |
| 50 | 5·0789758 | 6·1124317 | 50 | 5·0636861 | 6·0907714 | 50 | 5·0479516 | 6·0682843 |
| 51 | 5·0642948 | 6·0917307 | 51 | 5·0490051 | 6·0702374 | 51 | 5·0332706 | 6·0479217 |
| 52 | 5·0490051 | 6·0702374 | 52 | 5·0337154 | 6·0489174 | 52 | 5·0179809 | 6·0267762 |
| 53 | 5·0332706 | 6·0479217 | 53 | 5·0179809 | 6·0267762 | 53 | 5·0022464 | 6·0048165 |
| 54 | 5·0170740 | 6·0247282 | 54 | 5·0017843 | 6·0037620 | 54 | 4·9860498 | 5·9819853 |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 51 | | 52 | | | 53 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,51}$ | λ $N_{x,51}$ | Age of (x) | λ $D_{x,52}$ | λ $N_{x,52}$ | Age of (x) | λ $D_{x,53}$ | λ $N_{x,53}$ |
| 55 | 5·0003881 | 6·0005972 | 55 | 4·9850984 | 5·9798126 | 55 | 4·9693639 | 5·9582234 |
| 56 | 4·9831752 | 5·9754638 | 56 | 4·9678855 | 5·9548629 | 56 | 4·9521510 | 5·9334638 |
| 57 | 4·9653872 | 5·9492569 | 57 | 4·9500975 | 5·9288410 | 57 | 4·9343630 | 5·9076341 |
| 58 | 4·9469657 | 5·9218997 | 58 | 4·9316760 | 5·9016697 | 58 | 4·9159415 | 5·8806562 |
| 59 | 4·9278421 | 5·8933094 | 59 | 4·9125524 | 5·8732656 | 59 | 4·8968179 | 5·8524465 |
| 60 | 4·9079373 | 5·8633981 | 60 | 4·8926476 | 5·8435398 | 60 | 4·8769131 | 5·8229152 |
| 61 | 4·8871620 | 5·8320717 | 61 | 4·8718723 | 5·8123977 | 61 | 4·8561378 | 5·7919667 |
| 62 | 4·8654165 | 5·7992299 | 62 | 4·8501268 | 5·7797384 | 62 | 4·8343923 | 5·7594996 |
| 63 | 4·8425908 | 5·7647661 | 63 | 4·8273011 | 5·7454549 | 63 | 4·8115666 | 5·7254064 |
| 64 | 4·8185646 | 5·7285671 | 64 | 4·8032749 | 5·7094334 | 64 | 4·7875404 | 5·6895728 |
| 65 | 4·7932072 | 5·6905138 | 65 | 4·7779175 | 5·6715538 | 65 | 4·7621830 | 5·6518780 |
| 66 | 4·7663776 | 5·6504793 | 66 | 4·7510879 | 5·6316894 | 66 | 4·7353534 | 5·6121945 |
| 67 | 4·7379245 | 5·6083294 | 67 | 4·7226348 | 5·5897056 | 67 | 4·7069003 | 5·5703876 |
| 68 | 4·7076864 | 5·5639231 | 68 | 4·6923967 | 5·5454608 | 68 | 4·6766622 | 5·5263152 |
| 69 | 4·6754911 | 5·5171118 | 69 | 4·6602014 | 5·4988053 | 69 | 4·6444669 | 5·4798276 |
| 70 | 4·6411565 | 5·4677375 | 70 | 4·6258668 | 5·4495827 | 70 | 4·6101323 | 5·4307668 |
| 71 | 4·6044899 | 5·4156348 | 71 | 4·5892002 | 5·3976262 | 71 | 4·5734657 | 5·3789676 |
| 72 | 4·5652883 | 5·3606294 | 72 | 4·5499986 | 5·3427619 | 72 | 4·5342641 | 5·3242547 |
| 73 | 4·5233386 | 5·3025386 | 73 | 4·5080489 | 5·2848060 | 73 | 4·4923144 | 5·2664451 |
| 74 | 4·4784170 | 5·2411698 | 74 | 4·4631273 | 5·2235668 | 74 | 4·4473928 | 5·2053454 |
| 75 | 4·4302897 | 5·1763208 | 75 | 4·4150000 | 5·1588424 | 75 | 4·3992655 | 5·1407550 |
| 76 | 4·3787123 | 5·1077793 | 76 | 4·3634226 | 5·0904203 | 76 | 4·3476881 | 5·0724617 |
| 77 | 4·3234304 | 5·0353252 | 77 | 4·3081407 | 5·0180786 | 77 | 4·2924062 | 5·0002435 |
| 78 | 4·2641790 | 4·9587249 | 78 | 4·2488893 | 4·9415875 | 78 | 4·2331548 | 4·9238676 |
| 79 | 4·2006829 | 4·8777370 | 79 | 4·1853932 | 4·8607015 | 79 | 4·1696587 | 4·8430951 |
| 80 | 4·1326565 | 4·7921072 | 80 | 4·1173668 | 4·7751705 | 80 | 4·1016323 | 4·7576693 |
| 81 | 4·0598039 | 4·7015732 | 81 | 4·0445142 | 4·6847287 | 81 | 4·0287797 | 4·6673287 |
| 82 | 3·9818188 | 4·6058584 | 82 | 3·9665291 | 4·5891030 | 82 | 3·9507946 | 4·5717984 |
| 83 | 3·8983849 | 4·5046784 | 83 | 3·8830952 | 4·4880058 | 83 | 3·8673607 | 4·4707924 |
| 84 | 3·8091751 | 4·3977342 | 84 | 3·7938854 | 4.3811416 | 84 | 3·7781509 | 4·3640131 |
| 85 | 3·7138523 | 4·2847183 | 85 | 3·6985626 | 4·2682003 | 85 | 3·6828281 | 4·2511539 |
| 86 | 3·6120689 | 4·1653096 | 86 | 3·5967792 | 4·1488629 | 86 | 3·5810447 | 4·1318931 |
| 87 | 3·5034671 | 4·0391761 | 87 | 3·4881774 | 4·0227970 | 87 | 3·4724429 | 4·0059000 |
| 88 | 3·3876787 | 3·9059744 | 88 | 3·3723890 | 3·8896591 | 88 | 3·3566545 | 3·8728314 |
| 89 | 3·2643253 | 3·7653496 | 89 | 3·2490356 | 3·7490936 | 89 | 3·2333011 | 3·7323310 |
| 90 | 3·1330178 | 3·6169322 | 90 | 3·1177281 | 3·6007345 | 90 | 3·1019936 | 3·5840326 |
| 91 | 2·9933573 | 3·4603426 | 91 | 2·9780676 | 3·4441981 | 91 | 2·9623331 | 3·4275552 |
| 92 | 2·8449342 | 3·2951863 | 92 | 2·8296445 | 3·2790931 | 92 | 2·8139100 | 3·2625052 |
| 93 | 2·6873287 | 3·1210557 | 93 | 2·6720390 | 3·1050102 | 93 | 2·6563045 | 3·0884749 |
| 94 | 2·5201106 | 2·9375229 | 94 | 2·5048209 | 2·9215252 | 94 | 2·4890864 | 2·9050383 |
| 95 | 2·3428395 | 2·7441420 | 95 | 2·3275498 | 2·7281874 | 95 | 2·3118153 | 2·7117499 |
| 96 | 2·1550646 | 2·5404321 | 96 | 2·1397749 | 2·5245207 | 96 | 2·1240404 | 2·5081282 |
| 97 | 1·9563247 | 2·3258644 | 97 | 1·9410350 | 2·3099946 | 97 | 1·9253005 | 2·2936474 |
| 98 | 1·7461484 | 2·0998226 | 98 | 1·7308587 | 2·0839951 | 98 | 1·7151242 | 2·0676923 |
| 99 | 1·5240540 | 1·8615260 | 99 | 1·5087643 | 1·8457397 | 99 | 1·4930298 | 1·8294839 |
| 100 | 1·2895492 | 1·6098515 | 100 | 1·2742595 | 1·5941151 | 100 | 1·2585250 | 1·5779064 |
| 101 | 1·0421317 | 1·3429574 | 101 | 1·0268420 | 1·3272752 | 101 | 1·0111075 | 1·3111285 |
| 102 | 0·7812887 | 1·0573504 | 102 | 0·7659990 | 1·0417242 | 102 | 0·7502645 | 1·0256458 |
| 103 | 0·5064971 | 0·7453715 | 103 | 0·4912074 | 0·7298287 | 103 | 0·4754729 | 0·7138264 |
| 104 | 0·2172235 | 0·3872118 | 104 | 0·2019338 | 0·3717880 | 104 | 0·1861993 | 0·3558919 |
| 105 | 9·9129241 | | 105 | 9·8976344 | | 105 | 9·8818999 | |
| 106 | 9·5930449 | | 106 | 9·5777552 | | 106 | 9·5620207 | |
| 107 | 9·2570215 | | 107 | 9·2417318 | | 107 | 9·2259973 | |
| 108 | 8·9042792 | | 108 | 8·8889895 | | 108 | 8·8732550 | |
| 109 | 8·5342329 | | 109 | 8·5189432 | | 109 | 8·5032087 | |

## JOINT LIVES:—Two Males.

### Logarithms of the Series $D_{x, y}$ and $N_{x, y}$.

| Age of ($y$) | 54 | | | 55 | | | 56 | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$) | λ $D_{x, 54}$ | λ $N_{x, 54}$ | Age of ($x$) | λ $D_{x, 55}$ | λ $N_{x, 55}$ | Age of ($x$) | λ $D_{x, 56}$ | λ $N_{x, 56}$ |
| 0 | 5·6939804 | 6·6755295 | 0 | 5·6772945 | 6·6486594 | 0 | 5·6600816 | 6·6208593 |
| 1 | 5·6099782 | 6·6547963 | 1 | 5·5932923 | 6·6276726 | 1 | 5·5760794 | 6·5996005 |
| 2 | 5·5746973 | 6·6409631 | 2 | 5·5580114 | 6·6137447 | 2 | 5·5407985 | 6·5855724 |
| 3 | 5·5525840 | 6·6292426 | 3 | 5·5358981 | 6·6019810 | 3 | 5·5186852 | 6·5737604 |
| 4 | 5·5356823 | 6·6185042 | 4 | 5·5189964 | 6·5912239 | 4 | 5·5017835 | 6·5629819 |
| 5 | 5·5214549 | 6·6083296 | 5 | 5·5047690 | 6·5810451 | 5 | 5·4875561 | 6·5527977 |
| 6 | 5·5090937 | 6·5985111 | 6 | 5·4924078 | 6·5712339 | 6 | 5·4751949 | 6·5429915 |
| 7 | 5·4979502 | 6·5889040 | 7 | 5·4812643 | 6·5616412 | 7 | 5·4640514 | 6·5334129 |
| 8 | 5·4875360 | 6·5794133 | 8 | 5·4708501 | 6·5521699 | 8 | 5·4536372 | 6·5239611 |
| 9 | 5·4777886 | 6·5699799 | 9 | 5·4611027 | 6·5427608 | 9 | 5·4438898 | 6·5145752 |
| 10 | 5·4685534 | 6·5605471 | 10 | 5·4518675 | 6·5333550 | 10 | 5·4346546 | 6·5051968 |
| 11 | 5·4596889 | 6·5510686 | 11 | 5·4430030 | 6·5239047 | 11 | 5·4257901 | 6·4957754 |
| 12 | 5·4510669 | 6·5415060 | 12 | 5·4343810 | 6·5143722 | 12 | 5·4171681 | 6·4862722 |
| 13 | 5·4425724 | 6·5318305 | 13 | 5·4258865 | 6·5047265 | 13 | 5·4086736 | 6·4766573 |
| 14 | 5·4341035 | 6·5220206 | 14 | 5·4174176 | 6·4949465 | 14 | 5·4002047 | 6·4669069 |
| 15 | 5·4255717 | 6·5120619 | 15 | 5·4088858 | 6·4850175 | 15 | 5·3916729 | 6·4570074 |
| 16 | 5·4169014 | 6·5019474 | 16 | 5·4002155 | 6·4749319 | 16 | 5·3830026 | 6·4469506 |
| 17 | 5·4080306 | 6·4916751 | 17 | 5·3913447 | 6·4646880 | 17 | 5·3741318 | 6·4367352 |
| 18 | 5·3989101 | 6·4812484 | 18 | 5·3822242 | 6·4542900 | 18 | 5·3650113 | 6·4263648 |
| 19 | 5·3895043 | 6·4706757 | 19 | 5·3728184 | 6·4437457 | 19 | 5·3556055 | 6·4158487 |
| 20 | 5·3797905 | 6·4599687 | 20 | 5·3631046 | 6·4330676 | 20 | 5·3458917 | 6·4051989 |
| 21 | 5·3697593 | 6·4491409 | 21 | 5·3530734 | 6·4222707 | 21 | 5·3358605 | 6·3944314 |
| 22 | 5·3596477 | 6·4382092 | 22 | 5·3429618 | 6·4113705 | 22 | 5·3257489 | 6·3835629 |
| 23 | 5·3494584 | 6·4271684 | 23 | 5·3327725 | 6·4003643 | 23 | 5·3155596 | 6·3725893 |
| 24 | 5·3391932 | 6·4160134 | 24 | 5·3225073 | 6·3892459 | 24 | 5·3052944 | 6·3615067 |
| 25 | 5·3288531 | 6·4047384 | 25 | 5·3121672 | 6·3780095 | 25 | 5·2949543 | 6·3503083 |
| 26 | 5·3184382 | 6·3933370 | 26 | 5·3017523 | 6·3666492 | 26 | 5·2845394 | 6·3389879 |
| 27 | 5·3079478 | 6·3817998 | 27 | 5·2912619 | 6·3551570 | 27 | 5·2740490 | 6·3275383 |
| 28 | 5·2973803 | 6·3701194 | 28 | 5·2806944 | 6·3435237 | 28 | 5·2634815 | 6·3159517 |
| 29 | 5·2867335 | 6·3582856 | 29 | 5·2700476 | 6·3317404 | 29 | 5·2528347 | 6·3042176 |
| 30 | 5·2760041 | 6·3462879 | 30 | 5·2593182 | 6·3197969 | 30 | 5·2421053 | 6·2923265 |
| 31 | 5·2651881 | 6·3341140 | 31 | 5·2485022 | 6·3076813 | 31 | 5·2312893 | 6·2802673 |
| 32 | 5·2542806 | 6·3217521 | 32 | 5·2375947 | 6·2953810 | 32 | 5·2203818 | 6·2680277 |
| 33 | 5·2432759 | 6·3091887 | 33 | 5·2265900 | 6·2828833 | 33 | 5·2093771 | 6·2555943 |
| 34 | 5·2321675 | 6·2964078 | 34 | 5·2154816 | 6·2701734 | 34 | 5·1982687 | 6·2429529 |
| 35 | 5·2209480 | 6·2833940 | 35 | 5·2042621 | 6·2572352 | 35 | 5·1870492 | 6·2300886 |
| 36 | 5·2096092 | 6·2701301 | 36 | 5·1929233 | 6·2440516 | 36 | 5·1757104 | 6·2169839 |
| 37 | 5·1981420 | 6·2565975 | 37 | 5·1814561 | 6·2306048 | 37 | 5·1642432 | 6·2036206 |
| 38 | 5·1865366 | 6·2427766 | 38 | 5·1698507 | 6·2168746 | 38 | 5·1526378 | 6·1899802 |
| 39 | 5·1747822 | 6·2286463 | 39 | 5·1580963 | 6·2028413 | 39 | 5·1408834 | 6·1760411 |
| 40 | 5·1628674 | 6·2141826 | 40 | 5·1461815 | 6·1884810 | 40 | 5·1289686 | 6·1617823 |
| 41 | 5·1507797 | 6·1993624 | 41 | 5·1340938 | 6·1737700 | 41 | 5·1168809 | 6·1471790 |
| 42 | 5·1385059 | 6·1841584 | 42 | 5·1218200 | 6·1586821 | 42 | 5·1046071 | 6·1322052 |
| 43 | 5·1260319 | 6·1685435 | 43 | 5·1093460 | 6·1431894 | 43 | 5·0921331 | 6·1168338 |
| 44 | 5·1133430 | 6·1524880 | 44 | 5·0966571 | 6·1272625 | 44 | 5·0794442 | 6·1010346 |
| 45 | 5·1004233 | 6·1359581 | 45 | 5·0837374 | 6·1108701 | 45 | 5·0665245 | 6·0847764 |
| 46 | 5·0872563 | 6·1189215 | 46 | 5·0705704 | 6·0939754 | 46 | 5·0533575 | 6·0680251 |
| 47 | 5·0738246 | 6·1013404 | 47 | 5·0571387 | 6·0765439 | 47 | 5·0399258 | 6·0507424 |
| 48 | 5·0601100 | 6·0831746 | 48 | 5·0434241 | 6·0585353 | 48 | 5·0262112 | 6·0328902 |
| 49 | 5·0460934 | 6·0643824 | 49 | 5·0294075 | 6·0399060 | 49 | 5·0121946 | 6·0144247 |
| 50 | 5·0317550 | 6·0449167 | 50 | 5·0150691 | 6·0206103 | 50 | 4·9978562 | 5·9952995 |
| 51 | 5·0170740 | 6·0247282 | 51 | 5·0003881 | 6·0005972 | 51 | 4·9831752 | 5·9754638 |
| 52 | 5·0017843 | 6·0037620 | 52 | 4·9850984 | 5·9798126 | 52 | 4·9678855 | 5·9548629 |
| 53 | 4·9860498 | 5·9819853 | 53 | 4·9693639 | 5·9582234 | 53 | 4·9521510 | 5·9334638 |
| 54 | 4·9698532 | 5·9593433 | 54 | 4·9531673 | 5·9357739 | 54 | 4·9359544 | 5·9112102 |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 54 | | | 55 | | | 56 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,54}$ | $\lambda\ N_{x,\,54}$ | Age of (x) | $\lambda\ D_{x,\,55}$ | $\lambda\ N_{x,\,55}$ | Age of (x) | $\lambda\ D_{x,\,56}$ | $\lambda\ N_{x,\,56}$ |
| 55 | 4·9531673 | 5·9357739 | 55 | 4·9364814 | 5·9124022 | 55 | 4·9192685 | 5·8880401 |
| 56 | 4·9359544 | 5·9112102 | 56 | 4·9192685 | 5·8880401 | 56 | 4·9020556 | 5·8638849 |
| 57 | 4·9181664 | 5·8855795 | 57 | 4·9014805 | 5·8626143 | 57 | 4·8842676 | 5·8386700 |
| 58 | 4·8997449 | 5·8588026 | 58 | 4·8830590 | 5·8360456 | 58 | 4·8658461 | 5·8123156 |
| 59 | 4·8806213 | 5·8307950 | 59 | 4·8639354 | 5·8082482 | 59 | 4·8467225 | 5·7847358 |
| 60 | 4·8607165 | 5·8014670 | 60 | 4·8440306 | 5·7791312 | 60 | 4·8268177 | 5·7558384 |
| 61 | 4·8399412 | 5·7707214 | 61 | 4·8232553 | 5·7485980 | 61 | 4·8060424 | 5·7255255 |
| 62 | 4·8181957 | 5·7384565 | 62 | 4·8015098 | 5·7165450 | 62 | 4·7842969 | 5·6936940 |
| 63 | 4·7953700 | 5·7045639 | 63 | 4·7786841 | 5·6828631 | 63 | 4·7614712 | 5·6602330 |
| 64 | 4·7713138 | 5·6689287 | 64 | 4·7546579 | 5·6474370 | 64 | 4·7374450 | 5·6250265 |
| 65 | 4·7459864 | 5·6314296 | 65 | 4·7293005 | 5·6101446 | 65 | 4·7120876 | 5·5879519 |
| 66 | 4·7191568 | 5·5919383 | 66 | 4·7024709 | 5·5708570 | 66 | 4·6852580 | 5·5488797 |
| 67 | 4·6907027 | 5·5503196 | 67 | 4·6740178 | 5·5294387 | 67 | 4·6568049 | 5·5076731 |
| 68 | 4·6604656 | 5·5064314 | 68 | 4·6437797 | 5·4857459 | 68 | 4·6265668 | 5·4641889 |
| 69 | 4·6282703 | 5·4601229 | 69 | 4·6115844 | 5·4396290 | 69 | 4·5943715 | 5·4182750 |
| 70 | 4·5939357 | 5·4112365 | 70 | 4·5772498 | 5·3909288 | 70 | 4·5600369 | 5·3697738 |
| 71 | 4·5572691 | 5·3596053 | 71 | 4·5405832 | 5·3394787 | 71 | 4·5233703 | 5·3185172 |
| 72 | 4·5180675 | 5·3050557 | 72 | 4·5013816 | 5·2851036 | 72 | 4·4841687 | 5·2643299 |
| 73 | 4·4761178 | 5·2474032 | 73 | 4·4594319 | 5·2276203 | 73 | 4·4422190 | 5·2070282 |
| 74 | 4·4311962 | 5·1864551 | 74 | 4·4145103 | 5·1668355 | 74 | 4·3972974 | 5·1464189 |
| 75 | 4·3830689 | 5·1220094 | 75 | 4·3663830 | 5·1025469 | 75 | 4·3491701 | 5·0822995 |
| 76 | 4·3314915 | 5·0538549 | 76 | 4·3148056 | 5·0345426 | 76 | 4·2975927 | 5·0144579 |
| 77 | 4·2762096 | 4·9817697 | 77 | 4·2595237 | 4·9626013 | 77 | 4·2423108 | 4·9426726 |
| 78 | 4·2169582 | 4·9055223 | 78 | 4·2002723 | 4·8864918 | 78 | 4·1830594 | 4·8667120 |
| 79 | 4·1534621 | 4·8248688 | 79 | 4·1367762 | 4·8059716 | 79 | 4·1195633 | 4·7863346 |
| 80 | 4·0854357 | 4·7395597 | 80 | 4·0687498 | 4·7207859 | 80 | 4·0515369 | 4·7012873 |
| 81 | 4·0125831 | 4·6493280 | 81 | 3·9958972 | 4·6306744 | 81 | 3·9786843 | 4·6113051 |
| 82 | 3·9345980 | 4·5539022 | 82 | 3·9179121 | 4·5353617 | 82 | 3·9006992 | 4·5161158 |
| 83 | 3·8511641 | 4·4529949 | 83 | 3·8344782 | 4·4345625 | 83 | 3·8172653 | 4·4154340 |
| 84 | 3·7619543 | 4·3463099 | 84 | 3·7452684 | 4·3279798 | 84 | 3·7280555 | 4·3089633 |
| 85 | 3·6666315 | 4·2335382 | 85 | 3·6499456 | 4·2153057 | 85 | 3·6327327 | 4·1963951 |
| 86 | 3·5648481 | 4·1143621 | 86 | 3·5481622 | 4·0962198 | 86 | 3·5309493 | 4·0774104 |
| 87 | 3·4562463 | 3·9884479 | 87 | 3·4395604 | 3·9703934 | 87 | 3·4223475 | 3·9516774 |
| 88 | 3·3404579 | 3·8554537 | 88 | 3·3237720 | 3·8374811 | 88 | 3·3065591 | 3·8188565 |
| 89 | 3·2171045 | 3·7150251 | 89 | 3·2004186 | 3·6971291 | 89 | 3·1832057 | 3·6785894 |
| 90 | 3·0857970 | 3·5667933 | 90 | 3·0691111 | 3·5489714 | 90 | 3·0518982 | 3·5305109 |
| 91 | 2·9461365 | 3·4103793 | 91 | 2·9294506 | 3·3926266 | 91 | 2·9122377 | 3·3742430 |
| 92 | 2·7977134 | 3·2453898 | 92 | 2·7810275 | 3·2277027 | 92 | 2·7638146 | 3·2093911 |
| 93 | 2·6401079 | 3·0714161 | 93 | 2·6234220 | 3·0537920 | 93 | 2·6062091 | 3·0355486 |
| 94 | 2·4728898 | 2·8880340 | 94 | 2·4562039 | 2·8704689 | 94 | 2·4389910 | 2·8522915 |
| 95 | 2·2956187 | 2·6947956 | 95 | 2·2789328 | 2·6772875 | 95 | 2·2617199 | 2·6591724 |
| 96 | 2·1078438 | 2·4912258 | 96 | 2·0911579 | 2·4737700 | 96 | 2·0739450 | 2·4557156 |
| 97 | 1·9091039 | 2·2767931 | 97 | 1·8924180 | 2·2593922 | 97 | 1·8752051 | 2·2413953 |
| 98 | 1·6989276 | 2·0508865 | 98 | 1·6822417 | 2·0335392 | 98 | 1·6650288 | 2·0156007 |
| 99 | 1·4768332 | 1·8127282 | 99 | 1·4601473 | 1·7954351 | 99 | 1·4429344 | 1·7775573 |
| 100 | 1·2423284 | 1·5612052 | 100 | 1·2256425 | 1·5439713 | 100 | 1·2084296 | 1·5261570 |
| 101 | 0·9949109 | 1·2944839 | 101 | 0·9782250 | 1·2773181 | 101 | 0·9610121 | 1·2595772 |
| 102 | 0·7340679 | 1·0090853 | 102 | 0·7173820 | 0·9919921 | 102 | 0·7001691 | 0·9743413 |
| 103 | 0·4592763 | 0·6973601 | 103 | 0·4425904 | 0·6803808 | 103 | 0·4253775 | 0·6628334 |
| 104 | 0·1700027 | 0·3395309 | 104 | 0·1533168 | 0·3226947 | 104 | 0·1361039 | 0·3053084 |
| 105 | 9·8657033 | | 105 | 9·8490174 | | 105 | 9·8318045 | |
| 106 | 9·5458241 | | 106 | 9·5291382 | | 106 | 9·5119253 | |
| 107 | 9·2098007 | | 107 | 9·1931148 | | 107 | 9·1759019 | |
| 108 | 8·8570584 | | 108 | 8·8403725 | | 108 | 8·8231596 | |
| 109 | 8·4870121 | | 109 | 8·4703262 | | 109 | 8·4531133 | |

## JOINT LIVES :—TWO MALES.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of ($y$) | 57 | | | 58 | | | 59 | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$) | $\lambda\ D_{x,\,57}$ | $\lambda\ N_{x,\,57}$ | Age of ($x$) | $\lambda\ D_{x,\,58}$ | $\lambda\ N_{x,\,58}$ | Age of ($x$) | $\lambda\ D_{x,\,59}$ | $\lambda\ N_{x,\,59}$ |
| 0 | 5·6422936 | 6·5920655 | 0 | 5·6238721 | 6·5622088 | 0 | 5·6047485 | 6·5312133 |
| 1 | 5·5582914 | 6·5705168 | 1 | 5·5398699 | 6·5403509 | 1 | 5·5207463 | 6·5090264 |
| 2 | 5·5230105 | 6·5563795 | 2 | 5·5045890 | 6·5260967 | 2 | 5·4854654 | 6·4946468 |
| 3 | 5·5008972 | 6·5445163 | 3 | 5·4824757 | 6·5141762 | 3 | 5·4633521 | 6·4826645 |
| 4 | 5·4839955 | 6·5337126 | 4 | 5·4655740 | 6·5033457 | 4 | 5·4464504 | 6·4718023 |
| 5 | 5·4697681 | 6·5235211 | 5 | 5·4513466 | 6·4931437 | 5 | 5·4322230 | 6·4615892 |
| 6 | 5·4574069 | 6·5137194 | 6 | 5·4389854 | 6·4833454 | 6 | 5·4198618 | 6·4517913 |
| 7 | 5·4462634 | 6·5041531 | 7 | 5·4278419 | 6·4737909 | 7 | 5·4087183 | 6·4422482 |
| 8 | 5·4358492 | 6·4947206 | 8 | 5·4174277 | 6·4643761 | 8 | 5·3983041 | 6·4328513 |
| 9 | 5·4261018 | 6·4853583 | 9 | 5 4076803 | 6·4550377 | 9 | 5·3885567 | 6·4235352 |
| 10 | 5·4168666 | 6·4760060 | 10 | 5·3984451 | 6·4457122 | 10 | 5·3793215 | 6·4142371 |
| 11 | 5·4080021 | 6·4666143 | 11 | 5·3895806 | 6·4363487 | 11 | 5·3704570 | 6·4049026 |
| 12 | 5·3993801 | 6·4571412 | 12 | 5·3809586 | 6·4269066 | 12 | 5·3618350 | 6·3954899 |
| 13 | 5·3908856 | 6·4475558 | 13 | 5·3724641 | 6·4173519 | 13 | 5·3533405 | 6·3859668 |
| 14 | 5·3824167 | 6·4378362 | 14 | 5·3639952 | 6·4076618 | 14 | 5·3448716 | 6·3763072 |
| 15 | 5·3738849 | 6·4279659 | 15 | 5·3554634 | 6.3978215 | 15 | 5·3363398 | 6·3664958 |
| 16 | 5·3652146 | 6·4179380 | 16 | 5·3467931 | 6·3878220 | 16 | 5·3276695 | 6·3565253 |
| 17 | 5·3563438 | 6·4077503 | 17 | 5·3379223 | 6·3776622 | 17 | 5·3187987 | 6·3463929 |
| 18 | 5·3472233 | 6·3974075 | 18 | 5·3288018 | 6·3673464 | 18 | 5·3096782 | 6·3361039 |
| 19 | 5·3378175 | 6·3869188 | 19 | 5·3193960 | 6·3568844 | 19 | 5·3002724 | 6·3256679 |
| 20 | 5·3281037 | 6·3762970 | 20 | 5·3096822 | 6·3462894 | 20 | 5·2905586 | 6·3150994 |
| 21 | 5·3180725 | 6·3655579 | 21 | 5·2996510 | 6·3355784 | 21 | 5·2805274 | 6·3044153 |
| 22 | 5·3079609 | 6·3547197 | 22 | 5·2895394 | 6·3247699 | 22 | 5·2704158 | 6·2936354 |
| 23 | 5·2977716 | 6·3437788 | 23 | 5·2793501 | 6·3138601 | 23 | 5·2602265 | 6·2827559 |
| 24 | 5·2875064 | 6·3327299 | 24 | 5·2690849 | 6·3028448 | 24 | 5·2499613 | 6·2717731 |
| 25 | 5·2771663 | 6·3215686 | 25 | 5·2587448 | 6·2917184 | 25 | 5·2396212 | 6·2606814 |
| 26 | 5·2667514 | 6·3102873 | 26 | 5·2483299 | 6·2804757 | 26 | 5·2292063 | 6·2494748 |
| 27 | 5·2562610 | 6·2988795 | 27 | 5·2378395 | 6·2691084 | 27 | 5·2187159 | 6·2381475 |
| 28 | 5·2456935 | 6·2873370 | 28 | 5·2272720 | 6·2576092 | 28 | 5·2081484 | 6·2266901 |
| 29 | 5·2350467 | 6·2756513 | 29 | 5·2166252 | 6·2459695 | 29 | 5·1975016 | 6·2150954 |
| 30 | 5·2243173 | 6·2638114 | 30 | 5·2058958 | 6·2341798 | 30 | 5·1867722 | 6·2033533 |
| 31 | 5·2135013 | 6·2518068 | 31 | 5·1950798 | 6·2222283 | 31 | 5·1759562 | 6·1914541 |
| 32 | 5·2025938 | 6·2396261 | 32 | 5·1841723 | 6·2101041 | 32 | 5·1650487 | 6·1793852 |
| 33 | 5·1915891 | 6·2272554 | 33 | 5·1731676 | 6·1977949 | 33 | 5·1540440 | 6·1671347 |
| 34 | 5·1804807 | 6·2146809 | 34 | 5·1620592 | 6·1852860 | 34 | 5·1429356 | 6·1546893 |
| 35 | 5·1692612 | 6·2018880 | 35 | 5·1508397 | 6·1725624 | 35 | 5·1317161 | 6·1420342 |
| 36 | 5·1579224 | 6·1888602 | 36 | 5·1395009 | 6·1596090 | 36 | 5·1203773 | 6·1291528 |
| 37 | 5·1464552 | 6·1755791 | 37 | 5·1280337 | 6·1464080 | 37 | 5·1089101 | 6·1160293 |
| 38 | 5·1348498 | 6·1620258 | 38 | 5·1164283 | 6·1329400 | 38 | 5·0973047 | 6·1026450 |
| 39 | 5·1230954 | 6·1481805 | 39 | 5·1046739 | 6·1191856 | 39 | 5·0855503 | 6·0889790 |
| 40 | 5·1111806 | 6·1340202 | 40 | 5·0927591 | 6·1051227 | 40 | 5·0736355 | 6·0750109 |
| 41 | 5·0990929 | 6·1195224 | 41 | 5·0806714 | 6·0907277 | 41 | 5·0615478 | 6·0607175 |
| 42 | 5·0868191 | 6·1046612 | 42 | 5·0683976 | 6·0759767 | 42 | 5·0492740 | 6·0460735 |
| 43 | 5·0743451 | 6·0894088 | 43 | 5·0559236 | 6·0608417 | 43 | 5·0368000 | 6·0310532 |
| 44 | 5·0616562 | 6·0737359 | 44 | 5·0432347 | 6·0452933 | 44 | 5·0241111 | 6·0156272 |
| 45 | 5·0487365 | 6·0576110 | 45 | 5·0303150 | 6·0293001 | 45 | 5·0111014 | 5·9997637 |
| 46 | 5·0355695 | 6·0410005 | 46 | 5·0171480 | 6·0128284 | 46 | 4·9980244 | 5·9834296 |
| 47 | 5·0221378 | 6·0238670 | 47 | 5·0037163 | 5·9958422 | 47 | 4·9845927 | 5·9665885 |
| 48 | 5·0084232 | 6·0061703 | 48 | 4·9900017 | 5·9783009 | 48 | 4·9708781 | 5·9492010 |
| 49 | 4·9944066 | 5·9878685 | 49 | 4·9759851 | 5·9601619 | 49 | 4·9568615 | 5·9312237 |
| 50 | 4·9800682 | 5·9689143 | 50 | 4·9616467 | 5·9413784 | 50 | 4·9425231 | 5·9126101 |
| 51 | 4·9653872 | 5·9492569 | 51 | 4·9469657 | 5·9218997 | 51 | 4·9278421 | 5·8933094 |
| 52 | 4·9500975 | 5·9288410 | 52 | 4·9316760 | 5·9016697 | 52 | 4·9125524 | 5·8732656 |
| 53 | 4·9343630 | 5·9076341 | 53 | 4·9159415 | 5·8806562 | 53 | 4·8968179 | 5·8524465 |
| 54 | 4·9181664 | 5·8855795 | 54 | 4·8997449 | 5·8588026 | 54 | 4·8806213 | 5·8307950 |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 57 | | 58 | | | 59 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,57}$ | λ $N_{x,57}$ | Age of ( ) | λ $D_{x,58}$ | λ $N_{x,58}$ | Age of (x) | λ $D_{x,59}$ | λ $N_{x,59}$ |
| 55 | 4·9014805 | 5·8626143 | 55 | 4·8830590 | 5·8360456 | 55 | 4·8639354 | 5·8082482 |
| 56 | 4·8842676 | 5·8386700 | 56 | 4·8658461 | 5·8123156 | 56 | 4·8467225 | 5·7847358 |
| 57 | 4·8664796 | 5·8136715 | 57 | 4·8480581 | 5·7875375 | 57 | 4·8289345 | 5·7601815 |
| 58 | 4·8480581 | 5·7875375 | 58 | 4·8296366 | 5·7616296 | 58 | 4·8105130 | 5·7345038 |
| 59 | 4·8289345 | 5·7601815 | 59 | 4·8105130 | 5·7345038 | 59 | 4·7913894 | 5·7076140 |
| 60 | 4·8090297 | 5·7315112 | 60 | 4·7906082 | 5·7060671 | 60 | 4·7714846 | 5·6794173 |
| 61 | 4·7882544 | 5·7014275 | 61 | 4·7698329 | 5·6762202 | 61 | 4·7507093 | 5·6498137 |
| 62 | 4·7665089 | 5·6698258 | 62 | 4·7480874 | 5·6448571 | 62 | 4·7289638 | 5·6186972 |
| 63 | 4·7436832 | 5·6365956 | 63 | 4·7252617 | 5·6118661 | 63 | 4·7061381 | 5·5859547 |
| 64 | 4·7196570 | 5·6016191 | 64 | 4·7012355 | 5·5771302 | 64 | 4·6821119 | 5·5514673 |
| 65 | 4·6942996 | 5·5647732 | 65 | 4·6758781 | 5·5405232 | 65 | 4·6567545 | 5·5151103 |
| 66 | 4·6674700 | 5·5259273 | 66 | 4·6490485 | 5·5019151 | 66 | 4·6299249 | 5·4767504 |
| 67 | 4·6390169 | 5·4849447 | 67 | 4·6205954 | 5·4611677 | 67 | 4·6014718 | 5·4362497 |
| 68 | 4·6087788 | 5·4416805 | 68 | 4·5903573 | 5·4181360 | 68 | 4·5712337 | 5·3934621 |
| 69 | 4·5765835 | 5·3959834 | 69 | 4·5581620 | 5·3726674 | 69 | 4·5390384 | 5·3482344 |
| 70 | 4·5422489 | 5·3476931 | 70 | 4·5238274 | 5·3246018 | 70 | 4·5047038 | 5·3004055 |
| 71 | 4·5055823 | 5·2966431 | 71 | 4·4871608 | 5·2737705 | 71 | 4·4680372 | 5·2498072 |
| 72 | 4·4663807 | 5·2426567 | 72 | 4·4479592 | 5·2199982 | 72 | 4·4288356 | 5·1962613 |
| 73 | 4·4244310 | 5·1855496 | 73 | 4·4060095 | 5·1630993 | 73 | 4·3868859 | 5·1395842 |
| 74 | 4·3795094 | 5·1251286 | 74 | 4·3610879 | 5·1028801 | 74 | 4·3419643 | 5·0795803 |
| 75 | 4·3313821 | 5·0611915 | 75 | 4·3129606 | 5·0391380 | 75 | 4·2938370 | 5·0160471 |
| 76 | 4·2798047 | 4·9935253 | 76 | 4·2613832 | 4·9716608 | 76 | 4·2422596 | 4·9487718 |
| 77 | 4·2245228 | 4·9219091 | 77 | 4·2061013 | 4·9002262 | 77 | 4·1869777 | 4·8775320 |
| 78 | 4·1652714 | 4·8461100 | 78 | 4·1468499 | 4·8246022 | 78 | 4·1277263 | 4·8020961 |
| 79 | 4·1017753 | 4·7658868 | 79 | 4·0833538 | 4·7445464 | 79 | 4·0642302 | 4·7222217 |
| 80 | 4·0337489 | 4·6809878 | 80 | 4·0153274 | 4·6598069 | 80 | 3·9962038 | 4·6376558 |
| 81 | 3·9608963 | 4·5911476 | 81 | 3·9424748 | 4·5701209 | 81 | 3·9233512 | 4·5481354 |
| 82 | 3·8829112 | 4·4960934 | 82 | 3·8644897 | 4·4752134 | 82 | 3·8453661 | 4·4533864 |
| 83 | 3·7994773 | 4·3955396 | 83 | 3·7810558 | 4·3747995 | 83 | 3·7619322 | 4·3531246 |
| 84 | 3·7102675 | 4·2891904 | 84 | 3·6918460 | 4·2685832 | 84 | 3·6727224 | 4·2470529 |
| 85 | 3·6149447 | 4·1767385 | 85 | 3·5965232 | 4·1562571 | 85 | 3·5773996 | 4·1348643 |
| 86 | 3·5131613 | 4·0578638 | 86 | 3·4947398 | 4·0375030 | 86 | 3·4756162 | 4·0162405 |
| 87 | 3·4045595 | 3·9322357 | 87 | 3·3861380 | 3·9119892 | 87 | 3·3670144 | 3·8908518 |
| 88 | 3·2887711 | 3·7995115 | 88 | 3·2703496 | 3·7793735 | 88 | 3·2512260 | 3·7583546 |
| 89 | 3·1654177 | 3·6593390 | 89 | 3·1469962 | 3·6393022 | 89 | 3·1278726 | 3·6183954 |
| 90 | 3·0341102 | 3·5113498 | 90 | 3·0156887 | 3·4914107 | 90 | 2·9965651 | 3·4706093 |
| 91 | 2·8944497 | 3·3551645 | 91 | 2·8760282 | 3·3353171 | 91 | 2·8569046 | 3·3146171 |
| 92 | 2·7460266 | 3·1903919 | 92 | 2·7276051 | 3·1706316 | 92 | 2·7084815 | 3·1500271 |
| 93 | 2·5884211 | 3·0166243 | 93 | 2·5699996 | 2·9969471 | 93 | 2·5508760 | 2·9764339 |
| 94 | 2·4212030 | 2·8334385 | 94 | 2·4027815 | 2·8138398 | 94 | 2·3836579 | 2·7934132 |
| 95 | 2·2439319 | 2·6403890 | 95 | 2·2255104 | 2·6208655 | 95 | 2·2063868 | 2·6005210 |
| 96 | 2·0561570 | 2·4369986 | 96 | 2·0377355 | 2·4175481 | 96 | 2·0186119 | 2·3972846 |
| 97 | 1·8574171 | 2·2227422 | 97 | 1·8389956 | 2·2033634 | 97 | 1·8198720 | 2·1831785 |
| 98 | 1·6472408 | 1·9970122 | 98 | 1·6288193 | 1·9777048 | 98 | 1·6096957 | 1·9575987 |
| 99 | 1·4251464 | 1·7590352 | 99 | 1·4067249 | 1·7398009 | 99 | 1·3876013 | 1·7197769 |
| 100 | 1·1906416 | 1·5077075 | 100 | 1·1722201 | 1·4885521 | 100 | 1·1530965 | 1·4686146 |
| 101 | 0·9432241 | 1·2412052 | 101 | 0·9248026 | 1·2221414 | 101 | 0·9056790 | 1·2023030 |
| 102 | 0·6823811 | 0·9560675 | 102 | 0·6639596 | 0·9371065 | 102 | 0·6448360 | 0·9173900 |
| 103 | 0·4075895 | 0·6446847 | 103 | 0·3891680 | 0·6258575 | 103 | 0·3700444 | 0·6062846 |
| 104 | 0·1183159 | 0·2873090 | 104 | 0·0998944 | 0·2686482 | 104 | 0·0807708 | 0·2492718 |
| 105 | 9·8140165 | | 105 | 9·7955950 | | 105 | 9·7764714 | |
| 106 | 9·4941373 | | 106 | 9·4757158 | | 106 | 9·4565922 | |
| 107 | 9·1581139 | | 107 | 9·1396924 | | 107 | 9·1205688 | |
| 108 | 8·8053716 | | 108 | 8·7869501 | | 108 | 8·7678265 | |
| 109 | 8·4353253 | | 109 | 8·4169038 | | 109 | 8·3977802 | |

## JOINT LIVES:—TWO MALES.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 60 | | 61 | | | 62 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,60}$ | λ $N_{x,\,60}$ | Age of (x) | λ $D_{x,\,61}$ | λ $N_{x,\,61}$ | Age of (x) | λ $D_{x,\,62}$ | λ $N_{x,\,62}$ |
| 0 | 5·5848437 | 6·4989987 | 0 | 5·5640684 | 6·4654766 | 0 | 5·5423229 | 6·4305527 |
| 1 | 5·5008415 | 6·4764602 | 1 | 5·4800662 | 6·4425647 | 1 | 5·4583207 | 6·4072439 |
| 2 | 5·4655606 | 6·4619469 | 2 | 5·4447853 | 6·4279073 | 2 | 5·4230398 | 6·3924333 |
| 3 | 5·4434473 | 6·4498975 | 3 | 5·4226720 | 6·4157859 | 3 | 5·4009265 | 6·3802333 |
| 4 | 5·4265456 | 6·4390007 | 4 | 5·4057703 | 6·4048508 | 4 | 5·3840248 | 6·3692566 |
| 5 | 5·4123182 | 6·4287725 | 5 | 5·3915429 | 6·3946055 | 5 | 5·3697974 | 6·3589911 |
| 6 | 5·3999570 | 6·4189753 | 6 | 5·3791817 | 6·3848054 | 6 | 5·3574362 | 6·3491868 |
| 7 | 5·3888135 | 6·4094409 | 7 | 5·3680382 | 6·3752803 | 7 | 5·3462927 | 6·3396682 |
| 8 | 5·3783993 | 6·4000615 | 8 | 5·3576240 | 6·3659161 | 8 | 5·3358785 | 6·3303202 |
| 9 | 5·3686519 | 6·3907681 | 9 | 5·3478766 | 6·3566455 | 9 | 5·3261311 | 6·3210702 |
| 10 | 5·3594167 | 6·3814959 | 10 | 5·3386414 | 6·3474000 | 10 | 5·3168959 | 6·3118515 |
| 11 | 5·3505522 | 6·3721913 | 11 | 5·3297769 | 6·3381239 | 11 | 5·3080314 | 6·3026047 |
| 12 | 5·3419302 | 6·3628090 | 12 | 5·3211549 | 6·3287729 | 12 | 5·2994094 | 6·2932840 |
| 13 | 5·3334357 | 6·3533157 | 13 | 5·3126604 | 6·3193105 | 13 | 5·2909149 | 6·2838537 |
| 14 | 5·3249668 | 6·3436876 | 14 | 5·3041915 | 6·3097121 | 14 | 5·2824460 | 6·2742858 |
| 15 | 5·3164350 | 6·3339061 | 15 | 5·2956597 | 6·2999612 | 15 | 5·2739142 | 6·2645637 |
| 16 | 5·3077647 | 6·3239633 | 16 | 5·2869894 | 6·2900471 | 16 | 5·2652439 | 6·2546791 |
| 17 | 5·2988939 | 6·3138588 | 17 | 5·2781186 | 6·2799689 | 17 | 5·2563731 | 6·2446281 |
| 18 | 5·2897734 | 6·3035960 | 18 | 5·2689981 | 6·2697326 | 18 | 5·2472526 | 6·2344165 |
| 19 | 5·2803676 | 6·2931857 | 19 | 5·2595923 | 6·2593475 | 19 | 5·2378468 | 6·2240566 |
| 20 | 5·2706538 | 6·2826427 | 20 | 5·2498785 | 6·2488295 | 20 | 5·2281330 | 6·2135629 |
| 21 | 5·2606226 | 6·2719851 | 21 | 5·2398473 | 6·2381972 | 21 | 5·2181018 | 6·2029553 |
| 22 | 5·2505110 | 6·2612327 | 22 | 5·2297357 | 6·2274720 | 22 | 5·2079902 | 6·1922559 |
| 23 | 5·2403217 | 6·2503830 | 23 | 5·2195464 | 6·2166504 | 23 | 5·1978009 | 6·1814623 |
| 24 | 5·2300565 | 6·2394311 | 24 | 5·2092812 | 6·2057290 | 24 | 5·1875357 | 6·1705701 |
| 25 | 5·2197164 | 6·2283729 | 25 | 5·1989411 | 6·1947030 | 25 | 5·1771956 | 6·1595750 |
| 26 | 5·2093015 | 6·2172020 | 26 | 5·1885262 | 6·1835668 | 26 | 5·1667807 | 6·1484722 |
| 27 | 5·1988111 | 6·2059121 | 27 | 5·1780358 | 6·1723136 | 27 | 5·1562903 | 6·1372547 |
| 28 | 5·1882436 | 6·1944963 | 28 | 5·1674683 | 6·1609365 | 28 | 5·1457228 | 6·1259158 |
| 29 | 5·1775968 | 6·1829449 | 29 | 5·1568215 | 6·1494280 | 29 | 5·1350760 | 6·1144472 |
| 30 | 5·1668674 | 6·1712495 | 30 | 5·1460921 | 6·1377774 | 30 | 5·1243466 | 6·1028410 |
| 31 | 5·1560514 | 6·1593996 | 31 | 5·1352761 | 6·1259762 | 31 | 5·1135306 | 6·0910863 |
| 32 | 5·1451439 | 6·1473851 | 32 | 5·1243686 | 6·1140125 | 32 | 5·1026231 | 6·0791729 |
| 33 | 5·1341392 | 6·1351918 | 33 | 5·1133639 | 6·1018759 | 33 | 5·0916184 | 6·0670892 |
| 34 | 5·1230308 | 6·1228078 | 34 | 5·1022555 | 6·0895512 | 34 | 5·0805100 | 6·0548229 |
| 35 | 5·1118113 | 6·1102182 | 35 | 5·0910360 | 6·0770254 | 35 | 5·0692905 | 6·0423589 |
| 36 | 5·1004725 | 6·0974083 | 36 | 5·0796972 | 6·0642835 | 36 | 5·0579517 | 6·0296828 |
| 37 | 5·0890053 | 6·0843596 | 37 | 5·0682300 | 6·0513088 | 37 | 5·0464845 | 6·0167789 |
| 38 | 5·0773999 | 6·0710557 | 38 | 5·0566246 | 6·0380830 | 38 | 5·0348791 | 6·0036298 |
| 39 | 5·0656455 | 6·0574767 | 39 | 5·0448703 | 6·0245875 | 39 | 5·0231247 | 5·9902158 |
| 40 | 5·0537307 | 6·0436008 | 40 | 5·0329554 | 6·0108018 | 40 | 5·0112099 | 5·9765168 |
| 41 | 5·0416430 | 6·0294061 | 41 | 5·0208677 | 5·9967030 | 41 | 4·9991222 | 5·9625115 |
| 42 | 5·0293692 | 6·0148677 | 42 | 5·0085939 | 5·9822676 | 42 | 4·9868184 | 5·9481757 |
| 43 | 5·0168952 | 5·9999592 | 43 | 4·9961199 | 5·9674686 | 43 | 4·9743744 | 5·9334837 |
| 44 | 5·0042063 | 5·9846524 | 44 | 4·9834310 | 5·9522786 | 44 | 4·9616855 | 5·9184078 |
| 45 | 4·9912866 | 5·9689166 | 45 | 4·9705113 | 5·9366672 | 45 | 4·9487658 | 5·9029177 |
| 46 | 4·9781196 | 5·9527177 | 46 | 4·9573443 | 5·9206009 | 46 | 4·9355988 | 5·8869811 |
| 47 | 4·9646879 | 5·9360199 | 47 | 4·9439126 | 5·9040439 | 47 | 4·9221671 | 5·8705621 |
| 48 | 4·9509733 | 5·9187838 | 48 | 4·9301980 | 5·8869569 | 48 | 4·9084525 | 5·8536217 |
| 49 | 4·9369567 | 5·9009667 | 49 | 4·9161814 | 5·8692979 | 49 | 4·8944359 | 5·8361180 |
| 50 | 4·9226183 | 5·8825218 | 50 | 4·9018430 | 5·8510198 | 50 | 4·8800975 | 5·8180043 |
| 51 | 4·9079373 | 5·8633981 | 51 | 4·8871620 | 5·8320717 | 51 | 4·8654165 | 5·7992299 |
| 52 | 4·8926476 | 5·8435398 | 52 | 4·8718723 | 5·8123977 | 52 | 4·8501268 | 5·7797384 |
| 53 | 4·8769131 | 5·8229152 | 53 | 4·8561378 | 5·7919667 | 53 | 4·8343923 | 5·7594996 |
| 54 | 4·8607165 | 5·8014670 | 54 | 4·8399412 | 5·7707214 | 54 | 4·8181957 | 5·7384565 |

## JOINT LIVES:—TWO MALES.

## Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 60 | | 61 | | | 62 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,60}$ | λ $N_{x,60}$ | Age of (x) | λ $D_{x,61}$ | λ $N_{x,61}$ | Age of (x) | λ $D_{x,62}$ | λ $N_{x,62}$ |
| 55 | 4·8440306 | 5·7791312 | 55 | 4·8232553 | 5·7485980 | 55 | 4·8015098 | 5·7165450 |
| 56 | 4·8268177 | 5·7558384 | 56 | 4·8060424 | 5·7255255 | 56 | 4·7842969 | 5·6936940 |
| 57 | 4·8090297 | 5·7315112 | 57 | 4·7882544 | 5·7014275 | 57 | 4·7665089 | 5·6698258 |
| 58 | 4·7906082 | 5·7060671 | 58 | 4·7698329 | 5·6762202 | 58 | 4·7480874 | 5·6448571 |
| 59 | 4·7714846 | 5·6794173 | 59 | 4·7507093 | 5·6498137 | 59 | 4·7289638 | 5·6186972 |
| 60 | 4·7515798 | 5·6514664 | 60 | 4·7308045 | 5·6221128 | 60 | 4·7090590 | 5·5912493 |
| 61 | 4·7308045 | 5·6221128 | 61 | 4·7100292 | 5·5930148 | 61 | 4·6882837 | 5·5624113 |
| 62 | 4·7090590 | 5·5912493 | 62 | 4·6882837 | 5·5624113 | 62 | 4·6665382 | 5·5320733 |
| 63 | 4·6862333 | 5·5587633 | 63 | 4·6654580 | 5·5301879 | 63 | 4·6437125 | 5·5001196 |
| 64 | 4·6622071 | 5·5245338 | 64 | 4·6414318 | 5·4962247 | 64 | 4·6196863 | 5·4664285 |
| 65 | 4·6368497 | 5·4884350 | 65 | 4·6160744 | 5·4603932 | 65 | 4·5943289 | 5·4308729 |
| 66 | 4·6100201 | 5·4503343 | 66 | 4·5892448 | 5·4225599 | 66 | 4·5674993 | 5·3933165 |
| 67 | 4·5815670 | 5·4100908 | 67 | 4·5607917 | 5·3825850 | 67 | 4·5390462 | 5·3536179 |
| 68 | 4·5513289 | 5·3675587 | 68 | 4·5305536 | 5·3403190 | 68 | 4·5088081 | 5·3116294 |
| 69 | 4·5191336 | 5·3225837 | 69 | 4·4983583 | 5·2956082 | 69 | 4·4766128 | 5·2671936 |
| 70 | 4·4847990 | 5·2750043 | 70 | 4·4640237 | 5·2482902 | 70 | 4·4422782 | 5·2201478 |
| 71 | 4·4481324 | 5·2246509 | 71 | 4·4273571 | 5·1981943 | 71 | 4·4056116 | 5·1703216 |
| 72 | 4·4089308 | 5·1713461 | 72 | 4·3881555 | 5·1451423 | 72 | 4·3664100 | 5·1175354 |
| 73 | 4·3669811 | 5·1149028 | 73 | 4·3462058 | 5·0889479 | 73 | 4·3244603 | 5·0616013 |
| 74 | 4·3220595 | 5·0551282 | 74 | 4·3012842 | 5·0294146 | 74 | 4·2795387 | 5·0023246 |
| 75 | 4·2739322 | 4·9918173 | 75 | 4·2531569 | 4·9663403 | 75 | 4·2314114 | 4·9394988 |
| 76 | 4·2223548 | 4·9247578 | 76 | 4·2015795 | 4·8995103 | 76 | 4·1798340 | 4·8729122 |
| 77 | 4·1670729 | 4·8537268 | 77 | 4·1462976 | 4·8287018 | 77 | 4·1245521 | 4·8023399 |
| 78 | 4·1078215 | 4·7784920 | 78 | 4·0870462 | 4·7536826 | 78 | 4·0653007 | 4·7275494 |
| 79 | 4·0443254 | 4·6988119 | 79 | 4·0235501 | 4·6742097 | 79 | 4·0018046 | 4·6482986 |
| 80 | 3·9762990 | 4·6144331 | 80 | 3·9555237 | 4·5900311 | 80 | 3·9337782 | 4·5643338 |
| 81 | 3·9034464 | 4·5250919 | 81 | 3·8826711 | 4·5008825 | 81 | 3·8609256 | 4·4753910 |
| 82 | 3·8254613 | 4·4305146 | 82 | 3·8046860 | 4·4064901 | 82 | 3·7829405 | 4·3811968 |
| 83 | 3·7420274 | 4·3304164 | 83 | 3·7212521 | 4·3065691 | 83 | 3·6995066 | 4·2814661 |
| 84 | 3·6528176 | 4·2245020 | 84 | 3·6320423 | 4·2008234 | 84 | 3·6102968 | 4·1759027 |
| 85 | 3·5574948 | 4·1124633 | 85 | 3·5367195 | 4·0889468 | 85 | 3·5149740 | 4·0642000 |
| 86 | 3·4557114 | 3·9939813 | 86 | 3·4349361 | 3·9706197 | 86 | 3·4131906 | 3·9460399 |
| 87 | 3·3471096 | 3·8687273 | 87 | 3·3263343 | 3·8455123 | 87 | 3·3045888 | 3·8210921 |
| 88 | 3·2313212 | 3·7363599 | 88 | 3·2105459 | 3·7132839 | 88 | 3·1888004 | 3·6890148 |
| 89 | 3·1079678 | 3·5965234 | 89 | 3·0871925 | 3·5735817 | 89 | 3·0654470 | 3·5494557 |
| 90 | 2·9766603 | 3·4488531 | 90 | 2·9558850 | 3·4260379 | 90 | 2·9341395 | 3·4020506 |
| 91 | 2·8369998 | 3·2929712 | 91 | 2 8162245 | 3·2702765 | 91 | 2·7944790 | 3·2464201 |
| 92 | 2·6885767 | 3·1284862 | 92 | 2·6678014 | 3·1059058 | 92 | 2·6460559 | 3·0821741 |
| 93 | 2·5309712 | 2·9549922 | 93 | 2·5101959 | 2·9325209 | 93 | 2·4884504 | 2·9089079 |
| 94 | 2·3637531 | 2·7720671 | 94 | 2·3429778 | 2·7496992 | 94 | 2·3212323 | 2·7261997 |
| 95 | 2·1864820 | 2·5792667 | 95 | 2·1657067 | 2·5569992 | 95 | 2·1439612 | 2·5336081 |
| 96 | 1·9987071 | 2·3761169 | 96 | 1·9779318 | 2·3539461 | 96 | 1·9561863 | 2·3306610 |
| 97 | 1·7999672 | 2·1620976 | 97 | 1·7791919 | 2·1400216 | 97 | 1·7574464 | 2·1168401 |
| 98 | 1·5897909 | 1·9366042 | 98 | 1·5690156 | 1·9146223 | 98 | 1·5472701 | 1·8915452 |
| 99 | 1·3676965 | 1·6988718 | 99 | 1·3469212 | 1·6769879 | 99 | 1·3251757 | 1·6540166 |
| 100 | 1·1331917 | 1·4478075 | 100 | 1·1124164 | 1·4260295 | 100 | 1·0906709 | 1·4031737 |
| 101 | 0·8857742 | 1·1816064 | 101 | 0·8649989 | 1·1599520 | 101 | 0·8432534 | 1·1372275 |
| 102 | 0·6249312 | 0·8968237 | 102 | 0·6041559 | 0·8753160 | 102 | 0·5824104 | 0·8527605 |
| 103 | 0·3501396 | 0·5858892 | 103 | 0·3293643 | 0·5645595 | 103 | 0·3076188 | 0·5422028 |
| 104 | 0·0608660 | 0·2290672 | 104 | 0·0400907 | 0·2080111 | 104 | 0·0183452 | 0·1859103 |
| 105 | 9·7565666 | | 105 | 9·7357913 | | 105 | 9·7140458 | |
| 106 | 9·4366874 | | 106 | 9·4159:21 | | 106 | 9·3941666 | |
| 107 | 9·1006640 | | 107 | 9·0798887 | | 107 | 9·0581432 | |
| 108 | 8·7479217 | | 108 | 8·7271464 | | 108 | 8·7054009 | |
| 109 | 8·3778754 | | 109 | 8·3571001 | | 109 | 8·3353546 | |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 63 | | | 64 | | | 65 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,63}$ | λ $N_{x,\,63}$ | Age of (x) | λ $D_{x,\,64}$ | λ $N_{x,\,64}$ | Age of (x) | λ $D_{x,\,65}$ | λ $N_{x,\,65}$ |
| 0 | 5·5194972 | 6·3941253 | 0 | 5·4954710 | 6·3560866 | 0 | 5·4701136 | 6·3163210 |
| 1 | 5·4354950 | 6·3703957 | 1 | 5·4114688 | 6·3319107 | 1 | 5·3861114 | 6·2916731 |
| 2 | 5·4002141 | 6·3554219 | 2 | 5·3761879 | 6·3167638 | 2 | 5·3508305 | 6·2763421 |
| 3 | 5·3781008 | 6·3431381 | 3 | 5·3540746 | 6·3043900 | 3 | 5·3287172 | 6·2638722 |
| 4 | 5·3611991 | 6·3321145 | 4 | 5·3371729 | 6·2933161 | 4 | 5·3118155 | 6·2527441 |
| 5 | 5·3469717 | 6·3218266 | 5 | 5·3229455 | 6·2830019 | 5 | 5·2975881 | 6·2424006 |
| 6 | 5·3346105 | 6·3120161 | 6 | 5·3105843 | 6·2731831 | 6 | 5·2852269 | 6·2325707 |
| 7 | 5·3234670 | 6·3025030 | 7 | 5·2994408 | 6·2636739 | 7 | 5·2740834 | 6·2230638 |
| 8 | 5·3130528 | 6·2931684 | 8 | 5·2890266 | 6·2543525 | 8 | 5·2636692 | 6·2137541 |
| 9 | 5·3033054 | 6·2839406 | 9 | 5·2792792 | 6·2451444 | 9 | 5·2539218 | 6·2045657 |
| 10 | 5·2940702 | 6·2747468 | 10 | 5·2700440 | 6·2359771 | 10 | 5·2446866 | 6·1954230 |
| 11 | 5·2852057 | 6·2655298 | 11 | 5·2611795 | 6·2267883 | 11 | 5·2358221 | 6·1862640 |
| 12 | 5·2765837 | 6·2562401 | 12 | 5·2525575 | 6·2175300 | 12 | 5·2272001 | 6·1770358 |
| 13 | 5·2680892 | 6·2468406 | 13 | 5·2440630 | 6·2081622 | 13 | 5·2187056 | 6·1677004 |
| 14 | 5·2596203 | 6·2373044 | 14 | 5·2355941 | 6·1986569 | 14 | 5·2102367 | 6·1582261 |
| 15 | 5·2510885 | 6·2276121 | 15 | 5·2270623 | 6·1889951 | 15 | 5·2017049 | 6·1485943 |
| 16 | 5·2424182 | 6·2177548 | 16 | 5·2183920 | 6·1791662 | 16 | 5·1930346 | 6·1387942 |
| 17 | 5·2335474 | 6·2077316 | 17 | 5·2095212 | 6·1691685 | 17 | 5·1841638 | 6·1288233 |
| 18 | 5·2244269 | 6·1975458 | 18 | 5·2004007 | 6·1590086 | 18 | 5·1750433 | 6·1186869 |
| 19 | 5·2150211 | 6·1872090 | 19 | 5·1909949 | 6·1486961 | 19 | 5·1656375 | 6·1083986 |
| 20 | 5·2053073 | 6·1767394 | 20 | 5·1812811 | 6·1382483 | 20 | 5·1559237 | 6·0979740 |
| 21 | 5·1952761 | 6·1661559 | 21 | 5·1712499 | 6·1276885 | 21 | 5·1458925 | 6·0874354 |
| 22 | 5·1851645 | 6·1554818 | 22 | 5·1611383 | 6·1170389 | 22 | 5·1357809 | 6·0768096 |
| 23 | 5·1749752 | 6·1447146 | 23 | 5·1509490 | 6·1062973 | 23 | 5·1255916 | 6·0660932 |
| 24 | 5·1647100 | 6·1338507 | 24 | 5·1406838 | 6·0954609 | 24 | 5·1153264 | 6·0552828 |
| 25 | 5·1543699 | 6·1228860 | 25 | 5·1303437 | 6·0845252 | 25 | 5·1049863 | 6·0443751 |
| 26 | 5·1439550 | 6·1118147 | 26 | 5·1199288 | 6·0734852 | 26 | 5·0945714 | 6·0333650 |
| 27 | 5·1334646 | 6·1006321 | 27 | 5·1094384 | 6·0623348 | 27 | 5·0840810 | 6·0222469 |
| 28 | 5·1228971 | 6·0893296 | 28 | 5·0988709 | 6·0510684 | 28 | 5·0735135 | 6·0110140 |
| 29 | 5·1122503 | 6·0779007 | 29 | 5·0882241 | 6·0396770 | 29 | 5·0628667 | 5·9996594 |
| 30 | 5·1015209 | 6·0663360 | 30 | 5·0774947 | 6·0281534 | 30 | 5·0521373 | 5·9881744 |
| 31 | 5·0907049 | 6·0546269 | 31 | 5·0666787 | 6·0164872 | 31 | 5·0413213 | 5·9765508 |
| 32 | 5·0797974 | 6·0427617 | 32 | 5·0557712 | 6·0046691 | 32 | 5·0304138 | 5·9647771 |
| 33 | 5·0687927 | 6·0307300 | 33 | 5·0447665 | 5·9926874 | 33 | 5·0194091 | 5·9528438 |
| 34 | 5·0576843 | 6·0185188 | 34 | 5·0336581 | 5·9805297 | 34 | 5·0083007 | 5·9407381 |
| 35 | 5·0464648 | 6·0061150 | 35 | 5·0224386 | 5·9681831 | 35 | 4·9970812 | 5·9284472 |
| 36 | 5·0351260 | 5·9935033 | 36 | 5·0110998 | 5·9556338 | 36 | 4·9857424 | 5·9159569 |
| 37 | 5·0236588 | 5·9806677 | 37 | 4·9996326 | 5·9428647 | 37 | 4·9742752 | 5·9032520 |
| 38 | 5·0120534 | 5·9675920 | 38 | 4·9880272 | 5·9298598 | 38 | 4·9626698 | 5·8903160 |
| 39 | 5·0002990 | 5·9542570 | 39 | 4·9762728 | 5·9166011 | 39 | 4·9509154 | 5·8771308 |
| 40 | 4·9883842 | 5·9406428 | 40 | 4·9643580 | 5·9030688 | 40 | 4·9390006 | 5·8636775 |
| 41 | 4·9762965 | 5·9267278 | 41 | 4·9522703 | 5·8892416 | 41 | 4·9269129 | 5·8499352 |
| 42 | 4·9640227 | 5·9124890 | 42 | 4·9399965 | 5·8750965 | 42 | 4·9146391 | 5·8358810 |
| 43 | 4·9515487 | 5·8979008 | 43 | 4·9275225 | 5·8606089 | 43 | 4·9021651 | 5.8214907 |
| 44 | 4·9388598 | 5·8829357 | 44 | 4·9148336 | 5·8457518 | 44 | 4·8894762 | 5·8067379 |
| 45 | 4·9259401 | 5·8675644 | 45 | 4·9019139 | 5·8304955 | 45 | 4·8765565 | 5·7915935 |
| 46 | 4·9127731 | 5·8517538 | 46 | 4·8887469 | 5·8148084 | 46 | 4·8633895 | 5·7760260 |
| 47 | 4·8993414 | 5·8354697 | 47 | 4·8753152 | 5·7986553 | 47 | 4·8499578 | 5·7600011 |
| 48 | 4·8856268 | 5·8186730 | 48 | 4·8616006 | 5·7819989 | 48 | 4·8362432 | 5·7434807 |
| 49 | 4·8716102 | 5·8013217 | 49 | 4·8475840 | 5·7647967 | 49 | 4·8222266 | 5·7264242 |
| 50 | 4·8572718 | 5·7833695 | 50 | 4·8332456 | 5·7470030 | 50 | 4·8078882 | 5·7087854 |
| 51 | 4·8425908 | 5·7647661 | 51 | 4·8185646 | 5·7285671 | 51 | 4·7932072 | 5·6905138 |
| 52 | 4·8273011 | 5·7454549 | 52 | 4·8032749 | 5·7094334 | 52 | 4·7779175 | 5·6715538 |
| 53 | 4·8115666 | 5·7254064 | 53 | 4·7875404 | 5·6895728 | 53 | 4·7621830 | 5·6518780 |
| 54 | 4·7953700 | 5·7045639 | 54 | 4·7713438 | 5·6689287 | 54 | 4·7459864 | 5·6314296 |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 63 | | | 64 | | | 65 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,63}$ | λ $N_{x,\,63}$ | Age of (x) | λ $D_{x,\,64}$ | λ $N_{x,\,64}$ | Age of (x) | λ $D_{x,\,65}$ | λ $N_{x,\,65}$ |
| 55 | 4·7786841 | 5·6828631 | 55 | 4·7546579 | 5·6474370 | 55 | 4·7293005 | 5·6101446 |
| 56 | 4·7614712 | 5·6602330 | 56 | 4·7374450 | 5·6250265 | 56 | 4·7120876 | 5·5879519 |
| 57 | 4·7436832 | 5·6365956 | 57 | 4·7196570 | 5·6016191 | 57 | 4·6942996 | 5·5647732 |
| 58 | 4·7252617 | 5·6118661 | 58 | 4·7012355 | 5·5771302 | 58 | 4·6758781 | 5·5405232 |
| 59 | 4·7061381 | 5·5859547 | 59 | 4·6821119 | 5·5514673 | 59 | 4·6567545 | 5·5151103 |
| 60 | 4·6862333 | 5·5587633 | 60 | 4·6622071 | 5·5245338 | 60 | 4·6368497 | 5·4884350 |
| 61 | 4·6654580 | 5·5301879 | 61 | 4·6414318 | 5·4962247 | 61 | 4·6160744 | 5·4603932 |
| 62 | 4·6437125 | 5·5001196 | 62 | 4·6196863 | 5·4664285 | 62 | 4·5943289 | 5·4308729 |
| 63 | 4·6208868 | 5·4684410 | 63 | 4·5968606 | 5·4350295 | 63 | 4·5715032 | 5·3997552 |
| 64 | 4·5968606 | 5·4350295 | 64 | 4·5728344 | 5·4019022 | 64 | 4·5474770 | 5·3669169 |
| 65 | 4·5715032 | 5·3997552 | 65 | 4·5474770 | 5·3669169 | 65 | 4·5221196 | 5·3322253 |
| 66 | 4·5446736 | 5·3624840 | 66 | 4·5206474 | 5·3299362 | 66 | 4·4952900 | 5·2955425 |
| 67 | 4·5162205 | 5·3230713 | 67 | 4·4921943 | 5·2908178 | 67 | 4·4668369 | 5·2567232 |
| 68 | 4·4859824 | 5·2813682 | 68 | 4·4619562 | 5·2494092 | 68 | 4·4365988 | 5·2156177 |
| 69 | 4·4537871 | 5·2372184 | 69 | 4·4297609 | 5·2055532 | 69 | 4·4044035 | 5·1720648 |
| 70 | 4·4194525 | 5·1904561 | 70 | 4·3954263 | 5·1590854 | 70 | 4·3700689 | 5·1258988 |
| 71 | 4·3827859 | 5·1409104 | 71 | 4·3587597 | 5·1098312 | 71 | 4·3334023 | 5·0769469 |
| 72 | 4·3435843 | 5·0884016 | 72 | 4·3195581 | 5·0576106 | 72 | 4·2942007 | 5·0250256 |
| 73 | 4·3016346 | 5·0327412 | 73 | 4·2776084 | 5·0022352 | 73 | 4·2522510 | 4·9699454 |
| 74 | 4·2567130 | 4·9737322 | 74 | 4·2326868 | 4·9435069 | 74 | 4·2073294 | 4·9115092 |
| 75 | 4·2085857 | 4·9111699 | 75 | 4·1845595 | 4·8812197 | 75 | 4·1592021 | 4·8495097 |
| 76 | 4·1570083 | 4·8448386 | 76 | 4·1329821 | 4·8151585 | 76 | 4·1076247 | 4·7837300 |
| 77 | 4·1017264 | 4·7745170 | 77 | 4·0777002 | 4·7450982 | 77 | 4·0523428 | 4·7139464 |
| 78 | 4·0424750 | 4·6999686 | 78 | 4·0184488 | 4·6708079 | 78 | 3·9930914 | 4·6399237 |
| 79 | 3·9789789 | 4·6209532 | 79 | 3·9549527 | 4·5920401 | 79 | 3·9295953 | 4·5614186 |
| 80 | 3·9109525 | 4·5372155 | 80 | 3·8869263 | 4·5085437 | 80 | 3·8615689 | 4·4781764 |
| 81 | 3·8380999 | 4·4484927 | 81 | 3·8140737 | 4·4200539 | 81 | 3·7887163 | 4·3899331 |
| 82 | 3·7601148 | 4·3545097 | 82 | 3·7360886 | 4·3262963 | 82 | 3·7107312 | 4·2964140 |
| 83 | 3·6766809 | 4·2549827 | 83 | 3·6526547 | 4·2269855 | 83 | 3·6272973 | 4·1973337 |
| 84 | 3·5874711 | 4·1496150 | 84 | 3·5634449 | 4·1218267 | 84 | 3·5380875 | 4·0923961 |
| 85 | 3·4921483 | 4·0380993 | 85 | 3·4681221 | 4·0105120 | 85 | 3·4427647 | 3·9812944 |
| 86 | 3·3903649 | 3·9201181 | 86 | 3·3663387 | 3·8927222 | 86 | 3·3409813 | 3·8637106 |
| 87 | 3·2817631 | 3·7953418 | 87 | 3·2577369 | 3·7681295 | 87 | 3·2323795 | 3·7393136 |
| 88 | 3·1659747 | 3·6634286 | 88 | 3·1419485 | 3·6363926 | 88 | 3·1165911 | 3·6077648 |
| 89 | 3·0426213 | 3·5240259 | 89 | 3·0185951 | 3·4971578 | 89 | 2·9932377 | 3·4687098 |
| 90 | 2·9113138 | 3·3767687 | 90 | 2·8872876 | 3·3500605 | 90 | 2·8619302 | 3·3217852 |
| 91 | 2·7716533 | 3·2212802 | 91 | 2·7476271 | 3·1947247 | 91 | 2·7222697 | 3·1666134 |
| 92 | 2·6232302 | 3·0571691 | 92 | 2·5992040 | 3·0307600 | 92 | 2·5738466 | 3·0028056 |
| 93 | 2·4656247 | 2·8840320 | 93 | 2·4415985 | 2·8577617 | 93 | 2·4162411 | 2·8299582 |
| 94 | 2·2984066 | 2·7014471 | 94 | 2·2743804 | 2·6753108 | 94 | 2·2490230 | 2·6476509 |
| 95 | 2·1211355 | 2·5089739 | 95 | 2·0971093 | 2·4829650 | 95 | 2·0717519 | 2·4554449 |
| 96 | 1·9333606 | 2·3061416 | 96 | 1·9093344 | 2·2802582 | 96 | 1·8839770 | 2·2528702 |
| 97 | 1·7346207 | 2·0924336 | 97 | 1·7105945 | 2·0666722 | 97 | 1·6852371 | 2·0394173 |
| 98 | 1·5244444 | 1·8672518 | 98 | 1·5004182 | 1·8416135 | 98 | 1·4750608 | 1·8144907 |
| 99 | 1·3023500 | 1·6298417 | 99 | 1·2783238 | 1·6043309 | 99 | 1·2529664 | 1·5773470 |
| 100 | 1·0678452 | 1·3791241 | 100 | 1·0438190 | 1·3537528 | 100 | 1·0184616 | 1·3269193 |
| 101 | 0·8204277 | 1·1133215 | 101 | 0·7964015 | 1·0881077 | 101 | 0·7710441 | 1·0614487 |
| 102 | 0·5595847 | 0·8290270 | 102 | 0·5355585 | 0·8040031 | 102 | 0·5102011 | 0·7775501 |
| 103 | 0·2847931 | 0·5187113 | 103 | 0·2607669 | 0·4939318 | 103 | 0·2354095 | 0·4677413 |
| 104 | 9·9955195 | 0·1626839 | 104 | 9·9714933 | 0·1382711 | 104 | 9·9461359 | 0·1124374 |
| 105 | 9·6912201 | | 105 | 9·6671939 | | 105 | 9·6418365 | |
| 106 | 9·3713409 | | 106 | 9·3473147 | | 106 | 9·3219573 | |
| 107 | 9·0353175 | | 107 | 9·0112913 | | 107 | 8·9859339 | |
| 108 | 8·6825752 | | 108 | 8·6585490 | | 108 | 8·6331916 | |
| 109 | 8·3125289 | | 109 | 8·2885027 | | 109 | 8·2631453 | |

## JOINT LIVES:—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 66 | | | 67 | | | 68 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,66}$ | $\lambda\ N_{x,\,66}$ | Age of (x) | $\lambda\ D_{x,\,67}$ | $\lambda\ N_{x,\,67}$ | Age of (x) | $\lambda\ D_{x,\,68}$ | $\lambda\ N_{x,\,68}$ |
| 0 | 5·4432840 | 6·2747043 | 0 | 5·4148309 | 6·2311065 | 0 | 5·3845928 | 6·1853872 |
| 1 | 5·3592818 | 6·2495589 | 1 | 5·3308287 | 6·2054356 | 1 | 5·3005906 | 6·1591643 |
| 2 | 5·3240009 | 6·2340331 | 2 | 5·2955478 | 6·1897053 | 2 | 5·2653097 | 6·1432175 |
| 3 | 5·3018876 | 6·2214607 | 3 | 5·2734345 | 6·1770241 | 3 | 5·2431964 | 6·1304222 |
| 4 | 5·2849859 | 6·2102735 | 4 | 5·2565328 | 6·1657733 | 4 | 5·2262947 | 6·1191034 |
| 5 | 5·2707585 | 6·1998983 | 5 | 5·2423054 | 6·1553621 | 5 | 5·2120673 | 6·1086530 |
| 6 | 5·2583973 | 6·1900548 | 6 | 5·2299442 | 6·1455035 | 6 | 5·1997061 | 6·0987756 |
| 7 | 5·2472538 | 6·1805482 | 7 | 5·2188007 | 6·1359946 | 7 | 5·1885626 | 6·0892638 |
| 8 | 5·2368396 | 6·1712489 | 8 | 5·2083865 | 6·1267046 | 8 | 5·1781484 | 6·0799807 |
| 9 | 5·2270922 | 6·1620790 | 9 | 5·1986391 | 6·1175524 | 9 | 5·1684010 | 6·0708451 |
| 10 | 5·2178570 | 6·1529613 | 10 | 5·1894039 | 6·1084584 | 10 | 5·1591658 | 6·0617747 |
| 11 | 5·2089925 | 6·1438301 | 11 | 5·1805394 | 6·0993560 | 11 | 5·1503013 | 6·0527001 |
| 12 | 5·2003705 | 6·1346341 | 12 | 5·1719174 | 6·0901900 | 12 | 5·1416793 | 6·0435650 |
| 13 | 5·1918760 | 6·1253294 | 13 | 5·1634229 | 6·0809182 | 13 | 5·1331848 | 6·0343244 |
| 14 | 5·1834071 | 6·1158874 | 14 | 5·1549540 | 6·0715068 | 14 | 5·1247159 | 6·0249456 |
| 15 | 5·1748753 | 6·1062858 | 15 | 5·1464222 | 6·0619363 | 15 | 5·1161841 | 6·0154046 |
| 16 | 5·1662050 | 6·0965138 | 16 | 5·1377519 | 6·0521929 | 16 | 5·1075138 | 6·0056905 |
| 17 | 5·1573342 | 6·0865695 | 17 | 5·1288811 | 6·0422746 | 17 | 5·0986430 | 5·9957984 |
| 18 | 5·1482137 | 6·0764581 | 18 | 5·1197606 | 6·0321875 | 18 | 5·0895225 | 5·9857350 |
| 19 | 5·1388079 | 6·0661914 | 19 | 5·1103548 | 6·0219436 | 19 | 5·0801167 | 5·9755131 |
| 20 | 5·1290941 | 6·0557891 | 20 | 5·1006410 | 6·0115615 | 20 | 5·0704029 | 5·9651523 |
| 21 | 5·1190629 | 6·0452729 | 21 | 5·0906098 | 6·0010671 | 21 | 5·0603717 | 5·9546771 |
| 22 | 5·1089513 | 6·0346690 | 22 | 5·0804982 | 5·9904854 | 22 | 5·0502601 | 5·9441173 |
| 23 | 5·0987620 | 6·0239768 | 23 | 5·0703089 | 5·9798155 | 23 | 5·0400708 | 5·9334701 |
| 24 | 5·0884968 | 6·0131920 | 24 | 5·0600437 | 5·9690556 | 24 | 5·0298056 | 5·9227327 |
| 25 | 5·0781567 | 6·0023109 | 25 | 5·0497036 | 5·9582006 | 25 | 5·0194655 | 5·9119030 |
| 26 | 5·0677418 | 5·9913298 | 26 | 5·0392887 | 5·9472464 | 26 | 5·0090506 | 5·9009758 |
| 27 | 5·0572514 | 5·9802421 | 27 | 5·0287983 | 5·9361889 | 27 | 4·9985602 | 5·8899458 |
| 28 | 5·0466839 | 5·9690421 | 28 | 5·0182308 | 5·9250201 | 28 | 4·9879927 | 5·8788075 |
| 29 | 5·0360371 | 5·9577227 | 29 | 5·0075840 | 5·9137344 | 29 | 4·9773459 | 5·8675540 |
| 30 | 5·0253077 | 5·9462754 | 30 | 4·9968546 | 5·9023232 | 30 | 4·9666165 | 5·8561778 |
| 31 | 5·0144917 | 5·9346918 | 31 | 4·9860386 | 5·8907783 | 31 | 4·9558005 | 5·8446699 |
| 32 | 5·0035842 | 5·9229620 | 32 | 4·9751311 | 5·8790898 | 32 | 4·9448930 | 5·8330215 |
| 33 | 4·9925795 | 5·9110747 | 33 | 4·9641264 | 5·8672474 | 33 | 4·9338883 | 5·8212219 |
| 34 | 4·9814711 | 5·8990189 | 34 | 4·9530180 | 5·8552394 | 34 | 4·9227799 | 5·8092600 |
| 35 | 4·9702516 | 5·8867813 | 35 | 4·9417985 | 5·8430536 | 35 | 4·9115604 | 5·7971234 |
| 36 | 4·9589128 | 5·8743484 | 36 | 4·9304597 | 5·8306758 | 36 | 4·9002216 | 5·7847988 |
| 37 | 4·9474456 | 5·8617051 | 37 | 4·9189925 | 5·8180919 | 37 | 4·8887544 | 5·7722718 |
| 38 | 4·9358402 | 5·8488354 | 38 | 4·9073871 | 5·8052856 | 38 | 4·8771490 | 5·7595268 |
| 39 | 4·9240858 | 5·8357215 | 39 | 4·8956327 | 5·7922402 | 39 | 4·8653946 | 5·7465470 |
| 40 | 4·9121710 | 5·8223443 | 40 | 4·8837179 | 5·7789367 | 40 | 4·8534798 | 5·7333143 |
| 41 | 4·9000833 | 5·8086836 | 41 | 4·8716302 | 5·7653549 | 41 | 4·8413921 | 5·7198085 |
| 42 | 4·8878095 | 5·7947174 | 42 | 4·8593564 | 5·7514731 | 42 | 4·8291183 | 5·7060084 |
| 43 | 4·8753355 | 5·7804214 | 43 | 4·8468824 | 5·7372682 | 43 | 4·8166443 | 5·6918907 |
| 44 | 4·8626466 | 5·7657694 | 44 | 4·8341935 | 5·7227138 | 44 | 4·8039554 | 5·6774306 |
| 45 | 4·8497269 | 5·7507333 | 45 | 4·8212738 | 5·7077822 | 45 | 4·7910357 | 5·6626000 |
| 46 | 4·8365599 | 5·7352817 | 46 | 4·8081068 | 5·6924428 | 46 | 4·7778687 | 5·6473689 |
| 47 | 4·8231282 | 5·7193809 | 47 | 4·7946751 | 5·6766622 | 47 | 4·7644370 | 5·6317044 |
| 48 | 4·8094136 | 5·7029935 | 48 | 4·7809605 | 5·6604034 | 48 | 4·7507224 | 5·6155702 |
| 49 | 4·7953970 | 5·6860780 | 49 | 4·7669439 | 5·6436258 | 49 | 4·7367058 | 5·5989257 |
| 50 | 4·7810586 | 5·6685903 | 50 | 4·7526055 | 5·6262841 | 50 | 4·7223674 | 5·5817266 |
| 51 | 4·7663776 | 5·6504793 | 51 | 4·7379245 | 5·6083294 | 51 | 4·7076864 | 5·5639231 |
| 52 | 4·7510879 | 5·6316894 | 52 | 4·7226348 | 5·5897056 | 52 | 4·6923967 | 5·5454608 |
| 53 | 4·7353534 | 5·6121945 | 53 | 4·7069003 | 5·5703876 | 53 | 4·6766622 | 5·5263152 |
| 54 | 4·7191568 | 5·5919383 | 54 | 4·6907037 | 5·5503196 | 54 | 4·6604656 | 5·5064314 |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 66 | | | 67 | | | 68 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,66}$ | $\lambda\ N_{x,\,66}$ | Age of (x) | $\lambda\ D_{x,\,67}$ | $\lambda\ N_{x,\,67}$ | Age of (x) | $\lambda\ D_{x,\,68}$ | $\lambda\ N_{x,\,68}$ |
| 55 | 4·7024709 | 5·5708570 | 55 | 4·6740178 | 5·5294387 | 55 | 4·6437797 | 5·4857459 |
| 56 | 4·6852580 | 5·5488797 | 56 | 4·6568049 | 5·5076731 | 56 | 4·6265668 | 5·4641889 |
| 57 | 4·6674700 | 5·5259273 | 57 | 4·6390169 | 5·4849447 | 57 | 4·6087788 | 5·4416805 |
| 58 | 4·6490485 | 5·5019151 | 58 | 4·6205954 | 5·4611677 | 58 | 4·5903573 | 5·4181360 |
| 59 | 4·6299249 | 5·4767504 | 59 | 4·6014718 | 5·4362497 | 59 | 4·5712337 | 5·3934621 |
| 60 | 4·6100201 | 5·4503343 | 60 | 4·5815670 | 5·4100908 | 60 | 4·5513289 | 5·3675587 |
| 61 | 4·5892148 | 5·4225599 | 61 | 4·5607917 | 5·3825850 | 61 | 4·5305536 | 5·3403190 |
| 62 | 4·5674993 | 5·3933165 | 62 | 4·5390462 | 5·3536179 | 62 | 4·5088081 | 5·3116294 |
| 63 | 4·5446736 | 5·3624840 | 63 | 4·5162205 | 5·3230713 | 63 | 4·4859824 | 5·2813682 |
| 64 | 4·5206474 | 5·3299362 | 64 | 4·4921943 | 5·2908178 | 64 | 4·4619562 | 5·2494092 |
| 65 | 4·4952900 | 5·2955425 | 65 | 4·4668369 | 5·2567232 | 65 | 4·4365988 | 5·2156177 |
| 66 | 4·4684604 | 5·2591623 | 66 | 4·4400073 | 5·2206490 | 66 | 4·4097692 | 5·1798516 |
| 67 | 4·4400073 | 5·2206496 | 67 | 4·4115542 | 5·1824481 | 67 | 4·3813161 | 5·1419646 |
| 68 | 4·4097692 | 5·1798516 | 68 | 4·3813161 | 5·1419646 | 68 | 4·3510780 | 5·1018007 |
| 69 | 4·3775739 | 5·1366099 | 69 | 4·3491208 | 5·0990384 | 69 | 4·3188827 | 5·0591968 |
| 70 | 4·3432393 | 5·0907549 | 70 | 4·3147862 | 5·0535025 | 70 | 4·2845481 | 5·0139834 |
| 71 | 4·3065727 | 5·0421123 | 71 | 4·2781196 | 5·0051784 | 71 | 4·2478815 | 4·9659859 |
| 72 | 4·2673711 | 4·9905005 | 72 | 4·2389180 | 4·9538829 | 72 | 4·2086799 | 4·9150155 |
| 73 | 4·2254214 | 4·9357269 | 73 | 4·1969683 | 4·8994260 | 73 | 4·1667302 | 4·8608810 |
| 74 | 4·1804998 | 4·8775931 | 74 | 4·1520467 | 4·8416054 | 74 | 4·1218086 | 4·8033834 |
| 75 | 4·1323725 | 4·8158917 | 75 | 4·1039194 | 4·7802129 | 75 | 4·0736813 | 4·7423103 |
| 76 | 4·0807951 | 4·7504066 | 76 | 4·0523420 | 4·7150318 | 76 | 4·0221039 | 4·6774436 |
| 77 | 4·0255132 | 4·6809109 | 77 | 3·9970601 | 4·6458354 | 77 | 3·9668220 | 4·6085574 |
| 78 | 3·9662618 | 4·6071695 | 78 | 3·9378087 | 4·5723880 | 78 | 3·9075706 | 4·5354148 |
| 79 | 3·9027657 | 4·5289390 | 79 | 3·8743126 | 4·4944443 | 79 | 3·8440745 | 4·4577696 |
| 80 | 3·8347393 | 4·4459645 | 80 | 3·8062862 | 4·4117495 | 80 | 3·7760481 | 4·3753661 |
| 81 | 3·7618867 | 4·3579803 | 81 | 3·7334336 | 4·3240383 | 81 | 3·7031955 | 4·2879391 |
| 82 | 3·6839016 | 4·2647130 | 82 | 3·6554485 | 4·2310346 | 82 | 3·6252104 | 4·1952128 |
| 83 | 3·6004677 | 4·1658759 | 83 | 3·5720146 | 4·1324540 | 83 | 3·5417765 | 4·0969000 |
| 84 | 3·5112579 | 4·0611734 | 84 | 3·4828048 | 4·0279987 | 84 | 3·4525667 | 3·9927055 |
| 85 | 3·4159351 | 3·9502977 | 85 | 3·3874820 | 3·9173626 | 85 | 3·3572439 | 3·8823202 |
| 86 | 3·3141517 | 3·8329308 | 86 | 3·2856986 | 3·8002261 | 86 | 3·2554605 | 3·7654271 |
| 87 | 3·2055499 | 3·7087446 | 87 | 3·1770968 | 3·6762600 | 87 | 3·1468587 | 3·6416952 |
| 88 | 3·0897615 | 3·5773953 | 88 | 3·0613084 | 3·5451252 | 88 | 3·0310703 | 3·5107835 |
| 89 | 2·9664081 | 3·4385322 | 89 | 2·9379550 | 3·4064662 | 89 | 2·9077169 | 3·3723425 |
| 90 | 2·8351006 | 3·2917916 | 90 | 2·8066475 | 3·2599208 | 90 | 2·7764094 | 3·2260049 |
| 91 | 2·6954401 | 3·1367964 | 91 | 2·6669870 | 3·1051131 | 91 | 2·6367489 | 3·0713959 |
| 92 | 2·5470170 | 2·9731565 | 92 | 2·5185639 | 2·9416535 | 92 | 2·4883258 | 2·9081278 |
| 93 | 2·3894115 | 2·8004696 | 93 | 2·3609584 | 2·7691387 | 93 | 2·3307203 | 2·7357968 |
| 94 | 2·2221934 | 2·6183180 | 94 | 2·1937403 | 2·5871517 | 94 | 2·1635022 | 2·5539849 |
| 95 | 2·0449223 | 2·4262607 | 95 | 2·0164692 | 2·3952548 | 95 | 1·9862311 | 2·3622581 |
| 96 | 1·8571474 | 2·2238312 | 96 | 1·8286943 | 2·1929798 | 96 | 1·7984562 | 2·1601491 |
| 97 | 1·6584075 | 2·0105183 | 97 | 1·6299544 | 1·9798210 | 97 | 1·5997163 | 1·9471527 |
| 98 | 1·4482312 | 1·7857362 | 98 | 1·4197781 | 1·7551886 | 98 | 1·3895400 | 1·7226866 |
| 99 | 1·2261368 | 1·5487395 | 99 | 1·1976837 | 1·5183534 | 99 | 1·1674456 | 1.4860166 |
| 100 | 0·9916320 | 1·2984754 | 100 | 0·9631789 | 1·2682620 | 100 | 0·9329408 | 1·2361138 |
| 101 | 0·7442145 | 1·0331904 | 101 | 0·7157614 | 1·0031804 | 101 | 0·6855233 | 0·9712480 |
| 102 | 0·4833715 | 0·7495276 | 102 | 0·4549184 | 0·7197621 | 102 | 0·4246803 | 0·6880993 |
| 103 | 0·2085799 | 0·4400112 | 103 | 0·1801268 | 0·4105748 | 103 | 0·1498887 | 0·3792511 |
| 104 | 9·9193063 | 0·0850764 | 104 | 9·8908532 | 0·0560659 | 104 | 9·8606151 | 0·0252239 |
| 105 | 9·6150069 | | 105 | 9·5865538 | | 105 | 9·5563157 | |
| 106 | 9·2951277 | | 106 | 9·2666746 | | 106 | 9·2364365 | |
| 107 | 8·9591043 | | 107 | 8·9306512 | | 107 | 8·9004131 | |
| 108 | 8·6063620 | | 108 | 8·5779089 | | 108 | 8·5476708 | |
| 109 | 8·2363157 | | 109 | 8·2078626 | | 109 | 8·1776245 | |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x, y}$ and $N_{x, y}$.

| Age of ($y$) | 69 | | | 70 | | | 71 | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$) | $\lambda\ D_{x,69}$ | $\lambda\ N_{x,69}$ | Age of ($x$) | $\lambda\ D_{x,70}$ | $\lambda\ N_{x,70}$ | Age of ($x$) | $\lambda\ D_{x,71}$ | $\lambda\ N_{x,71}$ |
| 0 | 5·3523975 | 6·1373984 | 0 | 5·3180629 | 6·0869849 | 0 | 5·2813963 | 6·0339812 |
| 1 | 5·2683953 | 6·1105961 | 1 | 5·2340607 | 6·0595744 | 1 | 5·1973941 | 6·0059339 |
| 2 | 5·2331144 | 6·0944233 | 2 | 5·1987798 | 6·0431646 | 2 | 5·1621132 | 5·9892758 |
| 3 | 5·2110011 | 6·0815057 | 3 | 5·1766665 | 6·0301203 | 3 | 5·1399999 | 5·9760986 |
| 4 | 5·1940994 | 6·0701159 | 4 | 5·1597648 | 6·0186527 | 4 | 5·1230982 | 5·9645505 |
| 5 | 5·1798720 | 6·0596225 | 5 | 5·1455374 | 6·0081145 | 5 | 5·1088708 | 5·9539620 |
| 6 | 5·1675108 | 6·0497237 | 6 | 5·1331762 | 5·9981913 | 6 | 5·0965096 | 5·9440136 |
| 7 | 5·1563673 | 6·0402062 | 7 | 5·1220327 | 5·9886660 | 7 | 5·0853661 | 5·9344773 |
| 8 | 5·1459531 | 6·0309294 | 8 | 5·1116185 | 5·9793931 | 8 | 5·0749519 | 5·9252069 |
| 9 | 5·1362057 | 6·0218089 | 9 | 5·1018711 | 5·9702869 | 9 | 5·0652045 | 5·9161132 |
| 10 | 5·1269705 | 6·0127609 | 10 | 5·0926359 | 5·9612602 | 10 | 5·0559693 | 5·9071076 |
| 11 | 5·1181060 | 6·0037139 | 11 | 5·0837714 | 5·9522401 | 11 | 5·0471048 | 5·8981134 |
| 12 | 5·1094840 | 5·9946093 | 12 | 5·0751494 | 5·9431659 | 12 | 5·0384828 | 5·8890691 |
| 13 | 5·1009895 | 5·9854009 | 13 | 5·0666549 | 5·9339891 | 13 | 5·0299883 | 5·8799241 |
| 14 | 5·0925206 | 5·9760532 | 14 | 5·0581860 | 5·9246736 | 14 | 5·0215194 | 5·8706403 |
| 15 | 5·0839888 | 5·9665434 | 15 | 5·0496542 | 5·9151940 | 15 | 5·0129876 | 5·8611914 |
| 16 | 5·0753185 | 5·9568573 | 16 | 5·0409839 | 5·9055368 | 16 | 5·0043173 | 5·8515623 |
| 17 | 5·0664477 | 5·9469918 | 17 | 5·0321131 | 5·8956976 | 17 | 4·9954465 | 5·8417492 |
| 18 | 5·0573272 | 5·9369518 | 18 | 5·0229926 | 5·8856812 | 18 | 4·9863260 | 5·8317563 |
| 19 | 5·0479214 | 5·9267514 | 19 | 5·0135868 | 5·8755017 | 19 | 4·9769202 | 5·8215979 |
| 20 | 5·0382076 | 5·9164108 | 20 | 5·0038730 | 5·8651804 | 20 | 4·9672064 | 5·8112955 |
| 21 | 5·0281764 | 5·9059555 | 21 | 4·9938418 | 5·8547442 | 21 | 4·9571752 | 5·8008774 |
| 22 | 5·0180648 | 5·8954154 | 22 | 4·9837302 | 5·8442240 | 22 | 4·9470636 | 5·7903764 |
| 23 | 5·0078755 | 5·8847903 | 23 | 4·9735409 | 5·8336190 | 23 | 4·9368743 | 5·7797910 |
| 24 | 4·9976103 | 5·8740756 | 24 | 4·9632757 | 5·8229265 | 24 | 4·9266091 | 5·7691194 |
| 25 | 4·9872702 | 5·8632695 | 25 | 4·9529356 | 5·8121435 | 25 | 4·9162690 | 5·7583584 |
| 26 | 4·9768553 | 5·8523678 | 26 | 4·9425207 | 5·8012658 | 26 | 4·9058541 | 5·7475043 |
| 27 | 4·9663649 | 5·8413651 | 27 | 4·9320303 | 5·7902891 | 27 | 4·8953637 | 5·7365525 |
| 28 | 4·9557974 | 5·8302557 | 28 | 4·9214628 | 5·7792077 | 28 | 4·8847962 | 5·7254976 |
| 29 | 4·9451506 | 5·8190333 | 29 | 4·9108160 | 5·7680149 | 29 | 4·8741494 | 5·7143334 |
| 30 | 4·9344212 | 5·8076902 | 30 | 4·9000866 | 5·7567038 | 30 | 4·8634200 | 5·7030525 |
| 31 | 4·9236052 | 5·7962183 | 31 | 4·8892706 | 5·7452659 | 31 | 4·8526040 | 5·6916475 |
| 32 | 4·9126977 | 5·7846080 | 32 | 4·8783631 | 5·7336925 | 32 | 4·8416965 | 5·6801091 |
| 33 | 4·9016930 | 5·7728496 | 33 | 4·8673584 | 5·7219732 | 33 | 4·8306918 | 5·6684277 |
| 34 | 4·8905846 | 5·7609317 | 34 | 4·8562500 | 5·7100977 | 34 | 4·8195834 | 5·6565926 |
| 35 | 4·8793651 | 5·7488425 | 35 | 4·8450305 | 5·6980538 | 35 | 4·8083639 | 5·6445922 |
| 36 | 4·8680263 | 5·7365688 | 36 | 4·8336917 | 5·6858291 | 36 | 4·7970251 | 5·6324140 |
| 37 | 4·8565591 | 5·7240966 | 37 | 4·8222245 | 5·6734092 | 37 | 4·7855579 | 5·6200445 |
| 38 | 4·8449537 | 5·7114103 | 38 | 4·8106191 | 5·6607795 | 38 | 4·7739525 | 5·6074687 |
| 39 | 4·8331993 | 5·6984937 | 39 | 4·7988647 | 5·6479234 | 39 | 4·7621981 | 5·5946707 |
| 40 | 4·8212845 | 5·6853286 | 40 | 4·7869499 | 5·6348234 | 40 | 4·7502833 | 5·5816331 |
| 41 | 4·8091968 | 5·6718960 | 41 | 4·7748622 | 5·6214607 | 41 | 4·7381956 | 5·5683375 |
| 42 | 4·7969230 | 5·6581745 | 42 | 4·7625884 | 5·6078146 | 42 | 4·7259218 | 5·5547636 |
| 43 | 4·7844490 | 5·6441411 | 43 | 4·7501144 | 5·5938625 | 43 | 4·7134478 | 5·5408892 |
| 44 | 4·7717601 | 5·6297713 | 44 | 4·7374255 | 5·5795797 | 44 | 4·7007589 | 5·5266902 |
| 45 | 4·7588404 | 5·6150383 | 45 | 4·7245058 | 5·5649399 | 45 | 4·6878392 | 5·5121403 |
| 46 | 4·7456734 | 5·5999115 | 46 | 4·7113388 | 5·5499141 | 46 | 4·6746722 | 5·4972107 |
| 47 | 4·7322417 | 5·5843591 | 47 | 4·6979071 | 5·5344695 | 47 | 4·6612405 | 5·4818705 |
| 48 | 4·7185271 | 5·5683449 | 48 | 4·6841925 | 5·5185712 | 48 | 4·6475259 | 5·4660837 |
| 49 | 4·7045105 | 5·5518293 | 49 | 4·6701759 | 5·5021797 | 49 | 4·6335093 | 5·4498118 |
| 50 | 4·6901721 | 5·5347680 | 50 | 4·6558375 | 5·4852515 | 50 | 4·6191709 | 5·4330116 |
| 51 | 4·6754911 | 5·5171118 | 51 | 4·6411565 | 5·4677375 | 51 | 4·6044899 | 5·4156348 |
| 52 | 4·6602014 | 5·4988053 | 52 | 4·6258668 | 5·4495827 | 52 | 4·5892002 | 5·3976262 |
| 53 | 4·6444669 | 5·4798276 | 53 | 4·6101323 | 5·4307668 | 53 | 4·5734657 | 5·3789676 |
| 54 | 4·6282703 | 5·4601229 | 54 | 4·5939357 | 5·4112365 | 54 | 4·5572691 | 5·3596053 |

## JOINT LIVES:—Two Males.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of ( ) | 69 | | | 70 | | | 71 | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$) | λ $D_{x,\,69}$ | λ $N_{x,\,69}$ | Age of ($x$) | λ $D_{x,\,70}$ | λ $N_{x,\,70}$ | Age of ($x$) | λ $D_{x,\,71}$ | λ $N_{x,\,71}$ |
| 55 | 4·6115844 | 5·4396290 | 55 | 4·5772498 | 5·3909288 | 55 | 4·5405832 | 5·3394787 |
| 56 | 4·5943715 | 5·4182750 | 56 | 4·5600369 | 5·3697738 | 56 | 4·5233703 | 5·3185172 |
| 57 | 4·5765835 | 5·3959834 | 57 | 4·5422489 | 5·3476931 | 57 | 4·5055823 | 5·2966431 |
| 58 | 4·5581620 | 5·3726674 | 58 | 4·5238274 | 5·3246018 | 58 | 4·4871608 | 5·2737705 |
| 59 | 4·5390384 | 5·3482344 | 59 | 4·5047038 | 5·3004055 | 59 | 4·4680372 | 5·2498072 |
| 60 | 4·5191336 | 5·3225837 | 60 | 4·4847990 | 5·2750043 | 60 | 4·4481324 | 5·2246509 |
| 61 | 4·4983583 | 5·2956082 | 61 | 4·4640237 | 5·2482902 | 61 | 4·4273571 | 5·1981943 |
| 62 | 4·4766128 | 5·2671936 | 62 | 4·4422782 | 5·2201478 | 62 | 4·4056116 | 5·1703216 |
| 63 | 4·4537871 | 5·2372184 | 63 | 4·4194525 | 5·1904561 | 63 | 4·3827859 | 5·1409104 |
| 64 | 4·4297609 | 5·2055532 | 64 | 4·3954263 | 5·1590854 | 64 | 4·3587597 | 5·1098312 |
| 65 | 4·4044035 | 5·1720648 | 65 | 4·3700689 | 5·1258988 | 65 | 4·3334023 | 5·0769469 |
| 66 | 4·3775739 | 5·1366099 | 66 | 4·3432393 | 5·0907549 | 66 | 4·3065727 | 5·0421123 |
| 67 | 4·3491208 | 5·0990384 | 67 | 4·3147862 | 5·0535025 | 67 | 4·2781196 | 5·0051784 |
| 68 | 4·3188827 | 5·0591968 | 68 | 4·2845481 | 5·0139834 | 68 | 4·2478815 | 4·9659859 |
| 69 | 4·2866874 | 5·0169193 | 69 | 4·2523528 | 4·9720356 | 69 | 4·2156862 | 4·9243672 |
| 70 | 4·2523528 | 4·9720356 | 70 | 4·2180182 | 4·9274853 | 70 | 4·1813516 | 4·8801531 |
| 71 | 4·2156862 | 4·9243672 | 71 | 4·1813516 | 4·8801531 | 71 | 4·1446850 | 4·8331605 |
| 72 | 4·1764846 | 4·8737303 | 72 | 4·1421500 | 4·8298516 | 72 | 4·1054834 | 4·7832008 |
| 73 | 4·1345349 | 4·8199274 | 73 | 4·1002003 | 4·7763881 | 73 | 4·0635337 | 4·7300786 |
| 74 | 4·0896133 | 4·7627581 | 74 | 4·0552787 | 4·7195558 | 74 | 4·0186121 | 4·6735904 |
| 75 | 4·0414860 | 4·7020133 | 75 | 4·0071514 | 4·6591448 | 75 | 3·9704848 | 4·6135217 |
| 76 | 3·9899086 | 4·6374714 | 76 | 3·9555740 | 4·5949362 | 76 | 3·9189074 | 4·5496523 |
| 77 | 3·9346267 | 4·5689054 | 77 | 3·9002921 | 4·5266991 | 77 | 3·8636255 | 4·4817520 |
| 78 | 3·8753753 | 4·4960774 | 78 | 3·8410407 | 4·4541961 | 78 | 3·8043741 | 4·4095818 |
| 79 | 3·8118792 | 4·4187416 | 79 | 3·7775446 | 4·3771789 | 79 | 3·7408780 | 4·3328937 |
| 80 | 3·7438528 | 4·3366410 | 80 | 3·7095182 | 4·2953918 | 80 | 3·6728516 | 4·2514287 |
| 81 | 3·6710002 | 4·2495097 | 81 | 3·6366656 | 4·2085671 | 81 | 3·5999990 | 4·1649207 |
| 82 | 3·5930151 | 4·1570715 | 82 | 3·5586805 | 4·1164281 | 82 | 3·5220139 | 4·0730916 |
| 83 | 3·5095812 | 4·0590398 | 83 | 3·4752466 | 4·0186884 | 83 | 3·4385800 | 3·9756532 |
| 84 | 3·4203714 | 3·9551165 | 84 | 3·3860368 | 3·9150493 | 84 | 3·3493702 | 3·8723095 |
| 85 | 3·3250486 | 3·8449957 | 85 | 3·2907140 | 3·8052024 | 85 | 3·2540474 | 3·7627499 |
| 86 | 3·2232652 | 3·7283562 | 86 | 3·1889306 | 3·6888308 | 86 | 3·1522640 | 3·6466546 |
| 87 | 3·1146634 | 3·6048716 | 87 | 3·0803288 | 3·5656023 | 87 | 3·0436622 | 3·5236958 |
| 88 | 2·9988750 | 3·4741976 | 88 | 2·9645404 | 3·4351782 | 88 | 2·9278738 | 3·3935316 |
| 89 | 2·8755216 | 3·3359839 | 89 | 2·8411870 | 3·2972043 | 89 | 2·8045204 | 3·2558088 |
| 90 | 2·7442141 | 3·1898658 | 90 | 2·7098795 | 3·1513174 | 90 | 2·6732129 | 3·1101636 |
| 91 | 2·6045536 | 3·0354678 | 91 | 2·5702190 | 2·9971412 | 91 | 2·5335524 | 2·9562213 |
| 92 | 2·4561305 | 2·8724010 | 92 | 2·4217959 | 2·8342885 | 92 | 2·3851293 | 2·7935920 |
| 93 | 2·2985250 | 2·7002657 | 93 | 2·2641904 | 2·6623564 | 93 | 2·2275238 | 2·6218770 |
| 94 | 2·1313069 | 2·5186416 | 94 | 2·0969723 | 2·4809321 | 94 | 2·0603057 | 2·4406588 |
| 95 | 1·9540358 | 2·3270940 | 95 | 1·9197012 | 2·2895754 | 95 | 1·8830346 | 2·2495056 |
| 96 | 1·7662609 | 2·1251614 | 96 | 1·7319263 | 2·0878283 | 96 | 1·6952597 | 2·0479548 |
| 97 | 1·5675210 | 1·9123379 | 97 | 1·5331864 | 1·8751892 | 97 | 1·4965198 | 1·8355086 |
| 98 | 1·3573447 | 1·6880459 | 98 | 1·3230101 | 1·6510812 | 98 | 1·2863435 | 1·6115980 |
| 99 | 1·1352503 | 1·4515608 | 99 | 1·1009157 | 1·4147896 | 99 | 1·0642491 | 1·3755063 |
| 100 | 0·9007455 | 1·2018476 | 100 | 0·8664109 | 1·1652918 | 100 | 0·8297443 | 1·1262353 |
| 101 | 0·6533280 | 0·9372169 | 101 | 0·6189934 | 0·9008912 | 101 | 0·5823268 | 0·8621016 |
| 102 | 0·3924850 | 0·6543498 | 102 | 0·3581504 | 0·6183410 | 102 | 0·3214838 | 0·5798522 |
| 103 | 0·1176934 | 0·3458832 | 103 | 0·0833588 | 0·3102684 | 103 | 0·0466922 | 0·2722362 |
| 104 | 9·8284198 | $\bar{1}$·9923326 | 104 | 9·7940852 | $\bar{1}$·9572720 | 104 | 9·7574186 | $\bar{1}$·9198100 |
| 105 | 9·5241204 | | 105 | 9·4897858 | | 105 | 9·4531192 | |
| 106 | 9·2042412 | | 106 | 9·1699066 | | 106 | 9·1332400 | |
| 107 | 8·8682178 | | 107 | 8·8338832 | | 107 | 8·7972166 | |
| 108 | 8·5154755 | | 108 | 8·4811409 | | 108 | 8·4444743 | |
| 109 | 8·1454292 | | 109 | 8·1110946 | | 109 | 8·0744280 | |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 72 | | | 73 | | | 74 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,72}$ | $\lambda\ N_{x,\,72}$ | Age of (x) | $\lambda\ D_{x,\,73}$ | $\lambda\ N_{x,\,73}$ | Age of (x) | $\lambda\ D_{x,\,74}$ | $\lambda\ N_{x,\,74}$ |
| 0 | 5·2421947 | 5·9782102 | 0 | 5·2002450 | 5·9194897 | 0 | 5·1553234 | 5·8576250 |
| 1 | 5·1581935 | 5·9495007 | 1 | 5·1162428 | 5·8900883 | 1 | 5·0713212 | 5·8275037 |
| 2 | 5·1229116 | 5·9325834 | 2 | 5·0809619 | 5·8729035 | 2 | 5·0360403 | 5·8100409 |
| 3 | 5·1007983 | 5·9192664 | 3 | 5·0588486 | 5·8594409 | 3 | 5·0139270 | 5·7964286 |
| 4 | 5·0838966 | 5·9076338 | 4 | 5·0419469 | 5·8477182 | 4 | 4·9970253 | 5·7846124 |
| 5 | 5·0696692 | 5·8969933 | 5 | 5·0277195 | 5·8370225 | 5 | 4·9827979 | 5·7738568 |
| 6 | 5·0573080 | 5·8870143 | 6 | 5·0153583 | 5·8270124 | 6 | 4·9704367 | 5·7638119 |
| 7 | 5·0461645 | 5·8774664 | 7 | 5·0042148 | 5·8174484 | 7 | 4·9592932 | 5·7542318 |
| 8 | 5·0357503 | 5·8681958 | 8 | 4·9938006 | 5·8081770 | 8 | 4·9488790 | 5·7449562 |
| 9 | 5·0260029 | 5·8591137 | 9 | 4·9840532 | 5·7991041 | 9 | 4·9391316 | 5·7358918 |
| 10 | 5·0167677 | 5·8501271 | 10 | 4·9748180 | 5·7901363 | 10 | 4·9298964 | 5·7269410 |
| 11 | 5·0079032 | 5·8411592 | 11 | 4·9659535 | 5·7811930 | 11 | 4·9210319 | 5·7180215 |
| 12 | 4·9992812 | 5·8321441 | 12 | 4·9573315 | 5·7722069 | 12 | 4·9124099 | 5·7090640 |
| 13 | 4·9907867 | 5·8230305 | 13 | 4·9488370 | 5·7631242 | 13 | 4·9039154 | 5·7000121 |
| 14 | 4·9823178 | 5·8137784 | 14 | 4·9403681 | 5·7539038 | 14 | 4·8954465 | 5·6908229 |
| 15 | 4·9737860 | 5·8043603 | 15 | 4·9318363 | 5·7445165 | 15 | 4·8869147 | 5·6814662 |
| 16 | 4·9651157 | 5·7947600 | 16 | 4·9231660 | 5·7349449 | 16 | 4·8782444 | 5·6719233 |
| 17 | 4·9562449 | 5·7849726 | 17 | 4·9142952 | 5·7251834 | 17 | 4·8693736 | 5·6621877 |
| 18 | 4·9471244 | 5·7750028 | 18 | 4·9051747 | 5·7152364 | 18 | 4·8602531 | 5·6522635 |
| 19 | 4·9377186 | 5·7648649 | 19 | 4·8957689 | 5·7051185 | 19 | 4·8508473 | 5·6421652 |
| 20 | 4·9280048 | 5·7545809 | 20 | 4·8860551 | 5·6948527 | 20 | 4·8411335 | 5·6319168 |
| 21 | 4·9179736 | 5·7441804 | 21 | 4·8760239 | 5·6844688 | 21 | 4·8311023 | 5·6215495 |
| 22 | 4·9078620 | 5·7336975 | 22 | 4·8659123 | 5·6740035 | 22 | 4·8209907 | 5·6111008 |
| 23 | 4·8976727 | 5·7231314 | 23 | 4·8557230 | 5·6634556 | 23 | 4·8108014 | 5·6005703 |
| 24 | 4·8874075 | 5·7124796 | 24 | 4·8454578 | 5·6528232 | 24 | 4·8005362 | 5·5899562 |
| 25 | 4·8770674 | 5·7017398 | 25 | 4·8351177 | 5·6421035 | 25 | 4·7901961 | 5·5792562 |
| 26 | 4·8666525 | 5·6909082 | 26 | 4·8247028 | 5·6312933 | 26 | 4·7797812 | 5·5684664 |
| 27 | 4·8561621 | 5·6799803 | 27 | 4·8142124 | 5·6203883 | 27 | 4·7692908 | 5·5575831 |
| 28 | 4·8455946 | 5·6689507 | 28 | 4·8036449 | 5·6093831 | 28 | 4·7587233 | 5·5466013 |
| 29 | 4·8349478 | 5·6578137 | 29 | 4·7929981 | 5·5982720 | 29 | 4·7480765 | 5·5355152 |
| 30 | 4·8242184 | 5·6465623 | 30 | 4·7822687 | 5·5870484 | 30 | 4·7373471 | 5·5243178 |
| 31 | 4·8134024 | 5·6351882 | 31 | 4·7714527 | 5·5757045 | 31 | 4·7265311 | 5·5130022 |
| 32 | 4·8024949 | 5·6236834 | 32 | 4·7605452 | 5·5642315 | 32 | 4·7156236 | 5·5015602 |
| 33 | 4·7914902 | 5·6120379 | 33 | 4·7495405 | 5·5526206 | 33 | 4·7046189 | 5·4899819 |
| 34 | 4·7803818 | 5·6002417 | 34 | 4·7384321 | 5·5408611 | 34 | 4·6935105 | 5·4782577 |
| 35 | 4·7691623 | 5·5882828 | 35 | 4·7272126 | 5·5289421 | 35 | 4·6822910 | 5·4663765 |
| 36 | 4·7578235 | 5·5761495 | 36 | 4·7158738 | 5·5168513 | 36 | 4·6709522 | 5·4543267 |
| 37 | 4·7463563 | 5·5638277 | 37 | 4·7044066 | 5·5045756 | 37 | 4·6594850 | 5·4420947 |
| 38 | 4·7347509 | 5·5513037 | 38 | 4·6928012 | 5·4921007 | 38 | 4·6478796 | 5·4296672 |
| 39 | 4·7229965 | 5·5385612 | 39 | 4·6810468 | 5·4794114 | 39 | 4·6361252 | 5·4170283 |
| 40 | 4·7110817 | 5·5255835 | 40 | 4·6691320 | 5·4664908 | 40 | 4·6242104 | 5·4041624 |
| 41 | 4·6989940 | 5·5123521 | 41 | 4·6570443 | 5·4533210 | 41 | 4·6121227 | 5·3910513 |
| 42 | 4·6867202 | 5·4988472 | 42 | 4·6447705 | 5·4398822 | 42 | 4·5998489 | 5·3776759 |
| 43 | 4·6742462 | 5·4850474 | 43 | 4·6322965 | 5·4261535 | 43 | 4·5873749 | 5·3640150 |
| 44 | 4·6615573 | 5·4709286 | 44 | 4·6196076 | 5·4121115 | 44 | 4·5746860 | 5·3500463 |
| 45 | 4·6486376 | 5·4564650 | 45 | 4·6066879 | 5·3977308 | 45 | 4·5617663 | 5·3357446 |
| 46 | 4·6354706 | 5·4416284 | 46 | 4·5935209 | 5·3829832 | 46 | 4·5485993 | 5·3210827 |
| 47 | 4·6220389 | 5·4263875 | 47 | 4·5800892 | 5·3678381 | 47 | 4·5351676 | 5·3060292 |
| 48 | 4·6083243 | 5·4107083 | 48 | 4·5663746 | 5·3522612 | 48 | 4·5214530 | 5·2905512 |
| 49 | 4·5943077 | 5·3945515 | 49 | 4·5523580 | 5·3362155 | 49 | 4·5074364 | 5·2746106 |
| 50 | 4·5799693 | 5·3778746 | 50 | 4·5380196 | 5·3196571 | 50 | 4·4930980 | 5·2581666 |
| 51 | 4·5652883 | 5·3606294 | 51 | 4·5233386 | 5·3025386 | 51 | 4·4784170 | 5·2411698 |
| 52 | 4·5499986 | 5·3427619 | 52 | 4·5080489 | 5·2848060 | 52 | 4·4631273 | 5·2235668 |
| 53 | 4·5342641 | 5·3242547 | 53 | 4·4923144 | 5·2664451 | 53 | 4·4473928 | 5·2053454 |
| 54 | 4·5180675 | 5·3050557 | 54 | 4·4761178 | 5·2474032 | 54 | 4·4311962 | 5·1864551 |

## JOINT LIVES:—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 72 | | | 73 | | | 74 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,72}$ | λ $N_{x,\,72}$ | Age of (x) | λ $D_{x,\,73}$ | λ $N_{x,\,73}$ | Age of (x) | λ $D_{x,\,74}$ | λ $N_{x,\,74}$ |
| 55 | 4·5013816 | 5·2851036 | 55 | 4·4594319 | 5·2276203 | 55 | 4·4145103 | 5·1668355 |
| 56 | 4·4841687 | 5·2643299 | 56 | 4·4422190 | 5·2070282 | 56 | 4·3972974 | 5·1464189 |
| 57 | 4·4663807 | 5·2426567 | 57 | 4·4244310 | 5·1855496 | 57 | 4·3795094 | 5·1251286 |
| 58 | 4·4479592 | 5·2199982 | 58 | 4·4060095 | 5·1630993 | 58 | 4·3610879 | 5·1028801 |
| 59 | 4·4288356 | 5·1962613 | 59 | 4·3868859 | 5·1395842 | 59 | 4·3419643 | 5·0795803 |
| 60 | 4·4089308 | 5·1713461 | 60 | 4·3669811 | 5·1149028 | 60 | 4·3220595 | 5·0551282 |
| 61 | 4·3881555 | 5·1451423 | 61 | 4·3462058 | 5·0889479 | 61 | 4·3012842 | 5·0294146 |
| 62 | 4·3664100 | 5·1175354 | 62 | 4·3244603 | 5·0616013 | 62 | 4·2795387 | 5·0023246 |
| 63 | 4·3435843 | 5·0884016 | 63 | 4·3016346 | 5·0327412 | 63 | 4·2567130 | 4·9737322 |
| 64 | 4·3195581 | 5·0576106 | 64 | 4·2776084 | 5·0022352 | 64 | 4·2326868 | 4·9435069 |
| 65 | 4·2942007 | 5·0250256 | 65 | 4·2522510 | 4·9699454 | 65 | 4·2073294 | 4·9115092 |
| 66 | 4·2673711 | 4·9905005 | 66 | 4·2254214 | 4·9357269 | 66 | 4·1804998 | 4·8775931 |
| 67 | 4·2389180 | 4·9538829 | 67 | 4·1969683 | 4·8994260 | 67 | 4·1520467 | 4·8416054 |
| 68 | 4·2086799 | 4·9150155 | 68 | 4·1667302 | 4·8608810 | 68 | 4·1218086 | 4·8033834 |
| 69 | 4·1764846 | 4·8737303 | 69 | 4·1345349 | 4·8199274 | 69 | 4·0896133 | 4·7627581 |
| 70 | 4·1421500 | 4·8298516 | 70 | 4·1002003 | 4·7763881 | 70 | 4·0552787 | 4·7195558 |
| 71 | 4·1054834 | 4·7832008 | 71 | 4·0635337 | 4·7300786 | 71 | 4·0186121 | 4·6735904 |
| 72 | 4·0662818 | 4·7335864 | 72 | 4·0243321 | 4·6808113 | 72 | 3·9794105 | 4·6246699 |
| 73 | 4·0243321 | 4·6808113 | 73 | 3·9823824 | 4·6283854 | 73 | 3·9374608 | 4·5725956 |
| 74 | 3·9794105 | 4·6246699 | 74 | 3·9374608 | 4·5725956 | 74 | 3·8925392 | 4·5171589 |
| 75 | 3·9312832 | 4·5649489 | 75 | 3·8893335 | 4·5132261 | 75 | 3·8444119 | 4·4581448 |
| 76 | 3·8797058 | 4·5014256 | 76 | 3·8377561 | 4·4500541 | 76 | 3·7928345 | 4·3953276 |
| 77 | 3·8244239 | 4·4338690 | 77 | 3·7824742 | 4·3828472 | 77 | 3·7375526 | 4·3284750 |
| 78 | 3·7651725 | 4·3620393 | 78 | 3·7232228 | 4·3113643 | 78 | 3·6783012 | 4·2573447 |
| 79 | 3·7016764 | 4·2856874 | 79 | 3·6597267 | 4·2353557 | 79 | 3·6148051 | 4·1816852 |
| 80 | 3·6336500 | 4·2045546 | 80 | 3·5917003 | 4·1545615 | 80 | 3·5467787 | 4·1012365 |
| 81 | 3·5607974 | 4·1183715 | 81 | 3·5188477 | 4·0687133 | 81 | 3·4739261 | 4·0157289 |
| 82 | 3·4828123 | 4·0268616 | 82 | 3·4408626 | 3·9775307 | 82 | 3·3959410 | 3·9248828 |
| 83 | 3·3993784 | 3·9297361 | 83 | 3·3574287 | 3·8807262 | 83 | 3·3125071 | 3·8284072 |
| 84 | 3·3101686 | 3·8266953 | 84 | 3·2682189 | 3·7780007 | 84 | 3·2232973 | 3·7260039 |
| 85 | 3·2148458 | 3·7174334 | 85 | 3·1728961 | 3·6690425 | 85 | 3·1279745 | 3·6173621 |
| 86 | 3·1130624 | 3·6016277 | 86 | 3·0711127 | 3·5535359 | 86 | 3·0261911 | 3·5021608 |
| 87 | 3·0044606 | 3·4789473 | 87 | 2·9625109 | 3·4311464 | 87 | 2·9175893 | 3·3800712 |
| 88 | 2·8886722 | 3·3490539 | 88 | 2·8467225 | 3·3015334 | 88 | 2·8018009 | 3·2507493 |
| 89 | 2·7653188 | 3·2115930 | 89 | 2·7233691 | 3·1643443 | 89 | 2·6784475 | 3·1138421 |
| 90 | 2·6340113 | 3·0662011 | 90 | 2·5920616 | 3·0192156 | 90 | 2·5471400 | 2·9689856 |
| 91 | 2·4943508 | 2·9125021 | 91 | 2·4524011 | 2·8657712 | 91 | 2·4074795 | 2·8158055 |
| 92 | 2·3459277 | 2·7501094 | 92 | 2·3039780 | 2·7036232 | 92 | 2·2590564 | 2·6539126 |
| 93 | 2·1883222 | 2·5786198 | 93 | 2·1463725 | 2·5323721 | 93 | 2·1014509 | 2·4829079 |
| 94 | 2·0211041 | 2·3976202 | 94 | 1·9791544 | 2·3516014 | 94 | 1·9342328 | 2·3023757 |
| 95 | 1·8438330 | 2·2066786 | 95 | 1·8018833 | 2·1608801 | 95 | 1·7569617 | 2·1118859 |
| 96 | 1·6560581 | 2·0053346 | 96 | 1·6141084 | 1·9597519 | 96 | 1·5691868 | 1·9109833 |
| 97 | 1·4573182 | 1·7930916 | 97 | 1·4153685 | 1·7477233 | 97 | 1·3704469 | 1·6991767 |
| 98 | 1·2471419 | 1·5693844 | 98 | 1·2051922 | 1·5242299 | 98 | 1·1602707 | 1·4759093 |
| 99 | 1·0250475 | 1·3335117 | 99 | 0·9830978 | 1·2885800 | 99 | 0·9381762 | 1·2404918 |
| 100 | 0·7905427 | 1·0844690 | 100 | 0·7485930 | 1·0397908 | 100 | 0·7036714 | 0·9919567 |
| 101 | 0·5431252 | 0·8206152 | 101 | 0·5011755 | 0·7762143 | 101 | 0·4562539 | 0·7287027 |
| 102 | 0·2822822 | 0·5387245 | 102 | 0·2403325 | 0·4946971 | 102 | 0·1954109 | 0·4475456 |
| 103 | 0·0074906 | 0·2315206 | 103 | 9·9655409 | 0·1879999 | 103 | 9·9206193 | 0·1413871 |
| 104 | 9·7182170 | $\bar{1}$·8797838 | 104 | 9·6762673 | $\bar{1}$·8368303 | 104 | 9·6313457 | $\bar{1}$·7909885 |
| 105 | 9·4139176 | | 105 | 9·3719679 | | 105 | 9·3270463 | |
| 106 | 9·0940384 | | 106 | 9·0520887 | | 106 | 9·0071671 | |
| 107 | 8·7580150 | | 107 | 8·7160653 | | 107 | 8·6711437 | |
| 108 | 8·4052727 | | 108 | 8·3633230 | | 108 | 8·3184014 | |
| 109 | 8·0352264 | | 109 | 7·9932767 | | 109 | 7·9483551 | |

## JOINT LIVES :—Two Males.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 75 | | | 76 | | | 77 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,75}$ | $\lambda\ N_{x,\,75}$ | Age of (x) | $\lambda\ D_{x,\,76}$ | $\lambda\ N_{x,\,76}$ | Age of (x) | $\lambda\ D_{x,\,77}$ | $\lambda\ N_{x,\,77}$ |
| 0 | 5·1071961 | 5·7924113 | 0 | 5·0556187 | 5·7236346 | 0 | 5·0003368 | 5·6510705 |
| 1 | 5·0231939 | 5·7615437 | 1 | 4·9716165 | 5·6919930 | 1 | 4·9163346 | 5·6186283 |
| 2 | 4·9879130 | 5·7437922 | 2 | 4·9363356 | 5·6739446 | 2 | 4·8810537 | 5·6002737 |
| 3 | 4·9657997 | 5·7300241 | 3 | 4·9142223 | 5·6600162 | 3 | 4·8589404 | 5·5861801 |
| 4 | 4·9488980 | 5·7181117 | 4 | 4·8973206 | 5·6480031 | 4 | 4·8420387 | 5·5740637 |
| 5 | 4·9346706 | 5·7072941 | 5 | 4·8830932 | 5·6371207 | 5 | 4·8278113 | 5·5631132 |
| 6 | 4·9223094 | 5·6972117 | 6 | 4·8707320 | 5·6269987 | 6 | 4·8154501 | 5·5529496 |
| 7 | 4·9111659 | 5·6876124 | 7 | 4·8595885 | 5·6173778 | 7 | 4·8043066 | 5·5433051 |
| 8 | 4·9007517 | 5·6783315 | 8 | 4·8491743 | 5·6080893 | 8 | 4·7938924 | 5·5340071 |
| 9 | 4·8910043 | 5·6692732 | 9 | 4·8394269 | 5·5990361 | 9 | 4·7841450 | 5·5249565 |
| 10 | 4·8817691 | 5·6603385 | 10 | 4·8301917 | 5·5901155 | 10 | 4·7749098 | 5·5160494 |
| 11 | 4·8729046 | 5·6514418 | 11 | 4·8213272 | 5·5812408 | 11 | 4·7660453 | 5·5071952 |
| 12 | 4·8642826 | 5·6425117 | 12 | 4·8127052 | 5·5723377 | 12 | 4·7574233 | 5·4983183 |
| 13 | 4·8557881 | 5·6334906 | 13 | 4·8042107 | 5·5633460 | 13 | 4·7489288 | 5·4893561 |
| 14 | 4·8473192 | 5·6243325 | 14 | 4·7957418 | 5·5542195 | 14 | 4·7404599 | 5·4802595 |
| 15 | 4·8387874 | 5·6150062 | 15 | 4·7872100 | 5·5449234 | 15 | 4·7319281 | 5·4709944 |
| 16 | 4·8301171 | 5·6054919 | 16 | 4·7785397 | 5·5354375 | 16 | 4·7232578 | 5·4615365 |
| 17 | 4·8212463 | 5·5957820 | 17 | 4·7696689 | 5·5257533 | 17 | 4·7143870 | 5·4518778 |
| 18 | 4·8121258 | 5·5858805 | 18 | 4·7605484 | 5·5158741 | 18 | 4·7052665 | 5·4420210 |
| 19 | 4·8027200 | 5·5758018 | 19 | 4·7511426 | 5·5058146 | 19 | 4·6958607 | 5·4319802 |
| 20 | 4·7930062 | 5·5655701 | 20 | 4·7414288 | 5·4955995 | 20 | 4·6861469 | 5·4217812 |
| 21 | 4·7829750 | 5·5552184 | 21 | 4·7313976 | 5·4852627 | 21 | 4·6761157 | 5·4114591 |
| 22 | 4·7728634 | 5·5447862 | 22 | 4·7212860 | 5·4748460 | 22 | 4·6660041 | 5·4010569 |
| 23 | 4·7626741 | 5·5342724 | 23 | 4·7110967 | 5·4643485 | 23 | 4·6558148 | 5·3905748 |
| 24 | 4·7524089 | 5·5236757 | 24 | 4·7008315 | 5·4537686 | 24 | 4·6455496 | 5·3800112 |
| 25 | 4·7420688 | 5·5129941 | 25 | 4·6904914 | 5·4431045 | 25 | 4·6352095 | 5·3693640 |
| 26 | 4·7316539 | 5·5022242 | 26 | 4·6800765 | 5·4323530 | 26 | 4·6247946 | 5·3586304 |
| 27 | 4·7211635 | 5·4913616 | 27 | 4·6695861 | 5·4215107 | 27 | 4·6143042 | 5·3478066 |
| 28 | 4·7105960 | 5·4804020 | 28 | 4·6590186 | 5·4105721 | 28 | 4·6037367 | 5·3368884 |
| 29 | 4·6999492 | 5·4693396 | 29 | 4·6483718 | 5·3995322 | 29 | 4·5930899 | 5·3258701 |
| 30 | 4·6892198 | 5·4581678 | 30 | 4·6376424 | 5·3883847 | 30 | 4·5823605 | 5·3147455 |
| 31 | 4·6784038 | 5·4468793 | 31 | 4·6268264 | 5·3771222 | 31 | 4·5715445 | 5·3035077 |
| 32 | 4·6674963 | 5·4354661 | 32 | 4·6159189 | 5·3657367 | 32 | 4·5606370 | 5·2921488 |
| 33 | 4·6564916 | 5·4239194 | 33 | 4·6049142 | 5·3542196 | 33 | 4·5496323 | 5·2806601 |
| 34 | 4·6453832 | 5·4122287 | 34 | 4·5938058 | 5·3425612 | 34 | 4·5385239 | 5·2690322 |
| 35 | 4·6341637 | 5·4003837 | 35 | 4·5825863 | 5·3307505 | 35 | 4·5273044 | 5·2572544 |
| 36 | 4·6228249 | 5·3883724 | 36 | 4·5712475 | 5·3187765 | 36 | 4·5159656 | 5·2453152 |
| 37 | 4·6113577 | 5·3761826 | 37 | 4·5597803 | 5·3066259 | 37 | 4·5044984 | 5·2332027 |
| 38 | 4·5997523 | 5·3637995 | 38 | 4·5481749 | 5·2942863 | 38 | 4·4928930 | 5·2209035 |
| 39 | 4·5879979 | 5·3512096 | 39 | 4·5364205 | 5·2817418 | 39 | 4·4811386 | 5·2084035 |
| 40 | 4·5760831 | 5·3383953 | 40 | 4·5245057 | 5·2689777 | 40 | 4·4692238 | 5·1956857 |
| 41 | 4·5639954 | 5·3253405 | 41 | 4·5124180 | 5·2559757 | 41 | 4·4571361 | 5·1827355 |
| 42 | 4·5517216 | 5·3120254 | 42 | 4·5001442 | 5·2427185 | 42 | 4·4448623 | 5·1695325 |
| 43 | 4·5392476 | 5·2984297 | 43 | 4·4876702 | 5·2291848 | 43 | 4·4323883 | 5·1560582 |
| 44 | 4·5265587 | 5·2845309 | 44 | 4·4749813 | 5·2153531 | 44 | 4·4196994 | 5·1422902 |
| 45 | 4·5136390 | 5·2703047 | 45 | 4·4620616 | 5·2011988 | 45 | 4·4067797 | 5·1282050 |
| 46 | 4·5004720 | 5·2557240 | 46 | 4·4488946 | 5·1866959 | 46 | 4·3936127 | 5·1137760 |
| 47 | 4·4870403 | 5·2407589 | 47 | 4·4354629 | 5·1718142 | 47 | 4·3801810 | 5·0989745 |
| 48 | 4·4733257 | 5·2253752 | 48 | 4·4217483 | 5·1565216 | 48 | 4·3664664 | 5·0837673 |
| 49 | 4·4593091 | 5·2095364 | 49 | 4·4077317 | 5·1407798 | 49 | 4·3524498 | 5·0681194 |
| 50 | 4·4449707 | 5·1932004 | 50 | 4·3933933 | 5·1245482 | 50 | 4·3381114 | 5·0519871 |
| 51 | 4·4302897 | 5·1763208 | 51 | 4·3787123 | 5·1077793 | 51 | 4·3234304 | 5·0353252 |
| 52 | 4·4150000 | 5·1588424 | 52 | 4·3634226 | 5·0904203 | 52 | 4·3081407 | 5·0180786 |
| 53 | 4·3992655 | 5·1407550 | 53 | 4·3476881 | 5·0724617 | 53 | 4·2924062 | 5·0002435 |
| 54 | 4·3830689 | 5·1220094 | 54 | 4·3314915 | 5·0538549 | 54 | 4·2762096 | 4·9817697 |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of ($y$) | 75 | | | 76 | | | 77 | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$) | λ $D_{x,\,75}$ | λ $N_{x,\,75}$ | Age of ($x$) | λ $D_{x,\,76}$ | λ $N_{x,\,76}$ | Age of ($x$) | λ $D_{x,\,77}$ | λ $N_{x,\,77}$ |
| 55 | 4·3663830 | 5·1025469 | 55 | 4·3148056 | 5·0345426 | 55 | 4·2595237 | 4·9626013 |
| 56 | 4·3491701 | 5·0822995 | 56 | 4·2975927 | 5·0144579 | 56 | 4·2423108 | 4·9426726 |
| 57 | 4·3313821 | 5·0611915 | 57 | 4·2798047 | 4·9935253 | 57 | 4·2245228 | 4·9219091 |
| 58 | 4·3129606 | 5·0391380 | 58 | 4·2613832 | 4·9716608 | 58 | 4·2061013 | 4·9002262 |
| 59 | 4·2938370 | 5·0160471 | 59 | 4·2422596 | 4·9487718 | 59 | 4·1869777 | 4·8775320 |
| 60 | 4·2739322 | 4·9918173 | 60 | 4·2223548 | 4·9247578 | 60 | 4·1670729 | 4·8537268 |
| 61 | 4·2531569 | 4·9663403 | 61 | 4·2015795 | 4·8995103 | 61 | 4·1462976 | 4·8287018 |
| 62 | 4·2314114 | 4·9394988 | 62 | 4·1798340 | 4·8729122 | 62 | 4·1245521 | 4·8023399 |
| 63 | 4·2085857 | 4·9111699 | 63 | 4·1570083 | 4·8448386 | 63 | 4·1017264 | 4·7745170 |
| 64 | 4·1845595 | 4·8812197 | 64 | 4·1329821 | 4·8151585 | 64 | 4·0777002 | 4·7450982 |
| 65 | 4·1592021 | 4·8495097 | 65 | 4·1076247 | 4·7837300 | 65 | 4·0523428 | 4·7139464 |
| 66 | 4·1323725 | 4·8158917 | 66 | 4·0807951 | 4·7504066 | 66 | 4·0255132 | 4·6809109 |
| 67 | 4·1039194 | 4·7802129 | 67 | 4·0523420 | 4·7150318 | 67 | 3·9970601 | 4·6458354 |
| 68 | 4·0736813 | 4·7423103 | 68 | 4·0221039 | 4·6774436 | 68 | 3·9668220 | 4·6085574 |
| 69 | 4·0414860 | 4·7020133 | 69 | 3·9899086 | 4·6374714 | 69 | 3·9346267 | 4·5689054 |
| 70 | 4·0071514 | 4·6591448 | 70 | 3·9555740 | 4·5949362 | 70 | 3·9002921 | 4·5266991 |
| 71 | 3·9704848 | 4·6135217 | 71 | 3·9189074 | 4·5496523 | 71 | 3·8636255 | 4·4817520 |
| 72 | 3·9312832 | 4·5649489 | 72 | 3·8797058 | 4·5014256 | 72 | 3·8244239 | 4·4338690 |
| 73 | 3·8893335 | 4·5132261 | 73 | 3·8377561 | 4·4500541 | 73 | 3·7824742 | 4·3828472 |
| 74 | 3·8444119 | 4·4581448 | 74 | 3·7928345 | 4·3953276 | 74 | 3·7375526 | 4·3284750 |
| 75 | 3·7962846 | 4·3994871 | 75 | 3·7447072 | 4·3370284 | 75 | 3·6894253 | 4·2705333 |
| 76 | 3·7447072 | 4·3370284 | 76 | 3·6931298 | 4·2749285 | 76 | 3·6378479 | 4·2087941 |
| 77 | 3·6894253 | 4·2705333 | 77 | 3·6378479 | 4·2087941 | 77 | 3·5825660 | 4·1430204 |
| 78 | 3·6301739 | 4·1997593 | 78 | 3·5785965 | 4·1383798 | 78 | 3·5233146 | 4·0729682 |
| 79 | 3·5666778 | 4·1244543 | 79 | 3·5151004 | 4·0634329 | 79 | 3·4598185 | 3·9983818 |
| 80 | 3·4986514 | 4·0443567 | 80 | 3·4470740 | 3·9836908 | 80 | 3·3917921 | 3·9189991 |
| 81 | 3·4257988 | 3·9591960 | 81 | 3·3742214 | 3·8988820 | 81 | 3·3189395 | 3·8345460 |
| 82 | 3·3478137 | 3·8686915 | 82 | 3·2962363 | 3·8087253 | 82 | 3·2409544 | 3·7447411 |
| 83 | 3·2643798 | 3·7725535 | 83 | 3·2128024 | 3·7129291 | 83 | 3·1575205 | 3·6492930 |
| 84 | 3·1751700 | 3·6704797 | 84 | 3·1235926 | 3·6111932 | 84 | 3·0683107 | 3·5478989 |
| 85 | 3·0798472 | 3·5621608 | 85 | 3·0282698 | 3·5032049 | 85 | 2·9729879 | 3·4402471 |
| 86 | 2·9780638 | 3·4472761 | 86 | 2·9264864 | 3·3886429 | 86 | 2·8712045 | 3·3260152 |
| 87 | 2·8694620 | 3·3254937 | 87 | 2·8178846 | 3·2671758 | 87 | 2·7626027 | 3·2048712 |
| 88 | 2·7536736 | 3·1964708 | 88 | 2·7020962 | 3·1384606 | 88 | 2·6468143 | 3·0764708 |
| 89 | 2·6303202 | 3·0598553 | 89 | 2·5787428 | 3·0021436 | 89 | 2·5234609 | 2·9404607 |
| 90 | 2·4990127 | 2·9152811 | 90 | 2·4474353 | 2·8578612 | 90 | 2·3921534 | 2·7964758 |
| 91 | 2·3593522 | 2·7623732 | 91 | 2·3077748 | 2·7052349 | 91 | 2·2524929 | 2·6441411 |
| 92 | 2·2109291 | 2·6007454 | 92 | 2·1593517 | 2·5438794 | 92 | 2·1040698 | 2·4830664 |
| 93 | 2·0533236 | 2·4299960 | 93 | 2·0017462 | 2·3733957 | 93 | 1·9464643 | 2·3128543 |
| 94 | 1·8861055 | 2·2497124 | 94 | 1·8345281 | 2·1933676 | 94 | 1·7792462 | 2·1330913 |
| 95 | 1·7088344 | 2·0594623 | 95 | 1·6572570 | 2·0033680 | 95 | 1·6019751 | 1·9433481 |
| 96 | 1·5210595 | 1·8587946 | 96 | 1·4694821 | 1·8029419 | 96 | 1·4142002 | 1·7431765 |
| 97 | 1·3223196 | 1·6472196 | 97 | 1·2707422 | 1·5916077 | 97 | 1·2154603 | 1·5320878 |
| 98 | 1·1121433 | 1·4241856 | 98 | 1·0605659 | 1·3688167 | 98 | 1·0052840 | 1·3095471 |
| 99 | 0·8900489 | 1·1890128 | 99 | 0·8384715 | 1·1338964 | 99 | 0·7831896 | 1·0748895 |
| 100 | 0·6555441 | 0·9407455 | 100 | 0·6039667 | 0·8859094 | 100 | 0·5486848 | 0·8271883 |
| 101 | 0·4081266 | 0·6777985 | 101 | 0·3565492 | 0·6232906 | 101 | 0·3012673 | 0·5649145 |
| 102 | 0·1472836 | 0·3970705 | 102 | 0·0957062 | 0·3429751 | 102 | 0·0404243 | 0·2850394 |
| 103 | 9·8724920 | 0·0914207 | 103 | 9·8209146 | 0·0379442 | 103 | 9·7656327 | $\bar{1}$·9805942 |
| 104 | 9·5832184 | $\bar{1}$·7417817 | 104 | 9·5316410 | $\bar{1}$·6890423 | 104 | 9·4763591 | $\bar{1}$·6326597 |
| 105 | 9·2789190 | | 105 | 9·2273416 | | 105 | 9·1720597 | |
| 106 | 8·9590398 | | 106 | 8·9074624 | | 106 | 8·8521805 | |
| 107 | 8·6230164 | | 107 | 8·5714390 | | 107 | 8·5161571 | |
| 108 | 8·2702741 | | 108 | 8·2186967 | | 108 | 8·1634148 | |
| 109 | 7·9002278 | | 109 | 7·8486504 | | 109 | 7·7933685 | |

## JOINT LIVES :—TWO MALES.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 78 | | 79 | | | 80 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,78}$ | $\lambda\ N_{x,78}$ | Age of (x) | $\lambda\ D_{x,79}$ | $\lambda\ N_{x,79}$ | Age of (x) | $\lambda\ D_{x,80}$ | $\lambda\ N_{x,80}$ |
| 0 | 4·9410854 | 5·5744813 | 0 | 4·8775893 | 5·4936228 | 0 | 4·8095629 | 5·4082366 |
| 1 | 4·8570832 | 5·5412143 | 1 | 4·7935871 | 5·4595048 | 1 | 4·7255607 | 5·3732437 |
| 2 | 4·8218023 | 5·5225454 | 2 | 4·7583062 | 5·4405138 | 2 | 4·6902798 | 5·3539232 |
| 3 | 4·7996890 | 5·5082822 | 3 | 4·7361929 | 5·4260775 | 3 | 4·6681665 | 5·3393101 |
| 4 | 4·7827873 | 5·4960591 | 4 | 4·7192912 | 5·4137449 | 4 | 4·6512648 | 5·3268660 |
| 5 | 4·7685599 | 5·4850388 | 5 | 4·7050638 | 5·4026521 | 5 | 4·6370374 | 5·3156983 |
| 6 | 4·7561987 | 5·4748304 | 6 | 4·6927026 | 5·3923979 | 6 | 4·6246762 | 5·3053961 |
| 7 | 4·7450552 | 5·4651606 | 7 | 4·6815591 | 5·3826999 | 7 | 4·6135327 | 5·2956691 |
| 8 | 4·7346410 | 5·4558511 | 8 | 4·6711449 | 5·3733775 | 8 | 4·6031185 | 5·2863309 |
| 9 | 4·7248936 | 5·4468017 | 9 | 4·6613975 | 5·3643275 | 9 | 4·5933711 | 5·2772792 |
| 10 | 4·7156584 | 5·4379060 | 10 | 4·6521623 | 5·3554420 | 10 | 4·5841359 | 5·2684020 |
| 11 | 4·7067939 | 5·4290716 | 11 | 4·6432978 | 5·3466256 | 11 | 4·5752714 | 5·2596028 |
| 12 | 4·6981719 | 5·4202198 | 12 | 4·6346758 | 5·3377982 | 12 | 4·5666494 | 5·2507982 |
| 13 | 4·6896774 | 5·4112863 | 13 | 4·6261813 | 5·3288924 | 13 | 4·5581549 | 5·2419202 |
| 14 | 4·6812085 | 5·4022203 | 14 | 4·6177124 | 5·3198563 | 14 | 4·5496860 | 5·2329128 |
| 15 | 4·6726767 | 5·3929842 | 15 | 4·6091806 | 5·3106502 | 15 | 4·5411542 | 5·2237363 |
| 16 | 4·6640064 | 5·3835556 | 16 | 4·6005103 | 5·3012486 | 16 | 4·5324839 | 5·2143629 |
| 17 | 4·6551356 | 5·3739219 | 17 | 4·5916395 | 5·2916416 | 17 | 4·5236131 | 5·2047795 |
| 18 | 4·6460151 | 5·3640868 | 18 | 4·5825190 | 5·2818278 | 18 | 4·5144926 | 5·1949892 |
| 19 | 4·6366093 | 5·3540648 | 19 | 4·5731132 | 5·2718237 | 19 | 4·5050868 | 5·1850025 |
| 20 | 4·6268955 | 5·3438814 | 20 | 4·5633994 | 5·2616559 | 20 | 4·4953730 | 5·1748489 |
| 21 | 4·6168643 | 5·3335732 | 21 | 4·5533682 | 5·2513610 | 21 | 4·4853418 | 5·1645673 |
| 22 | 4·6067527 | 5·3231857 | 22 | 4·5432566 | 5·2409872 | 22 | 4·4752302 | 5·1542063 |
| 23 | 4·5965634 | 5·3127180 | 23 | 4·5330673 | 5·2305338 | 23 | 4·4650409 | 5·1437665 |
| 24 | 4·5862982 | 5·3021697 | 24 | 4·5228021 | 5·2200000 | 24 | 4·4547757 | 5·1332469 |
| 25 | 4·5759581 | 5·2915386 | 25 | 4·5124620 | 5·2093842 | 25 | 4·4444356 | 5·1226458 |
| 26 | 4·5655432 | 5·2808221 | 26 | 4·5020471 | 5·1986841 | 26 | 4·4340207 | 5·1119608 |
| 27 | 4·5550528 | 5·2700163 | 27 | 4·4915567 | 5·1878953 | 27 | 4·4235303 | 5·1011888 |
| 28 | 4·5444853 | 5·2591170 | 28 | 4·4809892 | 5·1770145 | 28 | 4·4129628 | 5·0903251 |
| 29 | 4·5338385 | 5·2481195 | 29 | 4·4703424 | 5·1660360 | 29 | 4·4023160 | 5·0793651 |
| 30 | 4·5231091 | 5·2370169 | 30 | 4·4596130 | 5·1549544 | 30 | 4·3915866 | 5·0683028 |
| 31 | 4·5122931 | 5·2258025 | 31 | 4·4487970 | 5·1437625 | 31 | 4·3807706 | 5·0571327 |
| 32 | 4·5013856 | 5·2144688 | 32 | 4·4378895 | 5·1324524 | 32 | 4·3698631 | 5·0458454 |
| 33 | 4·4903809 | 5·2030071 | 33 | 4·4268848 | 5·1210166 | 33 | 4·3588584 | 5·0344335 |
| 34 | 4·4792725 | 5·1914080 | 34 | 4·4157764 | 5·1094449 | 34 | 4·3477500 | 5·0228884 |
| 35 | 4·4680530 | 5·1796616 | 35 | 4·4045569 | 5·0977279 | 35 | 4·3365305 | 5·0111995 |
| 36 | 4·4567142 | 5·1677559 | 36 | 4·3932181 | 5·0858545 | 36 | 4·3251917 | 4·9993559 |
| 37 | 4·4452470 | 5·1556794 | 37 | 4·3817509 | 5·0738122 | 37 | 4·3137245 | 4·9873462 |
| 38 | 4·4336416 | 5·1434190 | 38 | 4·3701455 | 5·0615882 | 38 | 4·3021191 | 4·9751578 |
| 39 | 4·4218872 | 5·1309600 | 39 | 4·3583911 | 5·0491692 | 39 | 4·2903647 | 4·9627759 |
| 40 | 4·4099724 | 5·1182882 | 40 | 4·3464763 | 5·0365395 | 40 | 4·2784499 | 4·9501866 |
| 41 | 4·3978847 | 5·1053851 | 41 | 4·3343886 | 5·0236836 | 41 | 4·2663622 | 4·9373739 |
| 42 | 4·3856109 | 5·0922352 | 42 | 4·3221148 | 5·0105819 | 42 | 4·2540884 | 4·9243206 |
| 43 | 4·3731369 | 5·0788167 | 43 | 4·3096408 | 4·9972177 | 43 | 4·2416144 | 4·9110062 |
| 44 | 4·3604480 | 5·0651098 | 44 | 4·2969519 | 4·9835682 | 44 | 4·2289255 | 4·8974121 |
| 45 | 4·3475283 | 5·0510900 | 45 | 4·2840322 | 4·9696111 | 45 | 4·2160058 | 4·8835138 |
| 46 | 4·3343613 | 5·0367319 | 46 | 4·2708652 | 4·9553202 | 46 | 4·2028388 | 4·8692880 |
| 47 | 4·3209296 | 5·0220066 | 47 | 4·2574335 | 4·9406679 | 47 | 4·1894071 | 4·8547043 |
| 48 | 4·3072150 | 5·0068822 | 48 | 4·2437189 | 4·9256220 | 48 | 4·1756925 | 4·8397332 |
| 49 | 4·2931984 | 4·9913218 | 49 | 4·2297023 | 4·9101461 | 49 | 4·1616759 | 4·8243380 |
| 50 | 4·2788600 | 4·9752856 | 50 | 4·2153639 | 4·8941997 | 50 | 4·1473375 | 4·8084784 |
| 51 | 4·2641790 | 4·9587249 | 51 | 4·2006829 | 4·8777370 | 51 | 4·1326565 | 4·7921072 |
| 52 | 4·2488893 | 4·9415875 | 52 | 4·1853932 | 4·8607015 | 52 | 4·1173668 | 4·7751705 |
| 53 | 4·2331548 | 4·9238676 | 53 | 4·1696587 | 4·8430951 | 53 | 4·1016323 | 4·7576693 |
| 54 | 4·2169582 | 4·9055223 | 54 | 4·1534621 | 4·8248688 | 54 | 4·0854357 | 4·7395597 |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 78 | | | 79 | | | 80 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,78}$ | $\lambda\ N_{x,\,78}$ | Age of (x) | $\lambda\ D_{x,\,79}$ | $\lambda\ N_{x,\,79}$ | Age of (x) | $\lambda\ D_{x,\,80}$ | $\lambda\ N_{x,\,80}$ |
| 55 | 4·2002723 | 4·8864918 | 55 | 4·1367762 | 4·8059716 | 55 | 4·0687498 | 4·7207859 |
| 56 | 4·1830594 | 4·8667120 | 56 | 4·1195633 | 4·7863346 | 56 | 4·0515369 | 4·7012873 |
| 57 | 4·1652714 | 4·8461100 | 57 | 4·1017753 | 4·7658868 | 57 | 4·0337489 | 4·6809878 |
| 58 | 4·1468499 | 4·8246022 | 58 | 4·0833538 | 4·7445464 | 58 | 4·0153274 | 4·6598069 |
| 59 | 4·1277263 | 4·8020961 | 59 | 4·0642302 | 4·7222217 | 59 | 3·9962038 | 4·6376558 |
| 60 | 4·1078215 | 4·7784920 | 60 | 4·0443254 | 4·6988119 | 60 | 3·9762990 | 4·6144331 |
| 61 | 4·0870462 | 4·7536826 | 61 | 4·0235501 | 4·6742097 | 61 | 3·9555237 | 4·5900311 |
| 62 | 4·0653007 | 4·7275494 | 62 | 4·0018046 | 4·6482986 | 62 | 3·9337782 | 4·5643338 |
| 63 | 4·0424750 | 4·6999686 | 63 | 3·9789789 | 4·6209532 | 63 | 3·9109525 | 4·5372155 |
| 64 | 4·0184488 | 4·6708079 | 64 | 3·9549527 | 4·5920401 | 64 | 3·8869263 | 4·5085437 |
| 65 | 3·9930914 | 4·6399237 | 65 | 3·9295953 | 4·5614186 | 65 | 3·8615689 | 4·4781764 |
| 66 | 3·9662618 | 4·6071695 | 66 | 3·9027657 | 4·5289390 | 66 | 3·8347393 | 4·4459645 |
| 67 | 3·9378087 | 4·5723880 | 67 | 3·8743126 | 4·4944443 | 67 | 3·8062862 | 4·4117495 |
| 68 | 3·9075706 | 4·5354148 | 68 | 3·8440745 | 4·4577696 | 68 | 3·7760481 | 4·3753661 |
| 69 | 3·8753753 | 4·4960774 | 69 | 3·8118792 | 4·4187416 | 69 | 3·7438528 | 4·3366410 |
| 70 | 3·8410407 | 4·4541961 | 70 | 3·7775446 | 4·3771789 | 70 | 3·7095182 | 4·2953918 |
| 71 | 3·8043741 | 4·4095818 | 71 | 3·7408780 | 4·3328937 | 71 | 3·6728516 | 4·2514287 |
| 72 | 3·7651725 | 4·3620393 | 72 | 3·7016764 | 4·2856874 | 72 | 3·6336500 | 4·2045546 |
| 73 | 3·7232228 | 4·3113643 | 73 | 3·6597267 | 4·2353557 | 73 | 3·5917003 | 4·1545615 |
| 74 | 3·6783012 | 4·2573447 | 74 | 3·6148051 | 4·1816852 | 74 | 3·5467787 | 4·1012365 |
| 75 | 3·6301739 | 4·1997593 | 75 | 3·5666778 | 4·1244543 | 75 | 3·4986514 | 4·0443567 |
| 76 | 3·5785965 | 4·1383798 | 76 | 3·5151004 | 4·0634329 | 76 | 3·4470740 | 3·9836908 |
| 77 | 3·5233146 | 4·0729682 | 77 | 3·4598185 | 3·9983818 | 77 | 3·3917921 | 3·9189991 |
| 78 | 3·4640632 | 4·0032779 | 78 | 3·4005671 | 3·9290545 | 78 | 3·3325407 | 3·8500321 |
| 79 | 3·4005671 | 3·9290545 | 79 | 3·3370710 | 3·8551931 | 79 | 3·2690446 | 3·7765341 |
| 80 | 3·3325407 | 3·8500321 | 80 | 3·2690446 | 3·7765341 | 80 | 3·2010182 | 3·6982363 |
| 81 | 3·2596881 | 3·7659389 | 81 | 3·1961920 | 3·6928003 | 81 | 3·1281656 | 3·6148656 |
| 82 | 3·1817030 | 3·6764897 | 82 | 3·1182069 | 3·6037115 | 82 | 3·0501805 | 3·5261337 |
| 83 | 3·0982691 | 3·5813932 | 83 | 3·0347730 | 3·5089685 | 83 | 2·9667466 | 3·4317504 |
| 84 | 3·0090593 | 3·4803462 | 84 | 2·9455632 | 3·4082725 | 84 | 2·8775368 | 3·3314074 |
| 85 | 2·9137365 | 3·3730360 | 85 | 2·8502404 | 3·3013081 | 85 | 2·7822140 | 3·2247920 |
| 86 | 2·8119531 | 3·2591396 | 86 | 2·7484570 | 3·1877519 | 86 | 2·6804306 | 3·1115793 |
| 87 | 2·7033513 | 3·1383236 | 87 | 2·6398552 | 3·0672700 | 87 | 2·5718288 | 2·9914356 |
| 88 | 2·5875629 | 3·0102452 | 88 | 2·5240668 | 2·9395173 | 88 | 2·4560404 | 2·8640154 |
| 89 | 2·4642095 | 2·8745485 | 89 | 2·4007134 | 2·8041415 | 89 | 2·3326870 | 2·7289622 |
| 90 | 2·3329020 | 2·7308695 | 90 | 2·2694059 | 2·6607735 | 90 | 2·2013795 | 2·5859128 |
| 91 | 2·1932415 | 2·5788306 | 91 | 2·1297454 | 2·5090384 | 91 | 2·0617190 | 2·4344875 |
| 92 | 2·0448184 | 2·4180460 | 92 | 1·9813223 | 2·3485491 | 92 | 1·9132959 | 2·2742987 |
| 93 | 1·8872129 | 2·2481136 | 93 | 1·8237168 | 2·1789045 | 93 | 1·7556904 | 2·1049474 |
| 94 | 1·7199948 | 2·0686226 | 94 | 1·6564987 | 1·9996919 | 94 | 1·5884723 | 1·9260212 |
| 95 | 1·5427237 | 1·8791441 | 95 | 1·4792276 | 1·8104852 | 95 | 1·4112012 | 1·7370916 |
| 96 | 1·3549488 | 1·6792298 | 96 | 1·2914527 | 1·6108368 | 96 | 1·2234263 | 1·5377146 |
| 97 | 1·1562089 | 1·4684020 | 97 | 1·0927128 | 1·4002685 | 97 | 1·0246864 | 1·3274161 |
| 98 | 0·9460326 | 1·2461143 | 98 | 0·8825365 | 1·1782544 | 98 | 0·8145101 | 1·1056669 |
| 99 | 0·7239382 | 1·0117269 | 99 | 0·6604421 | 0·9441321 | 99 | 0·5924157 | 0·8718472 |
| 100 | 0·4894334 | 0·7643256 | 100 | 0·4259373 | 0·6970374 | 100 | 0·3579109 | 0·6250448 |
| 101 | 0·2420159 | 0·5023998 | 101 | 0·1785198 | 0·4354781 | 101 | 0·1104934 | 0·3638563 |
| 102 | 9·9811729 | 0·2229764 | 102 | 9·9176768 | 0·1565189 | 102 | 9·8496504 | 0·0853976 |
| 103 | 9·7063813 | $\bar{1}$·9191304 | 103 | 9·6428852 | $\bar{1}$·8533331 | 103 | 9·5748588 | $\bar{1}$·7829024 |
| 104 | 9·4171077 | $\bar{1}$·5720580 | 104 | 9·3536116 | $\bar{1}$·5071810 | 104 | 9·2855852 | $\bar{1}$·4377506 |
| 105 | 9·1128083 | | 105 | 9·0493122 | | 105 | 8·9812858 | |
| 106 | 8·7929291 | | 106 | 8·7294330 | | 106 | 8·6614066 | |
| 107 | 8·4569057 | | 107 | 8·3934096 | | 107 | 8·3253832 | |
| 108 | 8·1041634 | | 108 | 8·0406673 | | 108 | 7·9726409 | |
| 109 | 7·7341171 | | 109 | 7·6706210 | | 109 | 7·6025940 | |

## JOINT LIVES :—TWO MALES.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 81 | | | 82 | | | 83 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,81}$ | λ $N_{x,\,81}$ | Age of (x) | λ $D_{x,\,82}$ | λ $N_{x,\,82}$ | Age of (x) | λ $D_{x,\,83}$ | λ $N_{x,\,83}$ |
| 0 | 4·7367103 | 5·3180537 | 0 | 4·6587252 | 5·2227948 | 0 | 4·5752913 | 5·1221683 |
| 1 | 4·6527081 | 5·2821631 | 1 | 4·5747230 | 5·1859839 | 1 | 4·4912891 | 5·0844165 |
| 2 | 4·6174272 | 5·2625064 | 2 | 4·5394421 | 5·1659849 | 2 | 4·4560082 | 5·0640692 |
| 3 | 4·5953139 | 5·2477136 | 3 | 4·5173288 | 5·1510098 | 3 | 4·4338949 | 5·0489096 |
| 4 | 4·5784122 | 5·2351556 | 4 | 4·5004271 | 5·1383365 | 4 | 4·4169932 | 5·0361197 |
| 5 | 4·5641848 | 5·2239119 | 5 | 4·4861997 | 5·1270148 | 5 | 4·4027658 | 5·0247188 |
| 6 | 4·5518236 | 5·2135592 | 6 | 4·4738385 | 5·1166107 | 6 | 4·3904046 | 5·0142622 |
| 7 | 4·5406801 | 5·2038011 | 7 | 4·4626950 | 5·1068196 | 7 | 4·3792611 | 5·0044366 |
| 8 | 4·5302659 | 5·1944467 | 8 | 4·4522808 | 5·0974469 | 8 | 4·3688469 | 4·9950435 |
| 9 | 4·5205185 | 5·1853905 | 9 | 4·4425334 | 5·0883856 | 9 | 4·3590995 | 4·9859758 |
| 10 | 4·5112833 | 5·1765207 | 10 | 4·4332982 | 5·0795206 | 10 | 4·3498643 | 4·9771152 |
| 11 | 4·5024188 | 5·1677370 | 11 | 4·4244337 | 5·0707518 | 11 | 4·3409998 | 4·9683582 |
| 12 | 4·4937968 | 5·1589547 | 12 | 4·4158117 | 5·0619900 | 12 | 4·3323778 | 4·9596171 |
| 13 | 4·4853023 | 5·1501025 | 13 | 4·4073172 | 5·0531638 | 13 | 4·3238833 | 4·9508150 |
| 14 | 4·4768334 | 5·1411241 | 14 | 4·3988483 | 5·0442128 | 14 | 4·3154144 | 4·9418914 |
| 15 | 4·4683016 | 5·1319761 | 15 | 4·3903165 | 5·0350938 | 15 | 4·3068826 | 4·9327998 |
| 16 | 4·4596313 | 5·1226307 | 16 | 4·3816462 | 5·0257752 | 16 | 4·2982123 | 4·9235087 |
| 17 | 4·4507605 | 5·1130730 | 17 | 4·3727754 | 5·0162425 | 17 | 4·2893415 | 4·9140003 |
| 18 | 4·4416400 | 5·1033025 | 18 | 4·3636549 | 5·0064938 | 18 | 4·2802210 | 4·9042729 |
| 19 | 4·4322342 | 5·0933352 | 19 | 4·3542491 | 4·9965423 | 19 | 4·2708152 | 4·8943393 |
| 20 | 4·4225204 | 5·0831955 | 20 | 4·3445353 | 4·9864184 | 20 | 4·2611014 | 4·8842271 |
| 21 | 4·4124892 | 5·0729252 | 21 | 4·3345041 | 4·9761596 | 21 | 4·2510702 | 4·8739817 |
| 22 | 4·4022776 | 5·0625775 | 22 | 4·3243925 | 4·9658229 | 22 | 4·2409586 | 4·8636559 |
| 23 | 4·3921883 | 5·0521505 | 23 | 4·3142032 | 4·9554087 | 23 | 4·2307693 | 4·8532528 |
| 24 | 4·3819231 | 5·0416446 | 24 | 4·3039380 | 4·9449152 | 24 | 4·2205041 | 4·8427720 |
| 25 | 4·3715830 | 5·0310572 | 25 | 4·2935979 | 4·9343419 | 25 | 4·2101640 | 4·8322105 |
| 26 | 4·3611681 | 5·0203869 | 26 | 4·2831830 | 4·9236853 | 26 | 4·1997491 | 4·8215679 |
| 27 | 4·3506777 | 5·0096302 | 27 | 4·2726926 | 4·9129433 | 27 | 4·1892587 | 4·8108399 |
| 28 | 4·3401102 | 4·9987832 | 28 | 4·2621251 | 4·9021117 | 28 | 4·1786912 | 4·8000232 |
| 29 | 4·3294634 | 4·9878410 | 29 | 4·2514783 | 4·8911861 | 29 | 4·1680444 | 4·7891130 |
| 30 | 4·3187340 | 4·9767974 | 30 | 4·2407489 | 4·8801611 | 30 | 4·1573150 | 4·7781049 |
| 31 | 4·3079180 | 4·9656466 | 31 | 4·2299329 | 4·8690292 | 31 | 4·1464990 | 4·7669918 |
| 32 | 4·2970105 | 4·9543819 | 32 | 4·2190254 | 4·8577841 | 32 | 4·1355915 | 4·7557659 |
| 33 | 4·2860058 | 4·9429931 | 33 | 4·2080207 | 4·8464181 | 33 | 4·1245868 | 4·7444198 |
| 34 | 4·2748974 | 4·9314726 | 34 | 4·1969123 | 4·8349214 | 34 | 4·1134784 | 4·7329459 |
| 35 | 4·2636779 | 4·9198105 | 35 | 4·1856928 | 4·8232845 | 35 | 4·1022589 | 4·7213332 |
| 36 | 4·2523391 | 4·9079957 | 36 | 4·1743540 | 4·8114966 | 36 | 4·0909201 | 4·7095718 |
| 37 | 4·2408719 | 4·8960167 | 37 | 4·1628868 | 4·7995473 | 37 | 4·0794529 | 4·6976495 |
| 38 | 4·2292665 | 4·8838612 | 38 | 4·1512814 | 4·7874229 | 38 | 4·0678475 | 4·6855555 |
| 39 | 4·2175121 | 4·8715158 | 39 | 4·1395270 | 4·7751107 | 39 | 4·0560931 | 4·6732753 |
| 40 | 4·2055973 | 4·8589647 | 40 | 4·1276122 | 4·7625968 | 40 | 4·0441783 | 4·6607953 |
| 41 | 4·1935096 | 4·8461929 | 41 | 4·1155245 | 4·7498646 | 41 | 4·0320906 | 4·6481003 |
| 42 | 4·1812358 | 4·8331841 | 42 | 4·1032507 | 4·7368974 | 42 | 4·0198168 | 4·6351740 |
| 43 | 4·1687618 | 4·8199188 | 43 | 4·0907767 | 4.7236781 | 43 | 4·0073428 | 4·6219973 |
| 44 | 4·1560729 | 4·8063760 | 44 | 4·0780878 | 4·7101851 | 44 | 3·9946539 | 4·6085511 |
| 45 | 4·1431532 | 4·7925346 | 45 | 4·0651681 | 4·6963966 | 45 | 3·9817342 | 4·5948140 |
| 46 | 4·1299862 | 4·7783690 | 46 | 4·0520011 | 4·6822895 | 46 | 3·9685672 | 4·5807613 |
| 47 | 4·1165545 | 4·7638524 | 47 | 4·0385694 | 4·6678348 | 47 | 3·9551355 | 4·5663664 |
| 48 | 4·1028399 | 4·7489520 | 48 | 4·0248548 | 4·6530030 | 48 | 3·9414209 | 4·5515988 |
| 49 | 4·0888233 | 4·7336337 | 49 | 4·0108382 | 4·6377578 | 49 | 3·9274043 | 4·5364229 |
| 50 | 4·0744849 | 4·7178560 | 50 | 3·9964998 | 4·6220585 | 50 | 3·9130659 | 4·5207985 |
| 51 | 4·0598039 | 4·7015732 | 51 | 3·9818188 | 4·6058584 | 51 | 3·8983849 | 4·5046784 |
| 52 | 4·0445142 | 4·6847287 | 52 | 3·9665291 | 4·5891030 | 52 | 3·8830952 | 4·4880058 |
| 53 | 4·0287797 | 4·6673287 | 53 | 3·9507946 | 4·5717984 | 53 | 3·8673607 | 4·4707924 |
| 54 | 4·0125831 | 4·6493280 | 54 | 3·9345980 | 4·5539022 | 54 | 3·8511641 | 4·4529949 |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 81 | | | 82 | | | 83 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,81}$ | $\lambda\ N_{x,\,81}$ | Age of (x) | $\lambda\ D_{x,\,82}$ | $\lambda\ N_{x,\,82}$ | Age of (x) | $\lambda\ D_{x,\,83}$ | $\lambda\ N_{x,\,83}$ |
| 55 | 3·9958972 | 4·6306744 | 55 | 3·9179121 | 4·5353617 | 55 | 3·8344782 | 4·4345625 |
| 56 | 3·9786843 | 4·6113051 | 56 | 3·9006992 | 4·5161158 | 56 | 3·8172653 | 4·4154340 |
| 57 | 3·9608963 | 4·5911476 | 57 | 3·8829112 | 4·4960934 | 57 | 3·7994773 | 4·3955396 |
| 58 | 3·9424748 | 4·5701209 | 58 | 3·8644897 | 4·4752134 | 58 | 3·7810558 | 4·3747995 |
| 59 | 3·9233512 | 4·5481354 | 59 | 3·8453661 | 4·4533864 | 59 | 3·7619322 | 4·3531246 |
| 60 | 3·9034464 | 4·5250919 | 60 | 3·8254613 | 4·4305146 | 60 | 3·7420274 | 4·3304164 |
| 61 | 3·8826711 | 4·5008825 | 61 | 3·8046860 | 4·4064901 | 61 | 3·7212521 | 4·3065691 |
| 62 | 3·8609256 | 4·4753910 | 62 | 3·7829405 | 4·3811968 | 62 | 3·6995066 | 4·2814661 |
| 63 | 3·8380999 | 4·4484927 | 63 | 3·7601148 | 4·3545097 | 63 | 3·6766809 | 4·2549827 |
| 64 | 3·8140737 | 4·4200539 | 64 | 3·7360886 | 4·3262963 | 64 | 3·6526547 | 4·2269855 |
| 65 | 3·7887163 | 4·3899331 | 65 | 3·7107312 | 4·2964140 | 65 | 3·6272973 | 4·1973337 |
| 66 | 3·7618867 | 4·3579803 | 66 | 3·6839016 | 4·2647130 | 66 | 3·6004677 | 4·1658759 |
| 67 | 3·7334336 | 4·3240383 | 67 | 3·6554485 | 4·2310346 | 67 | 3·5720146 | 4·1324540 |
| 68 | 3·7031955 | 4·2879391 | 68 | 3·6252104 | 4·1952128 | 68 | 3·5417765 | 4·0969000 |
| 69 | 3·6710002 | 4·2495097 | 69 | 3·5930151 | 4·1570715 | 69 | 3·5095812 | 4·0590398 |
| 70 | 3·6366656 | 4·2085671 | 70 | 3·5586805 | 4·1164281 | 70 | 3·4752466 | 4·0186884 |
| 71 | 3·5999990 | 4·1649207 | 71 | 3·5220139 | 4·0730916 | 71 | 3·4385800 | 3·9756532 |
| 72 | 3·5607974 | 4·1183715 | 72 | 3·4828123 | 4·0268616 | 72 | 3·3993784 | 3·9297361 |
| 73 | 3·5188477 | 4·0687133 | 73 | 3·4408626 | 3·9775307 | 73 | 3·3574287 | 3·8807262 |
| 74 | 3·4739261 | 4·0157289 | 74 | 3·3959410 | 3·9248828 | 74 | 3·3125071 | 3·8284072 |
| 75 | 3·4257988 | 3·9591960 | 75 | 3·3478137 | 3·8686915 | 75 | 3·2643798 | 3·7725535 |
| 76 | 3·3742214 | 3·8988820 | 76 | 3·2962363 | 3·8087253 | 76 | 3·2128024 | 3·7129291 |
| 77 | 3·3189395 | 3·8345460 | 77 | 3·2409544 | 3·7447411 | 77 | 3·1575205 | 3·6492930 |
| 78 | 3·2596881 | 3·7659389 | 78 | 3·1817030 | 3·6764897 | 78 | 3·0982691 | 3·5813932 |
| 79 | 3·1961920 | 3·6928003 | 79 | 3·1182069 | 3·6037115 | 79 | 3·0347730 | 3·5089685 |
| 80 | 3·1281656 | 3·6148656 | 80 | 3·0501805 | 3·5261337 | 80 | 2·9667466 | 3·4317504 |
| 81 | 3·0553130 | 3·5318556 | 81 | 2·9773279 | 3·4434851 | 81 | 2·8938940 | 3·3494584 |
| 82 | 2·9773279 | 3·4434851 | 82 | 2·8993428 | 3·3554743 | 82 | 2·8159089 | 3·2618063 |
| 83 | 2·8938940 | 3·3494584 | 83 | 2·8159089 | 3·2618063 | 83 | 2·7324750 | 3·1684952 |
| 84 | 2·8046842 | 3·2494714 | 84 | 2·7266991 | 3·1621738 | 84 | 2·6432652 | 3·0692188 |
| 85 | 2·7093614 | 3·1432069 | 85 | 2·6313763 | 3·0562628 | 85 | 2·5479424 | 2·9636594 |
| 86 | 2·6075780 | 3·0303410 | 86 | 2·5295929 | 2·9437452 | 86 | 2·4461590 | 2·8514919 |
| 87 | 2·4989762 | 2·9105379 | 87 | 2·4209911 | 2·8242860 | 87 | 2·3375572 | 2·7323777 |
| 88 | 2·3831878 | 2·7834533 | 88 | 2·3052027 | 2·6975389 | 88 | 2·2217688 | 2·6059705 |
| 89 | 2·2598344 | 2·6487297 | 89 | 2·1818493 | 2·5631475 | 89 | 2·0984154 | 2·4719134 |
| 90 | 2·1285269 | 2·5060001 | 90 | 2·0505418 | 2·4207444 | 90 | 1·9671079 | 2·3298391 |
| 91 | 1·9888664 | 2·3548900 | 91 | 1·9108813 | 2·2699515 | 91 | 1·8274474 | 2·1793679 |
| 92 | 1·8404433 | 2·1950078 | 92 | 1·7624582 | 2·1103813 | 92 | 1·6790243 | 2·0201114 |
| 93 | 1·6828378 | 2·0259556 | 93 | 1·6048527 | 1·9416317 | 93 | 1·5214188 | 1·8516711 |
| 94 | 1·5156197 | 1·8473203 | 94 | 1·4376346 | 1·7632925 | 94 | 1·3542007 | 1·6736309 |
| 95 | 1·3383486 | 1·6586762 | 95 | 1·2603635 | 1·5749372 | 95 | 1·1769296 | 1·4855681 |
| 96 | 1·1505737 | 1·4595764 | 96 | 1·0725886 | 1·3761223 | 96 | 0·9891547 | 1·2870422 |
| 97 | 0·9518338 | 1·2495506 | 97 | 0·8738487 | 1·1663768 | 97 | 0·7904148 | 1·0775823 |
| 98 | 0·7416575 | 1·0280789 | 98 | 0·6636724 | 0·9451829 | 98 | 0·5802385 | 0·8566745 |
| 99 | 0·5195631 | 0·7945368 | 99 | 0·4415780 | 0·7119337 | 99 | 0·3581441 | 0·6237144 |
| 100 | 0·2850583 | 0·5480822 | 100 | 0·2070732 | 0·4657842 | 100 | 0·1236393 | 0·3778888 |
| 101 | 0·0376408 | 0·2872417 | 101 | 9·9596557 | 0·2053939 | 101 | 9·8762218 | 0·1178676 |
| 102 | 9·7767978 | 0·0092809 | 102 | 9·6988127 | $\bar{1}$·9278834 | 102 | 9·6153788 | $\bar{1}$·8409838 |
| 103 | 9·5020062 | $\bar{1}$·7074850 | 103 | 9·4240211 | $\bar{1}$·6268534 | 103 | 9·3405872 | $\bar{1}$·5405797 |
| 104 | 9·2127326 | $\bar{1}$·3634239 | 104 | 9·1347475 | $\bar{1}$·2837534 | 104 | 9·0513136 | $\bar{1}$·1986571 |
| 105 | 8·9084332 | | 105 | 8·8304481 | | 105 | 8·7470142 | |
| 106 | 8·5885540 | | 106 | 8·5105689 | | 106 | 8·4271350 | |
| 107 | 8·2525306 | | 107 | 8·1745455 | | 107 | 8·0911116 | |
| 108 | 7·8997883 | | 108 | 7·8218032 | | 108 | 7·7383693 | |
| 109 | 7·5297420 | | 109 | 7·4517569 | | 109 | 7·3683230 | |

## JOINT LIVES :—TWO MALES.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 84 | | | 85 | | | 86 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,84}$ | λ $N_{x,\,84}$ | Age of (x) | λ $D_{x,\,85}$ | λ $N_{x,\,85}$ | Age of (x) | λ $D_{x,\,86}$ | λ $N_{x,\,86}$ |
| 0 | 4·4860815 | 5·0158726 | 0 | 4·3907587 | 4·9035913 | 0 | 4·2889753 | 4·7849994 |
| 1 | 4·4020793 | 4·9771587 | 1 | 4·3067565 | 4·8638996 | 1 | 4·2049731 | 4·7443118 |
| 2 | 4·3667984 | 4·9564590 | 2 | 4·2714756 | 4·8428407 | 2 | 4·1696922 | 4·7228930 |
| 3 | 4·3446851 | 4·9411127 | 3 | 4·2493623 | 4·8273072 | 3 | 4·1475789 | 4·7071689 |
| 4 | 4·3277834 | 4·9282048 | 4 | 4·2324606 | 4·8142802 | 4 | 4·1306772 | 4·6940232 |
| 5 | 4·3135560 | 4·9167239 | 5 | 4·2182332 | 4·8027183 | 5 | 4·1164498 | 4·6823798 |
| 6 | 4·3011948 | 4·9062138 | 6 | 4·2058720 | 4·7921542 | 6 | 4·1040886 | 4·6717595 |
| 7 | 4·2900513 | 4·8963526 | 7 | 4·1947285 | 4·7822569 | 7 | 4·0929451 | 4·6618259 |
| 8 | 4·2796371 | 4·8869378 | 8 | 4·1843143 | 4·7728188 | 8 | 4·0825309 | 4·6523643 |
| 9 | 4·2698897 | 4·8778613 | 9 | 4·1745669 | 4·7637319 | 9 | 4·0727835 | 4·6432661 |
| 10 | 4·2606545 | 4·8690040 | 10 | 4·1653317 | 4·7548756 | 10 | 4·0635483 | 4·6344087 |
| 11 | 4·2517900 | 4·8602589 | 11 | 4·1564672 | 4·7461413 | 11 | 4·0546838 | 4·6256838 |
| 12 | 4·2431680 | 4·8515353 | 12 | 4·1478452 | 4·7374360 | 12 | 4·0460618 | 4·6169941 |
| 13 | 4·2346735 | 4·8427571 | 13 | 4·1393507 | 4·7286792 | 13 | 4·0375673 | 4·6082596 |
| 14 | 4·2262046 | 4·8338602 | 14 | 4·1308818 | 4·7198076 | 14 | 4·0290984 | 4·5994125 |
| 15 | 4·2176728 | 4·8247960 | 15 | 4·1223500 | 4·7107704 | 15 | 4·0205666 | 4·5904015 |
| 16 | 4·2090025 | 4·8155313 | 16 | 4·1136797 | 4·7015317 | 16 | 4·0118963 | 4·5811882 |
| 17 | 4·2001317 | 4·8060469 | 17 | 4·1048089 | 4·6920719 | 17 | 4·0030255 | 4·5717519 |
| 18 | 4·1910112 | 4·7963405 | 18 | 4·0956884 | 4·6823861 | 18 | 3·9939050 | 4·5620865 |
| 19 | 4·1816054 | 4·7864242 | 19 | 4·0862826 | 4·6724858 | 19 | 3·9844992 | 4·5522031 |
| 20 | 4·1718916 | 4·7763256 | 20 | 4·0765688 | 4·6624008 | 20 | 3·9747854 | 4·5421305 |
| 21 | 4·1618604 | 4·7660893 | 21 | 4·0665376 | 4·6521757 | 21 | 3·9647542 | 4·5319151 |
| 22 | 4·1517488 | 4·7557766 | 22 | 4·0564260 | 4·6418715 | 22 | 3·9546426 | 4·5216217 |
| 23 | 4·1415595 | 4·7453840 | 23 | 4·0462367 | 4·6314915 | 23 | 3·9444533 | 4·5112508 |
| 24 | 4·1312943 | 4·7349142 | 24 | 4·0359715 | 4·6210318 | 24 | 3·9341881 | 4·5008027 |
| 25 | 4·1209542 | 4·7243660 | 25 | 4·0256314 | 4·6104941 | 25 | 3·9238480 | 4·4902756 |
| 26 | 4·1105393 | 4·7137349 | 26 | 4·0152165 | 4·5998776 | 26 | 3·9134331 | 4·4796688 |
| 27 | 4·1000489 | 4·7030204 | 27 | 4·0047261 | 4·5891741 | 27 | 3·9029427 | 4·4689790 |
| 28 | 4·0894814 | 4·6922184 | 28 | 3·9941586 | 4·5783852 | 28 | 3·8923752 | 4·4582023 |
| 29 | 4·0788346 | 4·6813227 | 29 | 3·9835118 | 4·5675045 | 29 | 3·8817284 | 4·4473354 |
| 30 | 4·0681052 | 4·6703303 | 30 | 3·9727824 | 4·5565273 | 30 | 3·8709990 | 4·4363724 |
| 31 | 4·0572892 | 4·6592343 | 31 | 3·9619664 | 4·5454474 | 31 | 3·8601830 | 4·4253075 |
| 32 | 4·0463817 | 4·6480271 | 32 | 3·9510589 | 4·5342575 | 32 | 3·8492755 | 4·4141347 |
| 33 | 4·0353770 | 4·6367015 | 33 | 3·9400542 | 4·5229503 | 33 | 3·8382708 | 4·4028451 |
| 34 | 4·0242686 | 4·6252476 | 34 | 3·9289458 | 4·5115170 | 34 | 3·8271624 | 4·3914309 |
| 35 | 4·0130491 | 4·6136579 | 35 | 3·9177263 | 4·4999484 | 35 | 3·8159429 | 4·3798827 |
| 36 | 4·0017103 | 4·6019210 | 36 | 3·9063875 | 4·4882343 | 36 | 3·8046041 | 4·3681904 |
| 37 | 3·9902431 | 4·5900250 | 37 | 3·8949203 | 4·4763637 | 37 | 3·7931369 | 4·3563432 |
| 38 | 3·9786377 | 4·5779592 | 38 | 3·8833149 | 4·4643243 | 38 | 3·7815315 | 4·3443292 |
| 39 | 3·9668833 | 4·5657094 | 39 | 3·8715605 | 4·4521036 | 39 | 3·7697771 | 4·3321356 |
| 40 | 3·9549685 | 4·5532624 | 40 | 3·8596457 | 4·4396873 | 40 | 3·7578623 | 4·3197490 |
| 41 | 3·9428808 | 4·5406025 | 41 | 3·8475580 | 4·4270609 | 41 | 3·7457746 | 4·3071538 |
| 42 | 3·9306070 | 4·5277137 | 42 | 3·8352842 | 4·4142079 | 42 | 3·7335008 | 4·2943350 |
| 43 | 3·9181330 | 4·5145783 | 43 | 3·8228102 | 4·4011112 | 43 | 3·7210268 | 4·2812750 |
| 44 | 3·9054441 | 4·5011768 | 44 | 3·8101213 | 4·3877517 | 44 | 3·7083379 | 4·2679551 |
| 45 | 3·8925244 | 4·4874876 | 45 | 3·7972016 | 4·3741083 | 45 | 3·6954182 | 4·2543545 |
| 46 | 3·8793574 | 4·4734873 | 46 | 3·7840346 | 4·3601572 | 46 | 3·6822512 | 4·2404507 |
| 47 | 3·8659257 | 4·4591487 | 47 | 3·7706029 | 4·3458726 | 47 | 3·6688195 | 4·2262167 |
| 48 | 3·8522111 | 4·4444422 | 48 | 3·7568883 | 4·3312240 | 48 | 3·6551049 | 4·2116235 |
| 49 | 3·8381945 | 4·4293326 | 49 | 3·7428717 | 4·3161772 | 49 | 3·6410883 | 4·1966360 |
| 50 | 3·8238561 | 4·4137793 | 50 | 3·7285333 | 4·3006913 | 50 | 3·6267499 | 4·1812142 |
| 51 | 3·8091751 | 4·3977342 | 51 | 3·7138523 | 4·2847183 | 51 | 3·6120689 | 4·1653096 |
| 52 | 3·7938854 | 4·3811416 | 52 | 3·6985626 | 4·2682003 | 52 | 3·5967792 | 4·1488629 |
| 53 | 3·7781509 | 4·3640131 | 53 | 3·6828281 | 4·2511539 | 53 | 3·5810447 | 4·1318931 |
| 54 | 3·7619543 | 4·3463099 | 54 | 3·6666315 | 4·2335382 | 54 | 3·5648481 | 4·1143621 |

## JOINT LIVES:—Two Males.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 84 | | 85 | | | 86 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,84}$ | λ $N_{x,84}$ | Age of (x) | λ $D_{x,85}$ | λ $N_{x,85}$ | Age of (x) | λ $D_{x,86}$ | λ $N_{x,86}$ |
| 55 | 3·7452684 | 4·3279798 | 55 | 3·6499456 | 4·2153057 | 55 | 3·5481622 | 4·0962198 |
| 56 | 3·7280555 | 4·3089633 | 56 | 3·6327327 | 4·1963951 | 56 | 3·5309493 | 4·0774104 |
| 57 | 3·7102675 | 4·2891904 | 57 | 3·6149447 | 4·1767385 | 57 | 3·5131613 | 4·0578638 |
| 58 | 3·6918460 | 4·2685832 | 58 | 3·5965232 | 4·1562571 | 58 | 3·4947398 | 4·0375030 |
| 59 | 3·6727224 | 4·2470529 | 59 | 3·5773996 | 4·1348643 | 59 | 3·4756162 | 4·0162405 |
| 60 | 3·6528176 | 4·2245020 | 60 | 3·5574948 | 4·1124633 | 60 | 3·4557114 | 3·9939813 |
| 61 | 3·6320423 | 4·2008234 | 61 | 3·5367195 | 4·0889468 | 61 | 3·4349361 | 3·9706197 |
| 62 | 3·6102968 | 4·1759027 | 62 | 3·5149740 | 4·0642000 | 62 | 3·4131906 | 3·9460399 |
| 63 | 3·5874711 | 4·1496150 | 63 | 3·4921483 | 4·0380993 | 63 | 3·3903649 | 3·9201181 |
| 64 | 3·5634449 | 4·1218267 | 64 | 3·4681221 | 4·0105120 | 64 | 3·3663387 | 3·8927222 |
| 65 | 3·5380875 | 4·0923961 | 65 | 3·4427647 | 3·9812944 | 65 | 3·3409813 | 3·8637106 |
| 66 | 3·5112579 | 4·0611734 | 66 | 3·4159351 | 3·9502977 | 66 | 3·3141517 | 3·8329308 |
| 67 | 3·4828048 | 4·0279987 | 67 | 3·3874820 | 3·9173626 | 67 | 3·2856986 | 3·8002261 |
| 68 | 3·4525667 | 3·9927055 | 68 | 3·3572439 | 3·8823202 | 68 | 3·2554605 | 3·7654271 |
| 69 | 3·4203714 | 3·9551165 | 69 | 3·3250486 | 3·8449957 | 69 | 3·2232652 | 3·7283562 |
| 70 | 3·3860368 | 3·9150493 | 70 | 3·2907140 | 3·8052024 | 70 | 3·1889306 | 3·6888308 |
| 71 | 3·3493702 | 3·8723095 | 71 | 3·2540474 | 3·7627499 | 71 | 3·1522640 | 3·6466546 |
| 72 | 3·3101686 | 3·8266953 | 72 | 3·2148458 | 3·7174334 | 72 | 3·1130624 | 3·6016277 |
| 73 | 3·2682189 | 3·7780007 | 73 | 3·1728961 | 3·6690425 | 73 | 3·0711127 | 3·5535359 |
| 74 | 3·2232973 | 3·7260039 | 74 | 3·1279745 | 3·6173621 | 74 | 3·0261911 | 3·5021608 |
| 75 | 3·1751700 | 3·6704797 | 75 | 3·0798472 | 3·5621608 | 75 | 2·9780638 | 3·4472761 |
| 76 | 3·1235926 | 3·6111932 | 76 | 3·0282698 | 3·5032049 | 76 | 2·9264864 | 3·3886429 |
| 77 | 3·0683107 | 3·5478989 | 77 | 2·9729879 | 3·4402471 | 77 | 2·8712045 | 3·3260152 |
| 78 | 3·0090593 | 3·4803462 | 78 | 2·9137365 | 3·3730360 | 78 | 2·8119531 | 3·2591396 |
| 79 | 2·9455632 | 3·4082725 | 79 | 2·8502404 | 3·3013081 | 79 | 2·7484570 | 3·1877519 |
| 80 | 2·8775368 | 3·3314074 | 80 | 2·7822140 | 3·2247920 | 80 | 2·6804306 | 3·1115793 |
| 81 | 2·8046842 | 3·2494714 | 81 | 2·7093614 | 3·1432069 | 81 | 2·6075780 | 3·0303410 |
| 82 | 2·7266991 | 3·1621738 | 82 | 2·6313763 | 3·0562628 | 82 | 2·5295929 | 2·9437452 |
| 83 | 2·6432652 | 3·0692188 | 83 | 2·5479424 | 2·9636594 | 83 | 2·4461590 | 2·8514919 |
| 84 | 2·5540554 | 2·9702962 | 84 | 2·4587326 | 2·8650897 | 84 | 2·3569492 | 2·7532704 |
| 85 | 2·4587326 | 2·8650897 | 85 | 2·3634098 | 2·7602332 | 85 | 2·2616264 | 2·6487629 |
| 86 | 2·3569492 | 2·7532704 | 86 | 2·2616264 | 2·6487629 | 86 | 2·1598430 | 2·5376390 |
| 87 | 2·2483474 | 2·6345025 | 87 | 2·1530246 | 2·5303393 | 87 | 2·0512412 | 2·4195593 |
| 88 | 2·1325590 | 2·5084368 | 88 | 2·0372362 | 2·4046148 | 88 | 1·9354528 | 2·2941751 |
| 89 | 2·0092056 | 2·3747154 | 89 | 1·9138828 | 2·2712306 | 89 | 1·8120994 | 2·1611274 |
| 90 | 1·8778981 | 2·2329700 | 90 | 1·7825753 | 2·1298171 | 90 | 1·6807919 | 2·0200466 |
| 91 | 1·7382376 | 2·0828249 | 91 | 1·6429148 | 1·9799952 | 91 | 1·5411314 | 1·8705514 |
| 92 | 1·5898145 | 1·9238857 | 92 | 1·4944917 | 1·8213792 | 92 | 1·3927083 | 1·7122514 |
| 93 | 1·4322090 | 1·7557537 | 93 | 1·3368862 | 1·6535598 | 93 | 1·2351028 | 1·5447537 |
| 94 | 1·2649909 | 1·5780200 | 94 | 1·1696681 | 1·4761285 | 94 | 1·0678847 | 1·3676298 |
| 95 | 1·0877198 | 1·3902531 | 95 | 0·9923970 | 1·2886672 | 95 | 0·8906136 | 1·1804614 |
| 96 | 0·8999449 | 1·1920152 | 96 | 0·8046221 | 1·0907199 | 96 | 0·7028387 | 0·9828228 |
| 97 | 0·7012050 | 0·9828454 | 97 | 0·6058822 | 0·8818353 | 97 | 0·5040988 | 0·7742249 |
| 98 | 0·4910287 | 0·7622358 | 98 | 0·3957059 | 0·6615193 | 98 | 0·2939225 | 0·5541862 |
| 99 | 0·2689343 | 0·5295715 | 99 | 0·1736115 | 0·4291868 | 99 | 0·0718281 | 0·3221572 |
| 100 | 0·0344295 | 0·2840696 | 100 | 9·9391067 | 0·1840096 | 100 | 9·8373233 | 0·0773679 |
| 101 | 9·7870120 | 0·0244446 | 101 | 9·6916892 | $\bar{1}$·9247444 | 101 | 9·5899058 | $\bar{1}$·8184898 |
| 102 | 9·5261690 | $\bar{1}$·7480329 | 102 | 9·4308462 | $\bar{1}$·6488477 | 102 | 9·3290628 | $\bar{1}$·5430742 |
| 103 | 9·2513774 | $\bar{1}$·4485517 | 103 | 9·1560546 | $\bar{1}$·3500541 | 103 | 9·0542712 | $\bar{1}$·2450189 |
| 104 | 8·9621038 | $\bar{1}$·1075491 | 104 | 8·8667810 | $\bar{1}$·0107239 | 104 | 8·7649976 | $\bar{2}$·9068735 |
| 105 | 8·6578044 | | 105 | 8·5624816 | | 105 | 8·4606982 | |
| 106 | 8·3379252 | | 106 | 8·2426024 | | 106 | 8·1408190 | |
| 107 | 8·0019018 | | 107 | 7·9065790 | | 107 | 7·8047956 | |
| 108 | 7·6491595 | | 108 | 7·5538367 | | 108 | 7·4520533 | |
| 109 | 7·2791132 | | 109 | 7·1837904 | | 109 | 7·0820070 | |

## JOINT LIVES:—Two Males.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 87 | | 88 | | | 89 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,87}$ | λ $N_{x,87}$ | Age of (x) | λ $D_{x,88}$ | λ $N_{x,88}$ | Age of (x) | λ $D_{x,89}$ | λ $N_{x,89}$ |
| 0 | 4·1803735 | 4·6597594 | 0 | 4·0645851 | 4·5275229 | 0 | 3·9412317 | 4·3879267 |
| 1 | 4·0963713 | 4·6180596 | 1 | 3·9805829 | 4·4847968 | 1 | 3·8572295 | 4·3441621 |
| 2 | 4·0610904 | 4·5962770 | 2 | 3·9453020 | 4·4626471 | 2 | 3·8219486 | 4·3216434 |
| 3 | 4·0389771 | 4·5803650 | 3 | 3·9231887 | 4·4465450 | 3 | 3·7998353 | 4·3053518 |
| 4 | 4·0220754 | 4·5670982 | 4 | 3·9062870 | 4·4331599 | 4 | 3·7829336 | 4·2918476 |
| 5 | 4·0078480 | 4·5553726 | 5 | 3·8920596 | 4·4213522 | 5 | 3·7687062 | 4·2799584 |
| 6 | 3·9954868 | 4·5446974 | 6 | 3·8796984 | 4·4106205 | 6 | 3·7563450 | 4·2691703 |
| 7 | 3·9843433 | 4·5347253 | 7 | 3·8685549 | 4·4006095 | 7 | 3·7452015 | 4·2591206 |
| 8 | 3·9739291 | 4·5252386 | 8 | 3·8581407 | 4·3910974 | 8 | 3·7347873 | 4·2495814 |
| 9 | 3·9641817 | 4·5161291 | 9 | 3·8483933 | 4·3819736 | 9 | 3·7250399 | 4·2404439 |
| 10 | 3·9549465 | 4·5072704 | 10 | 3·8391581 | 4·3731132 | 10 | 3·7158047 | 4·2315786 |
| 11 | 3·9460820 | 4·4985524 | 11 | 3·8302936 | 4·3644013 | 11 | 3·7069402 | 4·2228730 |
| 12 | 3·9374600 | 4·4898778 | 12 | 3·8216716 | 4·3557401 | 12 | 3·6983182 | 4·2142242 |
| 13 | 3·9289655 | 4·4811631 | 13 | 3·8131771 | 4·3470451 | 13 | 3·6898237 | 4·2055470 |
| 14 | 3·9204966 | 4·4723402 | 14 | 3·8047082 | 4·3382447 | 14 | 3·6813548 | 4·1967690 |
| 15 | 3·9119648 | 4·4633542 | 15 | 3·7961764 | 4·3292840 | 15 | 3·6728230 | 4·1878314 |
| 16 | 3·9032945 | 4·4541669 | 16 | 3·7875061 | 4·3201206 | 16 | 3·6641527 | 4·1786930 |
| 17 | 3·8944237 | 4·4447536 | 17 | 3·7786353 | 4·3107309 | 17 | 3·6552819 | 4·1693252 |
| 18 | 3·8853032 | 4·4351082 | 18 | 3·7695148 | 4·3011053 | 18 | 3·6461614 | 4·1597199 |
| 19 | 3·8758974 | 4·4252412 | 19 | 3·7601090 | 4·2912541 | 19 | 3·6367556 | 4·1498842 |
| 20 | 3·8661836 | 4·4151807 | 20 | 3·7503952 | 4·2812057 | 20 | 3·6270418 | 4·1398473 |
| 21 | 3·8561524 | 4·4049748 | 21 | 3·7403640 | 4·2710089 | 21 | 3·6170106 | 4·1296593 |
| 22 | 3·8460408 | 4·3946910 | 22 | 3·7302524 | 4·2607340 | 22 | 3·6068990 | 4·1193932 |
| 23 | 3·8358515 | 4·3843299 | 23 | 3·7200631 | 4·2503825 | 23 | 3·5967097 | 4·1090501 |
| 24 | 3·8255863 | 4·3738917 | 24 | 3·7097979 | 4·2399536 | 24 | 3·5864445 | 4·0986306 |
| 25 | 3·8152462 | 4·3633754 | 25 | 3·6994578 | 4·2294472 | 25 | 3·5761044 | 4·0881333 |
| 26 | 3·8048313 | 4·3527788 | 26 | 3·6890429 | 4·2188613 | 26 | 3·5656895 | 4·0775573 |
| 27 | 3·7943409 | 4·3421004 | 27 | 3·6785525 | 4·2081927 | 27 | 3·5551991 | 4·0668996 |
| 28 | 3·7837734 | 4·3313362 | 28 | 3·6679850 | 4·1974402 | 28 | 3·5446316 | 4·0561568 |
| 29 | 3·7731266 | 4·3204815 | 29 | 3·6573382 | 4·1865982 | 29 | 3·5339848 | 4·0453265 |
| 30 | 3·7623972 | 4·3095324 | 30 | 3·6466088 | 4·1756613 | 30 | 3·5232554 | 4·0344026 |
| 31 | 3·7515812 | 4·2984823 | 31 | 3·6357928 | 4·1646253 | 31 | 3·5124394 | 4·0233788 |
| 32 | 3·7406737 | 4·2873244 | 32 | 3·6248853 | 4·1534823 | 32 | 3·5015319 | 4·0122503 |
| 33 | 3·7296690 | 4·2760521 | 33 | 3·6138806 | 4·1422252 | 33 | 3·4905272 | 4·0010081 |
| 34 | 3·7185606 | 4·2646559 | 34 | 3·6027722 | 4·1308466 | 34 | 3·4794188 | 3·9896447 |
| 35 | 3·7073411 | 4·2531271 | 35 | 3·5915527 | 4·1193361 | 35 | 3·4681993 | 3·9781522 |
| 36 | 3·6960023 | 4·2414557 | 36 | 3·5802139 | 4·1076844 | 36 | 3·4568605 | 3·9665191 |
| 37 | 3·6845351 | 4·2296304 | 37 | 3·5687467 | 4·0958804 | 37 | 3·4453933 | 3·9547354 |
| 38 | 3·6729297 | 4·2176403 | 38 | 3·5571413 | 4·0839127 | 38 | 3·4337879 | 3·9427891 |
| 39 | 3·6611753 | 4·2054726 | 39 | 3·5453869 | 4·0717690 | 39 | 3·4220335 | 3·9306684 |
| 40 | 3·6492605 | 4·1931132 | 40 | 3·5334721 | 4·0594361 | 40 | 3·4101187 | 3·9183602 |
| 41 | 3·6371728 | 4·1805484 | 41 | 3·5213844 | 4·0468989 | 41 | 3·3980310 | 3·9058498 |
| 42 | 3·6248990 | 4·1677615 | 42 | 3·5091106 | 4·0341434 | 42 | 3·3857572 | 3·8931218 |
| 43 | 3·6124250 | 4·1547364 | 43 | 3·4966366 | 4·0211504 | 43 | 3·3732832 | 3·8801611 |
| 44 | 3·5997361 | 4·1414538 | 44 | 3·4839477 | 4·0079039 | 44 | 3·3605943 | 3·8669474 |
| 45 | 3·5868164 | 4·1278942 | 45 | 3·4710280 | 3·9943822 | 45 | 3·3476746 | 3·8534627 |
| 46 | 3·5736494 | 4·1140343 | 46 | 3·4578610 | 3·9805642 | 46 | 3·3345076 | 3·8396841 |
| 47 | 3·5602177 | 4·0998487 | 47 | 3·4444293 | 3·9664242 | 47 | 3·3210759 | 3·8255871 |
| 48 | 3·5465031 | 4·0853081 | 48 | 3·4307147 | 3·9519332 | 48 | 3·3073613 | 3·8111432 |
| 49 | 3·5324865 | 4·0703774 | 49 | 3·4166981 | 3·9370568 | 49 | 3·2933447 | 3·7963176 |
| 50 | 3·5181481 | 4·0550162 | 50 | 3·4023597 | 3·9217536 | 50 | 3·2790063 | 3·7810700 |
| 51 | 3·5034671 | 4·0391761 | 51 | 3·3876787 | 3·9059744 | 51 | 3·2643253 | 3·7653496 |
| 52 | 3·4881774 | 4·0227970 | 52 | 3·3723890 | 3·8896591 | 52 | 3·2490356 | 3·7490936 |
| 53 | 3·4724429 | 4·0059000 | 53 | 3·3566545 | 3·8728314 | 53 | 3·2333011 | 3·7323310 |
| 54 | 3·4562463 | 3·9884479 | 54 | 3·3404579 | 3·8554537 | 54 | 3·2171045 | 3·7150251 |

## JOINT LIVES:—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of ($y$) | 87 | | | 88 | | | 89 | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$) | λ $D_{x,\,87}$ | λ $N_{x,\,87}$ | Age of ($x$) | λ $D_{x,\,88}$ | λ $N_{x,\,88}$ | Age of ($x$) | λ $D_{x,\,89}$ | λ $N_{x,\,89}$ |
| 55 | 3·4395604 | 3·9703934 | 55 | 3·3237720 | 3·8374811 | 55 | 3·2004186 | 3·6971291 |
| 56 | 3·4223475 | 3·9516774 | 56 | 3·3065591 | 3·8188565 | 56 | 3·1832057 | 3·6785894 |
| 57 | 3·4045595 | 3·9322357 | 57 | 3·2887711 | 3·7995115 | 57 | 3·1654177 | 3·6593390 |
| 58 | 3·3861380 | 3·9119892 | 58 | 3·2703496 | 3·7793735 | 58 | 3·1469962 | 3·6393022 |
| 59 | 3·3670144 | 3·8908518 | 59 | 3·2512260 | 3·7583546 | 59 | 3·1278726 | 3·6183954 |
| 60 | 3·3471096 | 3·8687273 | 60 | 3·2313212 | 3·7363599 | 60 | 3·1079678 | 3·5965234 |
| 61 | 3·3263343 | 3·8455123 | 61 | 3·2105459 | 3·7132839 | 61 | 3·0871925 | 3·5735817 |
| 62 | 3·3045888 | 3·8210921 | 62 | 3·1888004 | 3·6890148 | 62 | 3·0654470 | 3·5494557 |
| 63 | 3·2817631 | 3·7953418 | 63 | 3·1659747 | 3·6634286 | 63 | 3·0426213 | 3·5240259 |
| 64 | 3·2577369 | 3·7681295 | 64 | 3·1419485 | 3·6363926 | 64 | 3·0185951 | 3·4971578 |
| 65 | 3·2323795 | 3·7393136 | 65 | 3·1165911 | 3·6077648 | 65 | 2·9932377 | 3·4687098 |
| 66 | 3·2055499 | 3·7087446 | 66 | 3·0897615 | 3·5773953 | 66 | 2·9664081 | 3·4385322 |
| 67 | 3·1770968 | 5·6762600 | 67 | 3·0613084 | 3·5451252 | 67 | 2·9379550 | 3·4064662 |
| 68 | 3·1468587 | 3·6416952 | 68 | 3·0310703 | 3·5107835 | 68 | 2·9077169 | 3·3723425 |
| 69 | 3·1146634 | 3·6048716 | 69 | 2·9988750 | 3·4741976 | 69 | 2·8755216 | 3·3359839 |
| 70 | 3·0803288 | 3·5656023 | 70 | 2·9645404 | 3·4351782 | 70 | 2·8411870 | 3·2972043 |
| 71 | 3·0436622 | 3·5236958 | 71 | 2·9278738 | 3·3935316 | 71 | 2·8045204 | 3·2558088 |
| 72 | 3·0044606 | 3·4789473 | 72 | 2·8886722 | 3·3490539 | 72 | 2·7653188 | 3·2115930 |
| 73 | 2·9625109 | 3·4311464 | 73 | 2·8467225 | 3·3015334 | 73 | 2·7233691 | 3·1643443 |
| 74 | 2·9175893 | 3·3800712 | 74 | 2·8018009 | 3·2507493 | 74 | 2·6784475 | 3·1138421 |
| 75 | 2·8694620 | 3·3254937 | 75 | 2·7536736 | 3·1964708 | 75 | 2·6303202 | 3·0598553 |
| 76 | 2·8178846 | 3·2671758 | 76 | 2·7020962 | 3·1384606 | 76 | 2·5787428 | 3·0021436 |
| 77 | 2·7626027 | 3·2048712 | 77 | 2·6468143 | 3·0764708 | 77 | 2·5234609 | 2·9404607 |
| 78 | 2·7033513 | 3·1383236 | 78 | 2·5875629 | 3·0102452 | 78 | 2·4642095 | 2·8745485 |
| 79 | 2·6398552 | 3·0672700 | 79 | 2·5240668 | 2·9395173 | 79 | 2·4007134 | 2·8041415 |
| 80 | 2·5718288 | 2·9914356 | 80 | 2·4560404 | 2·8640154 | 80 | 2·3326870 | 2·7289622 |
| 81 | 2·4989762 | 2·9105379 | 81 | 2·3831878 | 2·7834533 | 81 | 2·2598344 | 2·6487297 |
| 82 | 2·4209911 | 2·8242860 | 82 | 2·3052027 | 2·6975389 | 82 | 2·1818493 | 2·5631475 |
| 83 | 2·3375572 | 2·7323777 | 83 | 2·2217688 | 2·6059705 | 83 | 2·0984154 | 2·4719134 |
| 84 | 2·2483474 | 2·6345025 | 84 | 2·1325590 | 2·5084368 | 84 | 2·0092056 | 2·3747154 |
| 85 | 2·1530246 | 2·5303393 | 85 | 2·0372362 | 2·4046148 | 85 | 1·9138828 | 2·2712306 |
| 86 | 2·0512412 | 2·4195593 | 86 | 1·9354528 | 2·2941751 | 86 | 1·8120994 | 2·1611274 |
| 87 | 1·9426394 | 2·3018212 | 87 | 1·8268510 | 2·1767772 | 87 | 1·7034976 | 2·0440644 |
| 88 | 1·8268510 | 2·1767772 | 88 | 1·7110626 | 2·0520680 | 88 | 1·5877092 | 1·9196909 |
| 89 | 1·7034976 | 2·0440644 | 89 | 1·5877092 | 1·9196909 | 89 | 1·4643558 | 1·7876418 |
| 90 | 1·5721901 | 1·9033147 | 90 | 1·4564017 | 1·7792703 | 90 | 1·3330483 | 1·6475531 |
| 91 | 1·4325296 | 1·7541472 | 91 | 1·3167412 | 1·6304279 | 91 | 1·1933878 | 1·4990338 |
| 92 | 1·2841065 | 1·5961692 | 92 | 1·1683181 | 1·4727726 | 92 | 1·0449647 | 1·3416956 |
| 93 | 1·1265010 | 1·4289782 | 93 | 1·0107126 | 1·3058993 | 93 | 0·8873592 | 1·1751406 |
| 94 | 0·9592829 | 1·2521756 | 94 | 0·8434945 | 1·1293901 | 94 | 0·7201411 | 0·9989477 |
| 95 | 0·7820118 | 1·0653107 | 95 | 0·6662234 | 0·9428510 | 95 | 0·5428700 | 0·8126794 |
| 96 | 0·5942369 | 0·8679563 | 96 | 0·4784485 | 0·7457928 | 96 | 0·3550951 | 0·6159606 |
| 97 | 0·3954970 | 0·6596786 | 97 | 0·2797086 | 0·5377813 | 97 | 0·1563552 | 0·4082400 |
| 98 | 0·1853207 | 0·4399166 | 98 | 0·0695323 | 0·3183764 | 98 | 9·9461789 | 0·1890690 |
| 99 | 9·9632263 | 0·2081725 | 99 | 9·8474379 | 0·0868935 | 99 | 9·7240845 | $\bar{1}$·9580380 |
| 100 | 9·7287215 | $\bar{1}$·9636934 | 100 | 9·6129331 | $\bar{1}$·8427340 | 100 | 9·4895797 | $\bar{1}$·7140782 |
| 101 | 9·4813040 | $\bar{1}$·7053505 | 101 | 9·3655156 | $\bar{1}$·5846704 | 101 | 9·2421622 | $\bar{1}$·4565179 |
| 102 | 9·2204610 | $\bar{1}$·4303976 | 102 | 9·1046726 | $\bar{1}$·3106933 | 102 | 8·9813192 | $\bar{1}$·1826999 |
| 103 | 8·9456694 | $\bar{1}$·1332195 | 103 | 8·8298810 | $\bar{1}$·0141003 | 103 | 8·7065276 | $\bar{2}$·8876173 |
| 104 | 8·6563958 | $\bar{2}$·7958800 | 104 | 8·5406074 | $\bar{2}$·6785184 | 104 | 8·4172540 | $\bar{2}$·5526682 |
| 105 | 8·3520964 | | 105 | 8·2363080 | | 105 | 8·1129546 | |
| 106 | 8·0322172 | | 106 | 7·9164288 | | 106 | 7·7930754 | |
| 107 | 7·6961938 | | 107 | 7·5804054 | | 107 | 7·4570520 | |
| 108 | 7·3434515 | | 108 | 7·2276631 | | 108 | 7·1043097 | |
| 109 | 6·9734052 | | 109 | 6·8576168 | | 109 | 6·7342634 | |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 90 | | 91 | | | 92 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,90}$ | λ $N_{x,90}$ | Age of (x) | λ $D_{x,91}$ | λ $N_{x,91}$ | Age of (x) | λ $D_{x,92}$ | λ $N_{x,92}$ |
| 0 | 3·8099242 | 4·2405980 | 0 | 3·6702637 | 4·0851499 | 0 | 3·5218406 | 3·9211843 |
| 1 | 3·7259220 | 4·1957838 | 1 | 3·5862615 | 4·0392769 | 1 | 3·4378384 | 3·8742423 |
| 2 | 3·6906411 | 4·1728947 | 2 | 3·5509806 | 4·0160166 | 2 | 3·4025575 | 3·8506113 |
| 3 | 3·6685278 | 4·1564135 | 3 | 3·5288673 | 3·9993472 | 3 | 3·3804442 | 3·8337544 |
| 4 | 3·6516261 | 4·1427911 | 4 | 3·5119656 | 3·9856061 | 4 | 3·3635425 | 3·8198965 |
| 5 | 3·6373987 | 4·1308203 | 5 | 3·4977382 | 3·9735550 | 5 | 3·3493151 | 3·8077636 |
| 6 | 3·6250375 | 4·1199767 | 6 | 3·4853770 | 3·9626553 | 6 | 3·3369539 | 3·7968101 |
| 7 | 3·6138940 | 4·1098875 | 7 | 3·4742335 | 3·9525275 | 7 | 3·3258104 | 3·7866429 |
| 8 | 3·6034798 | 4·1003217 | 8 | 3·4638193 | 3·9429337 | 8 | 3·3153962 | 3·7770213 |
| 9 | 3·5937324 | 4·0911681 | 9 | 3·4540719 | 3·9337646 | 9 | 3·3056488 | 3·7678353 |
| 10 | 3·5844972 | 4·0822988 | 10 | 3·4448367 | 3·9248884 | 10 | 3·2964136 | 3·7589535 |
| 11 | 3·5756327 | 4·0735959 | 11 | 3·4359722 | 3·9161896 | 11 | 3·2875491 | 3·7502553 |
| 12 | 3·5670107 | 4·0649598 | 12 | 3·4273502 | 3·9075623 | 12 | 3·2789271 | 3·7416384 |
| 13 | 3·5585162 | 4·0562995 | 13 | 3·4188557 | 3·8989193 | 13 | 3·2704326 | 3·7330086 |
| 14 | 3·5500473 | 4·0475419 | 14 | 3·4103868 | 3·8901817 | 14 | 3·2619637 | 3·7242915 |
| 15 | 3·5415155 | 4·0386281 | 15 | 3·4018550 | 3·8812899 | 15 | 3·2534319 | 3·7154208 |
| 16 | 3·5328452 | 4·0295124 | 16 | 3·3931847 | 3·8721977 | 16 | 3·2447616 | 3·7063507 |
| 17 | 3·5239744 | 4·0201678 | 17 | 3·3843139 | 3·8628740 | 17 | 3·2358908 | 3·6970488 |
| 18 | 3·5148539 | 4·0105811 | 18 | 3·3751934 | 3·8533076 | 18 | 3·2267703 | 3·6875004 |
| 19 | 3·5054481 | 4·0007616 | 19 | 3·3657876 | 3·8435019 | 19 | 3·2173645 | 3·6777119 |
| 20 | 3·4957343 | 3·9907357 | 20 | 3·3560738 | 3·8334882 | 20 | 3·2076507 | 3·6677070 |
| 21 | 3·4857031 | 3·9805556 | 21 | 3·3460426 | 3·8233158 | 21 | 3·1976195 | 3·6575434 |
| 22 | 3·4755915 | 3·9702981 | 22 | 3·3359310 | 3·8130657 | 22 | 3·1875079 | 3·6473008 |
| 23 | 3·4654022 | 3·9599634 | 23 | 3·3257417 | 3·8027395 | 23 | 3·1773186 | 3·6369811 |
| 24 | 3·4551370 | 3·9495525 | 24 | 3·3154765 | 3·7923363 | 24 | 3·1670534 | 3·6265867 |
| 25 | 3·4447969 | 3·9390643 | 25 | 3·3051364 | 3·7818566 | 25 | 3·1567133 | 3·6161141 |
| 26 | 3·4343820 | 3·9284973 | 26 | 3·2947215 | 3·7712986 | 26 | 3·1462984 | 3·6055647 |
| 27 | 3·4238916 | 3·9178494 | 27 | 3·2842311 | 3·7606600 | 27 | 3·1358080 | 3·5949348 |
| 28 | 3·4133241 | 3·9071178 | 28 | 3·2736636 | 3·7499380 | 28 | 3·1252405 | 3·5842215 |
| 29 | 3·4026773 | 3·8962969 | 29 | 3·2630168 | 3·7391283 | 29 | 3·1145937 | 3·5734228 |
| 30 | 3·3919479 | 3·8853849 | 30 | 3·2522874 | 3·7282255 | 30 | 3·1038643 | 3·5625308 |
| 31 | 3·3811319 | 3·8743739 | 31 | 3·2414714 | 3·7172276 | 31 | 3·0930483 | 3·5515415 |
| 32 | 3·3702244 | 3·8632580 | 32 | 3·2305639 | 3·7061244 | 32 | 3·0821408 | 3·5404521 |
| 33 | 3·3592197 | 3·8520308 | 33 | 3·2195592 | 3·6949096 | 33 | 3·0711361 | 3·5292506 |
| 34 | 3·3481113 | 3·8406825 | 34 | 3·2084508 | 3·6835765 | 34 | 3·0600277 | 3·5179305 |
| 35 | 3·3368918 | 3·8292054 | 35 | 3·1972313 | 3·6721145 | 35 | 3·0488082 | 3·5064834 |
| 36 | 3·3255530 | 3·8175905 | 36 | 3·1858925 | 3·6605155 | 36 | 3·0374694 | 3·4949000 |
| 37 | 3·3140858 | 3·8058256 | 37 | 3·1744253 | 3·6487697 | 37 | 3·0260022 | 3·4831692 |
| 38 | 3·3024804 | 3·7939000 | 38 | 3·1628199 | 3·6368628 | 38 | 3·0143968 | 3·4712829 |
| 39 | 3·2907260 | 3·7818013 | 39 | 3·1510655 | 3·6247852 | 39 | 3·0026424 | 3·4592236 |
| 40 | 3·2788112 | 3·7695161 | 40 | 3·1391507 | 3·6125222 | 40 | 2·9907276 | 3·4469824 |
| 41 | 3·2667235 | 3·7570306 | 41 | 3·1270630 | 3·6000609 | 41 | 2·9786399 | 3·4345437 |
| 42 | 3·2544497 | 3·7443305 | 42 | 3·1147892 | 3·5873854 | 42 | 2·9663661 | 3·4218930 |
| 43 | 3·2419757 | 3·7313977 | 43 | 3·1023152 | 3·5744815 | 43 | 2·9538921 | 3·4090145 |
| 44 | 3·2292868 | 3·7182168 | 44 | 3·0896263 | 3·5613292 | 44 | 2·9412032 | 3·3958915 |
| 45 | 3·2163671 | 3·7047663 | 45 | 3·0767066 | 3·5479112 | 45 | 2·9282835 | 3·3825040 |
| 46 | 3·2032001 | 3·6910249 | 46 | 3·0635396 | 3·5342064 | 46 | 2·9151165 | 3·3688315 |
| 47 | 3·1897684 | 3·6769687 | 47 | 3·0501079 | 3·5201887 | 47 | 2·9016848 | 3·3548509 |
| 48 | 3·1760538 | 3·6625690 | 48 | 3·0363933 | 3·5058307 | 48 | 2·8879702 | 3·3405336 |
| 49 | 3·1620372 | 3·6477926 | 49 | 3·0223767 | 3·4910996 | 49 | 2·8739536 | 3·3258464 |
| 50 | 3·1476988 | 3·6325970 | 50 | 3·0080385 | 3·4759544 | 50 | 2·8596152 | 3·3107483 |
| 51 | 3·1330178 | 3·6169322 | 51 | 2·9933573 | 3·4603426 | 51 | 2·8449342 | 3·2951863 |
| 52 | 3·1177281 | 3·6007345 | 52 | 2·9780676 | 3·4441981 | 52 | 2·8296445 | 3·2790931 |
| 53 | 3·1019936 | 3·5840326 | 53 | 2·9623331 | 3·4275552 | 53 | 2·8139100 | 3·2625052 |
| 54 | 3·0857970 | 3·5667933 | 54 | 2·9461365 | 3·4103793 | 54 | 2·7977134 | 3·2453898 |

## JOINT LIVES:—TWO MALES.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 90 | | 91 | | | 92 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,90}$ | $\lambda\ N_{x,\,90}$ | Age of (x) | $\lambda\ D_{x,\,91}$ | $\lambda\ N_{x,\,91}$ | Age of (x) | $\lambda\ D_{x,\,92}$ | $\lambda\ N_{x,\,92}$ |
| 55 | 3·0691111 | 3·5489714 | 55 | 2·9294506 | 3·3926266 | 55 | 2·7810275 | 3·2277027 |
| 56 | 3·0518982 | 3·5305109 | 56 | 2·9122377 | 3·3742430 | 56 | 2·7638146 | 3·2093911 |
| 57 | 3·0341102 | 3·5113498 | 57 | 2·8944497 | 3·3551645 | 57 | 2·7460266 | 3·1903919 |
| 58 | 3·0156887 | 3·4914107 | 58 | 2·8760282 | 3·3353171 | 58 | 2·7276051 | 3·1706316 |
| 59 | 2·9965651 | 3·4706093 | 59 | 2·8569046 | 3·3146171 | 59 | 2·7084815 | 3·1500271 |
| 60 | 2·9766603 | 3·4488531 | 60 | 2·8369998 | 3·2929712 | 60 | 2·6885767 | 3·1284862 |
| 61 | 2·9558850 | 3·4260379 | 61 | 2·8162245 | 3·2702765 | 61 | 2·6678014 | 3·1059058 |
| 62 | 2·9341395 | 3·4020506 | 62 | 2·7944790 | 3·2464201 | 62 | 2·6460559 | 3·0821741 |
| 63 | 2·9113138 | 3·3767687 | 63 | 2·7716535 | 3·2212802 | 63 | 2·6232302 | 3·0571691 |
| 64 | 2·8872876 | 3·3500605 | 64 | 2·7476271 | 3·1947247 | 64 | 2·5992040 | 3·0307600 |
| 65 | 2·8619302 | 3·3217852 | 65 | 2·7222697 | 3·1666134 | 65 | 2·5738466 | 3·0028056 |
| 66 | 2·8351006 | 3·2917916 | 66 | 2·6954401 | 3·1367964 | 66 | 2·5470170 | 2·9731565 |
| 67 | 2·8066475 | 3·2599208 | 67 | 2·6669870 | 3·1051131 | 67 | 2·5185639 | 2·9416535 |
| 68 | 2·7764094 | 3·2260049 | 68 | 2·6367489 | 3·0713959 | 68 | 2·4883258 | 2·9081278 |
| 69 | 2·7442141 | 3·1898658 | 69 | 2·6045536 | 3·0354678 | 69 | 2·4561305 | 2·8724010 |
| 70 | 2·7098795 | 3·1513174 | 70 | 2·5702190 | 2·9971412 | 70 | 2·4217959 | 2·8342885 |
| 71 | 2·6732129 | 3·1101636 | 71 | 2·5335524 | 2·9562213 | 71 | 2·3851293 | 2·7935920 |
| 72 | 2·6340113 | 3·0662011 | 72 | 2·4943508 | 2·9125021 | 72 | 2·3459277 | 2·7501094 |
| 73 | 2·5920616 | 3·0192156 | 73 | 2·4524011 | 2·8657712 | 73 | 2·3039780 | 2·7036232 |
| 74 | 2·5471400 | 2·9689856 | 74 | 2·4074795 | 2·8158055 | 74 | 2·2590564 | 2·6539126 |
| 75 | 2·4990127 | 2·9152811 | 75 | 2·3593522 | 2·7623732 | 75 | 2·2109291 | 2·6007454 |
| 76 | 2·4474353 | 2·8578612 | 76 | 2·3077748 | 2·7052349 | 76 | 2·1593517 | 2·5438794 |
| 77 | 2·3921534 | 2·7964758 | 77 | 2·2524929 | 2·6441411 | 77 | 2·1040698 | 2·4830664 |
| 78 | 2·3329020 | 2·7308695 | 78 | 2·1932415 | 2·5788306 | 78 | 2·0448184 | 2·4180460 |
| 79 | 2·2694059 | 2·6607735 | 79 | 2·1297454 | 2·5090384 | 79 | 1·9813223 | 2·3485491 |
| 80 | 2·2013795 | 2·5859128 | 80 | 2·0617190 | 2·4344875 | 80 | 1·9132959 | 2·2742987 |
| 81 | 2·1285269 | 2·5060001 | 81 | 1·9888664 | 2·3548900 | 81 | 1·8404433 | 2·1950078 |
| 82 | 2·0505418 | 2·4207444 | 82 | 1·9108813 | 2·2699515 | 82 | 1·7624582 | 2·1103813 |
| 83 | 1·9671079 | 2·3298391 | 83 | 1·8274474 | 2·1793679 | 83 | 1·6790243 | 2·0201114 |
| 84 | 1·8778981 | 2·2329700 | 84 | 1·7382376 | 2·0828249 | 84 | 1·5898145 | 1·9238857 |
| 85 | 1·7825753 | 2·1298171 | 85 | 1·6429148 | 1·9799952 | 85 | 1·4944917 | 1·8213792 |
| 86 | 1·6807919 | 2·0200466 | 86 | 1·5411314 | 1·8705514 | 86 | 1·3927083 | 1·7122514 |
| 87 | 1·5721901 | 1·9033147 | 87 | 1·4325296 | 1·7541472 | 87 | 1·2841065 | 1·5961692 |
| 88 | 1·4564017 | 1·7792703 | 88 | 1·3167412 | 1·6304279 | 88 | 1·1683181 | 1·4727726 |
| 89 | 1·3330483 | 1·6475531 | 89 | 1·1933878 | 1·4990338 | 89 | 1·0449647 | 1·3416956 |
| 90 | 1·2017408 | 1·5077830 | 90 | 1·0620803 | 1·3595927 | 90 | 0·9136572 | 1·2025700 |
| 91 | 1·0620803 | 1·3595927 | 91 | 0·9224198 | 1·2117078 | 91 | 0·7739967 | 1·0550150 |
| 92 | 0·9136572 | 1·2025700 | 92 | 0·7739967 | 1·0550150 | 92 | 0·6255736 | 0·8986100 |
| 93 | 0·7560517 | 1·0363254 | 93 | 0·6163912 | 0·8890775 | 93 | 0·4679681 | 0·7330046 |
| 94 | 0·5888336 | 0·8604458 | 94 | 0·4491731 | 0·7134989 | 94 | 0·3007500 | 0·5577237 |
| 95 | 0·4115625 | 0·6744937 | 95 | 0·2719020 | 0·5278618 | 95 | 0·1234789 | 0·3723780 |
| 96 | 0·2237876 | 0·4780034 | 96 | 0·0841271 | 0·3316904 | 96 | 9·9357040 | 0·1765253 |
| 97 | 0·0250477 | 0·2706788 | 97 | 9·8853872 | 0·1245042 | 97 | 9·7369641 | $\bar{1}$·9696954 |
| 98 | 9·8148714 | 0·0517697 | 98 | 9·6752109 | $\bar{1}$·9061195 | 98 | 9·5267878 | $\bar{1}$·7512791 |
| 99 | 9·5927770 | $\bar{1}$·8209236 | 99 | 9·4531165 | $\bar{1}$·6755034 | 99 | 9·3046934 | $\bar{1}$·5213996 |
| 100 | 9·3582722 | $\bar{1}$·5776067 | 100 | 9·2186117 | $\bar{1}$·4323278 | 100 | 9·0701886 | $\bar{1}$·2782962 |
| 101 | 9·1108547 | $\bar{1}$·3201463 | 101 | 8·9711942 | $\bar{1}$·1758016 | 101 | 8·8227711 | $\bar{1}$·0220157 |
| 102 | 8·8500117 | $\bar{1}$·0472749 | 102 | 8·7103512 | $\bar{2}$·9025468 | 102 | 8·5619281 | $\bar{2}$·7505084 |
| 103 | 8·5752201 | $\bar{2}$·7520484 | 103 | 8·4355596 | $\bar{2}$·6095944 | 103 | 8·2871365 | $\bar{2}$·4563660 |
| 104 | 8·2859465 | $\bar{2}$·4199557 | 104 | 8·1462860 | $\bar{2}$·2764618 | 104 | 7·9978629 | $\bar{2}$·1271048 |
| 105 | 7·9816471 | | 105 | 7·8419866 | | 105 | 7·6935635 | |
| 106 | 7·6617679 | | 106 | 7·5221074 | | 106 | 7·3736843 | |
| 107 | 7·3257445 | | 107 | 7·1860840 | | 107 | 7·0376609 | |
| 108 | 6·9730022 | | 108 | 6·8333417 | | 108 | 6·6849186 | |
| 109 | 6·6029559 | | 109 | 6·4632954 | | 109 | 6·3148723 | |

## JOINT LIVES:—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 93 | | 94 | | | 95 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,93}$ | λ $N_{x,\,93}$ | Age of (x) | λ $D_{x,\,94}$ | λ $N_{x,\,94}$ | Age of (x) | λ $D_{x,\,95}$ | λ $N_{x,\,95}$ |
| 0 | 3·3642351 | 3·7482865 | 0 | 3·1970170 | 3·5660260 | 0 | 3·0197459 | 3·3739523 |
| 1 | 3·2802329 | 3·7002692 | 1 | 3·1130148 | 3·5169252 | 1 | 2·9357437 | 3·3237611 |
| 2 | 3·2449520 | 3·6762655 | 2 | 3·0777339 | 3·4925509 | 2 | 2·9004628 | 3·2990130 |
| 3 | 3·2228387 | 3·6592229 | 3 | 3·0556206 | 3·4753210 | 3 | 2·8783495 | 3·2815996 |
| 4 | 3·2059370 | 3·6452493 | 4 | 3·0387189 | 3·4612343 | 4 | 2·8614478 | 3·2673972 |
| 5 | 3·1917096 | 3·6330370 | 5 | 3·0244915 | 3·4489427 | 5 | 2·8472204 | 3·2550276 |
| 6 | 3·1793484 | 3·6220264 | 6 | 3·0121303 | 3·4378773 | 6 | 2·8348592 | 3·2439098 |
| 7 | 3·1682049 | 3·6118221 | 7 | 3·0009868 | 3·4276321 | 7 | 2·8237157 | 3·2336260 |
| 8 | 3·1577907 | 3·6021718 | 8 | 2·9905726 | 3·4179558 | 8 | 2·8133015 | 3·2239199 |
| 9 | 3·1480433 | 3·5929691 | 9 | 2·9808252 | 3·4087358 | 9 | 2·8035541 | 3·2146820 |
| 10 | 3·1388081 | 3·5840800 | 10 | 2·9715900 | 3·3998386 | 10 | 2·7943189 | 3·2057767 |
| 11 | 3·1299436 | 3·5753842 | 11 | 2·9627255 | 3·3911428 | 11 | 2·7854544 | 3·1970809 |
| 12 | 3·1213216 | 3·5667733 | 12 | 2·9541035 | 3·3825407 | 12 | 2·7768324 | 3·1884855 |
| 13 | 3·1128271 | 3·5581588 | 13 | 2·9456090 | 3·3739383 | 13 | 2·7683379 | 3·1798951 |
| 14 | 3·1043582 | 3·5494581 | 14 | 2·9371401 | 3·3652555 | 14 | 2·7598690 | 3·1712287 |
| 15 | 3·0958264 | 3·5406097 | 15 | 2·9286083 | 3·3564259 | 15 | 2·7513372 | 3·1624183 |
| 16 | 3·0871561 | 3·5315607 | 16 | 2·9199380 | 3·3473982 | 16 | 2·7426669 | 3·1534115 |
| 17 | 3·0782853 | 3·5222799 | 17 | 2·9110672 | 3·3381372 | 17 | 2·7337961 | 3·1441706 |
| 18 | 3·0691648 | 3·5127498 | 18 | 2·9019467 | 3·3286258 | 18 | 2·7246756 | 3·1346768 |
| 19 | 3·0597590 | 3·5029758 | 19 | 2·8925409 | 3·3188661 | 19 | 2·7152698 | 3·1249315 |
| 20 | 3·0500452 | 3·4929838 | 20 | 2·8828271 | 3·3088840 | 20 | 2·7055560 | 3·1149597 |
| 21 | 3·0400140 | 3·4828250 | 21 | 2·8727959 | 3·2987341 | 21 | 2·6955248 | 3·1048169 |
| 22 | 3·0299024 | 3·4725912 | 22 | 2·8626843 | 3·2885059 | 22 | 2·6854132 | 3·0945959 |
| 23 | 3·0197131 | 3·4622797 | 23 | 2·8524950 | 3·2782015 | 23 | 2·6752239 | 3·0842974 |
| 24 | 3·0094479 | 3·4518907 | 24 | 2·8422298 | 3·2678207 | 24 | 2·6649587 | 3·0739240 |
| 25 | 2·9991078 | 3·4414269 | 25 | 2·8318897 | 3·2573641 | 25 | 2·6546186 | 3·0634742 |
| 26 | 2·9886929 | 3·4308847 | 26 | 2·8214748 | 3·2468295 | 26 | 2·6442037 | 3·0529474 |
| 27 | 2·9782025 | 3·4202631 | 27 | 2·8109844 | 3·2362157 | 27 | 2·6337133 | 3·0423408 |
| 28 | 2·9676350 | 3·4095590 | 28 | 2·8004169 | 3·2255196 | 28 | 2·6231458 | 3·0316528 |
| 29 | 2·9569882 | 3·3987683 | 29 | 2·7897701 | 3·2147382 | 29 | 2·6124990 | 3·0208794 |
| 30 | 2·9462588 | 3·3878870 | 30 | 2·7790407 | 3·2038659 | 30 | 2·6017696 | 3·0100166 |
| 31 | 2·9354428 | 3·3769089 | 31 | 2·7682247 | 3·1928987 | 31 | 2·5909536 | 2·9990583 |
| 32 | 2·9245353 | 3·3658289 | 32 | 2·7573172 | 3·1818287 | 32 | 2·5800461 | 2·9879999 |
| 33 | 2·9135306 | 3·3546395 | 33 | 2·7463125 | 3·1706510 | 33 | 2·5690414 | 2·9768321 |
| 34 | 2·9024222 | 3·3433332 | 34 | 2·7352041 | 3·1593566 | 34 | 2·5579330 | 2·9655497 |
| 35 | 2·8912027 | 3·3319002 | 35 | 2·7239846 | 3·1479378 | 35 | 2·5467135 | 2·9541431 |
| 36 | 2·8798639 | 3·3203322 | 36 | 2·7126458 | 3·1363834 | 36 | 2·5353747 | 2·9426037 |
| 37 | 2·8683967 | 3·3086184 | 37 | 2·7011786 | 3·1246851 | 37 | 2·5239075 | 2·9309195 |
| 38 | 2·8567913 | 3·2967472 | 38 | 2·6895732 | 3·1128308 | 38 | 2·5123021 | 2·9190812 |
| 39 | 2·8450369 | 3·2847075 | 39 | 2·6778188 | 3·1008084 | 39 | 2·5005477 | 2·9070758 |
| 40 | 2·8331221 | 3·2724863 | 40 | 2·6659040 | 3·0886059 | 40 | 2·4886329 | 2·8948913 |
| 41 | 2·8210344 | 3·2600695 | 41 | 2·6538163 | 3·0762096 | 41 | 2·4765452 | 2·8825143 |
| 42 | 2·8087606 | 3·2474420 | 42 | 2·6415425 | 3·0636046 | 42 | 2·4642714 | 2·8699302 |
| 43 | 2·7962866 | 3·2345881 | 43 | 2·6290685 | 3·0507748 | 43 | 2·4517974 | 2·8571237 |
| 44 | 2·7835977 | 3·2214915 | 44 | 2·6163796 | 3·0377033 | 44 | 2·4391085 | 2·8440769 |
| 45 | 2·7706780 | 3·2081338 | 45 | 2·6034599 | 3·0243723 | 45 | 2·4261888 | 2·8307721 |
| 46 | 2·7575110 | 3·1944929 | 46 | 2·5902929 | 3·0107629 | 46 | 2·4130218 | 2·8171904 |
| 47 | 2·7440793 | 3·1805465 | 47 | 2·5768612 | 2·9968495 | 47 | 2·3995901 | 2·8033096 |
| 48 | 2·7303647 | 3·1662676 | 48 | 2·5631466 | 2·9826059 | 48 | 2·3858755 | 2·7891010 |
| 49 | 2·7163481 | 3·1516220 | 49 | 2·5491300 | 2·9680008 | 49 | 2·3718589 | 2·7745331 |
| 50 | 2·7020097 | 3·1365689 | 50 | 2·5347916 | 2·9529909 | 50 | 2·3575205 | 2·7595659 |
| 51 | 2·6873287 | 3·1210557 | 51 | 2·5201106 | 2·9375229 | 51 | 2·3428395 | 2·7441420 |
| 52 | 2·6720390 | 3·1050102 | 52 | 2·5048209 | 2·9215252 | 52 | 2·3275498 | 2·7281874 |
| 53 | 2·6563045 | 3·0884749 | 53 | 2·4890864 | 2·9050383 | 53 | 2·3118153 | 2·7117499 |
| 54 | 2·6401079 | 3·0714161 | 54 | 2·4728898 | 2·8880340 | 54 | 2·2956187 | 2·6947956 |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 93 | | | 94 | | | 95 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,93}$ | λ $N_{x,\,93}$ | Age of (x) | λ $D_{x,\,94}$ | λ $N_{x,\,94}$ | Age of (x) | λ $D_{x,\,95}$ | λ $N_{x,\,95}$ |
| 55 | 2.6234220 | 3.0537920 | 55 | 2.4562039 | 2.8704689 | 55 | 2.2789328 | 2.6772875 |
| 56 | 2.6062091 | 3.0355486 | 56 | 2.4389910 | 2.8522915 | 56 | 2.2617199 | 2.6591724 |
| 57 | 2.5884211 | 3.0166243 | 57 | 2.4212030 | 2.8334385 | 57 | 2.2439319 | 2.6403890 |
| 58 | 2.5699996 | 2.9969471 | 58 | 2.4027815 | 2.8138398 | 58 | 2.2255104 | 2.6208655 |
| 59 | 2.5508760 | 2.9764339 | 59 | 2.3836579 | 2.7934132 | 59 | 2.2063868 | 2.6005210 |
| 60 | 2.5309712 | 2.9549922 | 60 | 2.3637531 | 2.7720671 | 60 | 2.1864820 | 2.5792667 |
| 61 | 2.5101959 | 2.9325209 | 61 | 2.3429778 | 2.7496992 | 61 | 2.1657067 | 2.5569992 |
| 62 | 2.4884504 | 2.9089079 | 62 | 2.3212323 | 2.7261997 | 62 | 2.1439612 | 2.5336081 |
| 63 | 2.4656247 | 2.8840320 | 63 | 2.2984066 | 2.7014471 | 63 | 2.1211355 | 2.5089739 |
| 64 | 2.4415985 | 2.8577617 | 64 | 2.2743804 | 2.6753108 | 64 | 2.0971093 | 2.4829650 |
| 65 | 2.4162411 | 2.8299582 | 65 | 2.2490230 | 2.6476509 | 65 | 2.0717519 | 2.4554449 |
| 66 | 2.3894115 | 2.8004696 | 66 | 2.2221934 | 2.6183180 | 66 | 2.0449223 | 2.4262607 |
| 67 | 2.3609584 | 2.7691387 | 67 | 2.1937403 | 2.5871517 | 67 | 2.0164692 | 2.3952548 |
| 68 | 2.3307203 | 2.7357968 | 68 | 2.1635022 | 2.5539849 | 68 | 1.9862311 | 2.3622581 |
| 69 | 2.2985250 | 2.7002657 | 69 | 2.1313069 | 2.5186416 | 69 | 1.9540358 | 2.3270940 |
| 70 | 2.2641904 | 2.6623564 | 70 | 2.0969723 | 2.4809321 | 70 | 1.9197012 | 2.2895754 |
| 71 | 2.2275238 | 2.6218770 | 71 | 2.0603057 | 2.4406588 | 71 | 1.8830346 | 2.2495056 |
| 72 | 2.1883222 | 2.5786198 | 72 | 2.0211041 | 2.3976202 | 72 | 1.8438330 | 2.2066786 |
| 73 | 2.1463725 | 2.5323721 | 73 | 1.9791544 | 2.3516014 | 73 | 1.8018833 | 2.1608801 |
| 74 | 2.1014509 | 2.4829079 | 74 | 1.9342328 | 2.3023757 | 74 | 1.7569617 | 2.1118859 |
| 75 | 2.0533236 | 2.4299960 | 75 | 1.8861055 | 2.2497124 | 75 | 1.7088344 | 2.0594623 |
| 76 | 2.0017462 | 2.3733957 | 76 | 1.8345281 | 2.1933676 | 76 | 1.6572570 | 2.0033680 |
| 77 | 1.9464643 | 2.3128543 | 77 | 1.7792462 | 2.1330913 | 77 | 1.6019751 | 1.9433481 |
| 78 | 1.8872129 | 2.2481136 | 78 | 1.7199948 | 2.0686226 | 78 | 1.5427237 | 1.8791441 |
| 79 | 1.8237168 | 2.1789045 | 79 | 1.6564987 | 1.9996919 | 79 | 1.4792276 | 1.8104852 |
| 80 | 1.7556904 | 2.1049474 | 80 | 1.5884723 | 1.9260212 | 80 | 1.4112012 | 1.7370916 |
| 81 | 1.6828378 | 2.0259556 | 81 | 1.5156197 | 1.8473203 | 81 | 1.3383486 | 1.6586762 |
| 82 | 1.6048527 | 1.9416317 | 82 | 1.4376346 | 1.7632925 | 82 | 1.2603635 | 1.5749372 |
| 83 | 1.5214188 | 1.8516711 | 83 | 1.3542007 | 1.6736309 | 83 | 1.1769296 | 1.4855681 |
| 84 | 1.4322090 | 1.7557537 | 84 | 1.2649909 | 1.5780200 | 84 | 1.0877198 | 1.3902531 |
| 85 | 1.3368862 | 1.6535598 | 85 | 1.1696681 | 1.4761285 | 85 | 0.9923970 | 1.2886672 |
| 86 | 1.2351028 | 1.5447537 | 86 | 1.0678847 | 1.3676298 | 86 | 0.8906136 | 1.1804614 |
| 87 | 1.1265010 | 1.4289782 | 87 | 0.9592829 | 1.2521756 | 87 | 0.7820118 | 1.0653107 |
| 88 | 1.0107126 | 1.3058993 | 88 | 0.8434945 | 1.1293901 | 88 | 0.6662234 | 0.9428510 |
| 89 | 0.8873592 | 1.1751406 | 89 | 0.7201411 | 0.9989477 | 89 | 0.5428700 | 0.8126794 |
| 90 | 0.7560517 | 1.0363254 | 90 | 0.5888336 | 0.8604458 | 90 | 0.4115625 | 0.6744937 |
| 91 | 0.6163912 | 0.8890775 | 91 | 0.4491731 | 0.7134989 | 91 | 0.2719020 | 0.5278618 |
| 92 | 0.4679681 | 0.7330046 | 92 | 0.3007500 | 0.5577237 | 92 | 0.1234789 | 0.3723780 |
| 93 | 0.3103626 | 0.5676615 | 93 | 0.1431445 | 0.3927321 | 93 | 9.9658734 | 0.2076613 |
| 94 | 0.1431445 | 0.3927321 | 94 | 9.9759264 | 0.2180100 | 94 | 9.7986553 | 0.0333433 |
| 95 | 9.9658734 | 0.2076613 | 95 | 9.7986553 | 0.0333433 | 95 | 9.6213842 | $\bar{1}$.8487432 |
| 96 | 9.7780985 | 0.0120776 | 96 | 9.6108804 | $\bar{1}$.8380301 | 96 | 9.4336093 | $\bar{1}$.6539839 |
| 97 | 9.5793586 | $\bar{1}$.8055688 | 97 | 9.4121405 | $\bar{1}$.6317481 | 97 | 9.2348694 | $\bar{1}$.4479329 |
| 98 | 9.3691823 | $\bar{1}$.5875987 | 98 | 9.2019642 | $\bar{1}$.4141374 | 98 | 9.0246931 | $\bar{1}$.2304489 |
| 99 | 9.1470879 | $\bar{1}$.3573630 | 99 | 8.9798698 | $\bar{1}$.1844075 | 99 | 8.8025987 | $\bar{1}$.0013009 |
| 100 | 8.9125831 | $\bar{1}$.1156105 | 100 | 8.7453650 | $\bar{2}$.9415114 | 100 | 8.5680939 | $\bar{2}$.7589119 |
| 101 | 8.6651656 | $\bar{2}$.8591383 | 101 | 8.4979475 | $\bar{2}$.6875290 | 101 | 8.3206764 | $\bar{2}$.5024271 |
| 102 | 8.4043226 | $\bar{2}$.5877110 | 102 | 8.2371045 | $\bar{2}$.4149733 | 102 | 8.0598334 | $\bar{2}$.2355284 |
| 103 | 8.1295310 | $\bar{2}$.2966652 | 103 | 7.9623129 | $\bar{2}$.1238516 | 103 | 7.7850418 | $\bar{3}$.9395193 |
| 104 | 7.8402574 | $\bar{3}$.9637878 | 104 | 7.6730393 | $\bar{3}$.7993405 | 104 | 7.4957682 | $\bar{3}$.6127839 |
| 105 | 7.5359580 | | 105 | 7.3687399 | | 105 | 7.1914688 | |
| 106 | 7.2160788 | | 106 | 7.0488607 | | 106 | 6.8715896 | |
| 107 | 6.8800554 | | 107 | 6.7128373 | | 107 | 6.5355662 | |
| 108 | 6.5273131 | | 108 | 6.3600950 | | 108 | 6.1828239 | |
| 109 | 6.1572668 | | 109 | 5.9900487 | | 109 | 5.8127776 | |

## JOINT LIVES :—TWO MALES.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 96 | | 97 | | | 98 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x, 96}$ | $\lambda\ N_{x, 96}$ | Age of (x) | $\lambda\ D_{x, 97}$ | $\lambda\ N_{x, 97}$ | Age of (x) | $\lambda\ D_{x, 98}$ | $\lambda\ N_{x, 98}$ |
| 0 | 2·8319710 | 3·1715834 | 0 | 2·6332311 | 2·9583957 | 0 | 2·4230548 | 2·7337869 |
| 1 | 2·7479688 | 3·1202916 | 1 | 2·5492289 | 2·9059863 | 1 | 2·3390526 | 2·6802294 |
| 2 | 2·7126879 | 3·0951690 | 2 | 2·5139480 | 2·8804849 | 2 | 2·3037717 | 2·6543392 |
| 3 | 2·6905746 | 3·0775707 | 3 | 2·4918347 | 2·8627001 | 3 | 2·2816584 | 2·6363635 |
| 4 | 2·6736729 | 3·0632553 | 4 | 2·4749330 | 2·8482698 | 4 | 2·2647567 | 2·6218158 |
| 5 | 2·6594455 | 3·0508072 | 5 | 2·4607056 | 2·8357438 | 5 | 2·2505293 | 2·6092090 |
| 6 | 2·6470843 | 3·0396346 | 6 | 2·4483444 | 2·8245170 | 6 | 2·2381681 | 2·5979276 |
| 7 | 2·6359408 | 3·0293131 | 7 | 2·4372009 | 2·8141550 | 7 | 2·2270246 | 2·5875258 |
| 8 | 2·6255266 | 3·0195782 | 8 | 2·4267867 | 2·8043923 | 8 | 2·2166104 | 2·5777307 |
| 9 | 2·6157792 | 3·0103225 | 9 | 2·4170393 | 2·7951178 | 9 | 2·2068630 | 2·5684387 |
| 10 | 2·6065440 | 3·0014078 | 10 | 2·4078041 | 2·7861941 | 10 | 2·1976278 | 2·5595045 |
| 11 | 2·5976795 | 2·9927116 | 11 | 2·3989396 | 2·7774964 | 11 | 2·1887633 | 2·5508054 |
| 12 | 2·5890575 | 2·9841226 | 12 | 2·3903176 | 2 7689133 | 12 | 2·1801413 | 2·5422277 |
| 13 | 2·5805630 | 2·9755439 | 13 | 2·3818231 | 2·7603463 | 13 | 2·1716468 | 2·5336729 |
| 14 | 2·5720941 | 2·9668932 | 14 | 2·3733542 | 2·7517109 | 14 | 2·1631779 | 2·5250539 |
| 15 | 2·5635623 | 2·9581016 | 15 | 2·3648224 | 2·7429379 | 15 | 2·1546461 | 2·5162986 |
| 16 | 2·5548920 | 2·9491147 | 16 | 2·3561521 | 2·7339704 | 16 | 2·1459758 | 2·5073512 |
| 17 | 2·5460212 | 2·9398940 | 17 | 2·3472813 | 2·7247697 | 17 | 2·1371050 | 2·4981699 |
| 18 | 2·5369007 | 2·9304177 | 18 | 2·3381608 | 2·7153121 | 18 | 2·1279845 | 2·4887312 |
| 19 | 2·5274949 | 2·9206867 | 19 | 2·3287550 | 2·7055952 | 19 | 2·1185787 | 2·4790294 |
| 20 | 2·5177811 | 2·9107253 | 20 | 2·3190412 | 2·6956437 | 20 | 2·1088649 | 2·4690882 |
| 21 | 2·5077499 | 2·9005888 | 21 | 2·3090100 | 2·6855134 | 21 | 2·0988337 | 2·4589641 |
| 22 | 2·4976383 | 2·8903746 | 22 | 2·2988984 | 2·6753062 | 22 | 2·0887221 | 2·4487619 |
| 23 | 2·4874490 | 2·8800838 | 23 | 2·2887091 | 2·6650216 | 23 | 2·0785328 | 2·4384854 |
| 24 | 2·4771838 | 2·8697157 | 24 | 2·2784439 | 2·6546616 | 24 | 2·0682676 | 2·4281316 |
| 25 | 2·4668437 | 2·8592728 | 25 | 2·2681038 | 2·6442239 | 25 | 2·0579275 | 2·4177024 |
| 26 | 2·4564288 | 2·8487530 | 26 | 2·2576889 | 2·6337108 | 26 | 2·0475126 | 2·4071954 |
| 27 | 2·4459384 | 2·8381543 | 27 | 2·2471985 | 2·6231200 | 27 | 2·0370222 | 2·3966107 |
| 28 | 2·4353709 | 2·8274740 | 28 | 2·2366310 | 2·6124469 | 28 | 2·0264547 | 2·3859457 |
| 29 | 2·4247241 | 2·8167085 | 29 | 2·2259842 | 2·6016896 | 29 | 2·0158079 | 2·3751971 |
| 30 | 2·4139947 | 2·8058541 | 30 | 2·2152548 | 2·5908429 | 30 | 2·0050785 | 2·3643596 |
| 31 | 2·4031787 | 2·7949054 | 31 | 2·2044388 | 2·5799036 | 31 | 1·9942625 | 2·3534284 |
| 32 | 2·3922712 | 2·7838564 | 32 | 2·1935313 | 2·5688644 | 32 | 1·9833550 | 2·3423988 |
| 33 | 2·3812665 | 2·7727008 | 33 | 2·1825266 | 2·5577189 | 33 | 1·9723503 | 2·3312633 |
| 34 | 2·3701581 | 2·7614286 | 34 | 2·1714182 | 2·5464600 | 34 | 1·9612419 | 2·3200148 |
| 35 | 2·3589386 | 2·7500345 | 35 | 2·1601987 | 2·5350763 | 35 | 1·9500224 | 2·3086445 |
| 36 | 2·3475998 | 2·7385078 | 36 | 2·1488599 | 2·5235618 | 36 | 1·9386836 | 2·2971438 |
| 37 | 2·3361326 | 2·7268388 | 37 | 2·1373927 | 2·5119074 | 37 | 1·9272164 | 2·2855016 |
| 38 | 2·3245272 | 2·7150150 | 38 | 2·1257873 | 2·5000992 | 38 | 1·9156110 | 2·2737084 |
| 39 | 2·3127728 | 2·7030264 | 39 | 2·1140329 | 2·4881261 | 39 | 1·9038566 | 2·2617516 |
| 40 | 2·3008580 | 2·6908594 | 40 | 2·1021181 | 2·4759761 | 40 | 1·8919418 | 2·2496197 |
| 41 | 2·2887703 | 2·6785011 | 41 | 2·0900304 | 2·4636362 | 41 | 1·8798541 | 2·2372983 |
| 42 | 2·2764965 | 2·6659373 | 42 | 2·0777566 | 2·4510922 | 42 | 1·8675803 | 2·2247742 |
| 43 | 2·2640225 | 2·6531517 | 43 | 2·0652826 | 2·4383287 | 43 | 1·8551063 | 2·2120312 |
| 44 | 2·2513336 | 2·6401305 | 44 | 2·0525937 | 2·4253287 | 44 | 1·8424174 | 2·1990549 |
| 45 | 2·2384139 | 2·6268514 | 45 | 2·0396740 | 2·4120774 | 45 | 1·8294977 | 2·1858263 |
| 46 | 2·2252469 | 2·6132962 | 46 | 2·0265070 | 2·3985493 | 46 | 1·8163307 | 2·1723271 |
| 47 | 2·2118152 | 2·5994453 | 47 | 2·0130753 | 2·3847261 | 47 | 1·8028990 | 2·1585350 |
| 48 | 2·1981006 | 2·5852712 | 48 | 1·9993607 | 2·3705853 | 48 | 1·7891844 | 2·1444250 |
| 49 | 2·1840840 | 2·5707402 | 49 | 1·9853441 | 2·3560915 | 49 | 1·7751678 | 2·1299672 |
| 50 | 2·1697456 | 2·5558124 | 50 | 1·9710057 | 2·3412028 | 50 | 1·7608294 | 2·1151197 |
| 51 | 2·1550646 | 2·5404321 | 51 | 1·9563247 | 2·3258644 | 51 | 1·7461484 | 2·0998226 |
| 52 | 2·1397749 | 2·5245207 | 52 | 1·9410350 | 2·3099946 | 52 | 1·7308587 | 2·0839951 |
| 53 | 2·1240404 | 2·5081282 | 53 | 1·9253005 | 2·2936474 | 53 | 1·7151242 | 2·0676923 |
| 54 | 2·1078438 | 2·4912258 | 54 | 1·9091039 | 2·2767931 | 54 | 1·6989276 | 2·0508865 |

## JOINT LIVES :—Two Males.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 96 | | 97 | | | 98 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,96}$ | λ $N_{x,\,96}$ | Age of (x) | λ $D_{x,\,97}$ | λ $N_{x,\,97}$ | Age of (x) | λ $D_{x,\,98}$ | λ $N_{x,\,98}$ |
| 55 | 2·0911579 | 2·4737700 | 55 | 1·8924180 | 2·2593922 | 55 | 1·6822417 | 2·0335392 |
| 56 | 2·0739450 | 2·4557156 | 56 | 1·8752051 | 2·2413953 | 56 | 1·6650288 | 2·0156007 |
| 57 | 2·0561570 | 2·4369986 | 57 | 1·8574171 | 2·2227422 | 57 | 1·6472408 | 1·9970122 |
| 58 | 2·0377355 | 2·4175481 | 58 | 1·8389956 | 2·2033634 | 58 | 1·6288193 | 1·9777048 |
| 59 | 2·0186119 | 2·3972846 | 59 | 1·8198720 | 2·1831785 | 59 | 1·6096957 | 1·9575987 |
| 60 | 1·9987071 | 2·3761169 | 60 | 1·7999672 | 2·1620976 | 60 | 1·5897909 | 1·9366042 |
| 61 | 1·9779318 | 2·3539461 | 61 | 1·7791919 | 2·1400216 | 61 | 1·5690156 | 1·9146223 |
| 62 | 1·9561863 | 2·3306610 | 62 | 1·7574464 | 2·1168401 | 62 | 1·5472701 | 1·8915452 |
| 63 | 1·9333606 | 2·3061416 | 63 | 1·7346207 | 2·0924336 | 63 | 1·5244444 | 1·8672518 |
| 64 | 1·9093344 | 2·2802582 | 64 | 1·7105945 | 2·0666722 | 64 | 1·5004182 | 1·8416135 |
| 65 | 1·8839770 | 2·2528702 | 65 | 1·6852371 | 2·0394173 | 65 | 1·4750608 | 1·8144907 |
| 66 | 1·8571474 | 2·2238312 | 66 | 1·6584075 | 2·0105183 | 66 | 1·4482312 | 1·7857362 |
| 67 | 1·8286943 | 2·1929798 | 67 | 1·6299544 | 1·9798210 | 67 | 1·4197781 | 1·7551886 |
| 68 | 1·7984562 | 2·1601491 | 68 | 1·5997163 | 1·9471527 | 68 | 1·3895400 | 1·7226866 |
| 69 | 1·7662609 | 2·1251614 | 69 | 1·5675210 | 1·9123379 | 69 | 1·3573447 | 1·6880459 |
| 70 | 1·7319263 | 2·0878283 | 70 | 1·5331864 | 1·8751892 | 70 | 1·3230101 | 1·6510812 |
| 71 | 1·6952597 | 2·0479548 | 71 | 1·4965198 | 1·8355086 | 71 | 1·2863435 | 1·6115980 |
| 72 | 1·6560581 | 2·0053346 | 72 | 1·4573182 | 1·7930916 | 72 | 1·2471419 | 1·5693844 |
| 73 | 1·6141084 | 1·9597519 | 73 | 1·4153685 | 1·7477233 | 73 | 1·2051922 | 1·5242299 |
| 74 | 1·5691868 | 1·9109833 | 74 | 1·3704469 | 1·6991767 | 74 | 1·1602706 | 1·4759093 |
| 75 | 1·5210595 | 1·8587946 | 75 | 1·3223196 | 1·6472196 | 75 | 1·1121433 | 1·4241856 |
| 76 | 1·4694821 | 1·8029419 | 76 | 1·2707422 | 1·5916077 | 76 | 1·0605659 | 1·3688167 |
| 77 | 1·4142002 | 1·7431765 | 77 | 1·2154603 | 1·5320878 | 77 | 1·0052840 | 1·3095471 |
| 78 | 1·3549488 | 1·6792298 | 78 | 1·1562089 | 1·4684020 | 78 | 0·9460326 | 1·2461143 |
| 79 | 1·2914527 | 1·6108368 | 79 | 1·0927128 | 1·4002685 | 79 | 0·8825365 | 1·1782544 |
| 80 | 1·2234263 | 1·5377146 | 80 | 1·0246864 | 1·3274161 | 80 | 0·8145101 | 1·1056669 |
| 81 | 1·1505737 | 1·4595764 | 81 | 0·9518338 | 1·2495506 | 81 | 0·7416575 | 1·0280789 |
| 82 | 1·0725886 | 1·3761223 | 82 | 0·8738487 | 1·1663768 | 82 | 0·6636724 | 0·9451829 |
| 83 | 0·9891547 | 1·2870422 | 83 | 0·7904148 | 1·0775823 | 83 | 0·5802385 | 0·8566745 |
| 84 | 0·8999449 | 1·1920152 | 84 | 0·7012050 | 0·9828454 | 84 | 0·4910287 | 0·7622358 |
| 85 | 0·8046221 | 1·0907199 | 85 | 0·6058822 | 0·8818353 | 85 | 0·3957059 | 0·6615193 |
| 86 | 0·7028387 | 0·9828228 | 86 | 0·5040988 | 0·7742249 | 86 | 0·2939225 | 0·5541862 |
| 87 | 0·5942369 | 0·8679563 | 87 | 0·3954970 | 0·6596786 | 87 | 0·1853207 | 0·4399166 |
| 88 | 0·4784485 | 0·7457928 | 88 | 0·2797086 | 0·5377813 | 88 | 0·0695323 | 0·3183764 |
| 89 | 0·3550951 | 0·6159606 | 89 | 0·1563552 | 0·4082400 | 89 | 9·9461789 | 0·1890690 |
| 90 | 0·2237876 | 0·4780034 | 90 | 0·0250477 | 0·2706788 | 90 | 9·8148714 | 0·0517697 |
| 91 | 0·0841271 | 0·3316904 | 91 | 9·8853872 | 0·1245042 | 91 | 9·6752109 | $\bar{1}$·9061195 |
| 92 | 9·9357040 | 0·1765253 | 92 | 9·7369641 | $\bar{1}$·9696954 | 92 | 9·5267878 | $\bar{1}$·7512791 |
| 93 | 9·7780985 | 0·0120776 | 93 | 9·5793586 | $\bar{1}$·8055688 | 93 | 9·3691823 | $\bar{1}$·5875987 |
| 94 | 9·6108804 | $\bar{1}$·8380301 | 94 | 9·4121405 | $\bar{1}$·6317481 | 94 | 9·2019642 | $\bar{1}$·4141374 |
| 95 | 9·4336093 | $\bar{1}$·6539839 | 95 | 9·2348694 | $\bar{1}$·4479329 | 95 | 9·0246931 | $\bar{1}$·2304489 |
| 96 | 9·2458344 | $\bar{1}$·4589399 | 96 | 9·0470945 | $\bar{1}$·2538224 | 96 | 8·8369182 | $\bar{1}$·0366289 |
| 97 | 9·0470945 | $\bar{1}$·2538224 | 97 | 8·8483546 | $\bar{1}$·0476642 | 97 | 8·6381783 | $\bar{2}$·8318698 |
| 98 | 8·8369182 | $\bar{1}$·0366289 | 98 | 8·6381783 | $\bar{2}$·8318698 | 98 | 8·4280020 | $\bar{2}$·6138418 |
| 99 | 8·6148238 | $\bar{2}$·8068580 | 99 | 8·4160839 | $\bar{2}$·6031444 | 99 | 8·2059076 | $\bar{2}$·3873898 |
| 100 | 8·3803190 | $\bar{2}$·5658478 | 100 | 8·1815791 | $\bar{2}$·3598355 | 100 | 7·9714028 | $\bar{2}$·1461280 |
| 101 | 8·1329015 | $\bar{2}$·3096302 | 101 | 7·9341616 | $\bar{2}$·1072100 | 101 | 7·7239853 | $\bar{3}$·8864907 |
| 102 | 7·8720585 | $\bar{2}$·0374265 | 102 | 7·6733186 | $\bar{3}$·8325089 | 102 | 7·4631423 | $\bar{3}$·6232493 |
| 103 | 7·5972669 | $\bar{3}$·7558749 | 103 | 7·3985270 | $\bar{3}$·5440680 | 103 | 7·1883507 | $\bar{3}$·3222193 |
| 104 | 7·3079933 | $\bar{3}$·4149733 | 104 | 7·1092534 | $\bar{3}$·2304489 | 104 | 6·8990771 | $\bar{3}$·0000000 |
| 105 | 7·0036939 | | 105 | 6·8049540 | | 105 | 6·5947777 | |
| 106 | 6·6838147 | | 106 | 6·4850748 | | 106 | 6·2748985 | |
| 107 | 6·3477913 | | 107 | 6·1490514 | | 107 | 5·9388751 | |
| 108 | 5·9950490 | | 108 | 5·7963091 | | 108 | 5·5861328 | |
| 109 | 5·6250027 | | 109 | 5·4262628 | | 109 | 5·2160865 | |

## JOINT LIVES :—TWO MALES.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 99 | | 100 | | | 101 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,99}$ | λ $N_{x,\,99}$ | Age of (x) | λ $D_{x,\,100}$ | λ $N_{x,\,100}$ | Age of (r) | λ $D_{x,\,101}$ | λ $N_{x,\,101}$ |
| 0 | 2·2009604 | 2·4970112 | 0 | 1·9664556 | 2·2470345 | 0 | 1·7190381 | 1·9822043 |
| 1 | 2·1169582 | 2·4422476 | 1 | 1·8824534 | 2·1909435 | 1 | 1·6350359 | 1·9245424 |
| 2 | 2·0816773 | 2·4159477 | 2 | 1·8471725 | 2·1641916 | 2 | 1·5997550 | 1·8972476 |
| 3 | 2·0595640 | 2·3977698 | 3 | 1·8250592 | 2·1457920 | 3 | 1·5776417 | 1·8785827 |
| 4 | 2·0426623 | 2·3830987 | 4 | 1·8081575 | 2·1309837 | 4 | 1·5607400 | 1·8636095 |
| 5 | 2·0284349 | 2·3704057 | 5 | 1·7939301 | 2·1181950 | 5 | 1·5465126 | 1·8507081 |
| 6 | 2·0160737 | 2·3590648 | 6 | 1·7815689 | 2·1067874 | 6 | 1·5341514 | 1·8392197 |
| 7 | 2·0049302 | 2·3486222 | 7 | 1·7704254 | 2·0962963 | 7 | 1·5230079 | 1·8286696 |
| 8 | 1·9945160 | 2·3387950 | 8 | 1·7600112 | 2·0864335 | 8 | 1·5125937 | 1·8187628 |
| 9 | 1·9847686 | 2·3294800 | 9 | 1·7502638 | 2·0770945 | 9 | 1·5028463 | 1·8093927 |
| 10 | 1·9755334 | 2·3205359 | 10 | 1·7410286 | 2·0681369 | 10 | 1·4936111 | 1·8004181 |
| 11 | 1·9666689 | 2·3118344 | 11 | 1·7321641 | 2·0594328 | 11 | 1·4847466 | 1·7917075 |
| 12 | 1·9580469 | 2·3032626 | 12 | 1·7235421 | 2·0508656 | 12 | 1·4761246 | 1·7831458 |
| 13 | 1·9495524 | 2·2947190 | 13 | 1·7150476 | 2·0423349 | 13 | 1·4676301 | 1·7746279 |
| 14 | 1·9410835 | 2·2861168 | 14 | 1·7065787 | 2·0337509 | 14 | 1·4591612 | 1·7660647 |
| 15 | 1·9325517 | 2·2773825 | 15 | 1·6980469 | 2·0250391 | 15 | 1·4506294 | 1·7573786 |
| 16 | 1·9238814 | 2·2684565 | 16 | 1·6893766 | 2·0161375 | 16 | 1·4419591 | 1·7485067 |
| 17 | 1·9150106 | 2·2592959 | 17 | 1·6805058 | 2·0070006 | 17 | 1·4330883 | 1·7393991 |
| 18 | 1·9058901 | 2·2498751 | 18 | 1·6713853 | 1·9976004 | 18 | 1·4239678 | 1·7300244 |
| 19 | 1·8964843 | 2·2401895 | 19 | 1·6619795 | 1·9879312 | 19 | 1·4145620 | 1·7203751 |
| 20 | 1·8867705 | 2·2302596 | 20 | 1·6522657 | 1·9780138 | 20 | 1·4048482 | 1·7104703 |
| 21 | 1·8767393 | 2·2201429 | 21 | 1·6422345 | 1·9679049 | 21 | 1·3948170 | 1·7003705 |
| 22 | 1·8666277 | 2·2099475 | 22 | 1·6321229 | 1·9577169 | 22 | 1·3847054 | 1·6901917 |
| 23 | 1·8564384 | 2·1996759 | 23 | 1·6219336 | 1·9474523 | 23 | 1·3745161 | 1·6799355 |
| 24 | 1·8461732 | 2·1893288 | 24 | 1·6116684 | 1·9371125 | 24 | 1·3642509 | 1·6696042 |
| 25 | 1·8358331 | 2·1789065 | 25 | 1·6013283 | 1·9266974 | 25 | 1·3539108 | 1·6591972 |
| 26 | 1·8254182 | 2·1684080 | 26 | 1·5909134 | 1·9162065 | 26 | 1·3434959 | 1·6487141 |
| 27 | 1·8149278 | 2·1578308 | 27 | 1·5804230 | 1·9056383 | 27 | 1·3330055 | 1·6381557 |
| 28 | 1·8043603 | 2·1471734 | 28 | 1·5698555 | 1·8949892 | 28 | 1·3224380 | 1·6275174 |
| 29 | 1·7937135 | 2·1364326 | 29 | 1·5592087 | 1·8842571 | 29 | 1·3117912 | 1·6167947 |
| 30 | 1·7829841 | 2·1256039 | 30 | 1·5484793 | 1·8734381 | 30 | 1·3010618 | 1·6059866 |
| 31 | 1·7721681 | 2·1146827 | 31 | 1·5376633 | 1·8625267 | 31 | 1·2902458 | 1·5950871 |
| 32 | 1·7612606 | 2·1036628 | 32 | 1·5267558 | 1·8515176 | 32 | 1·2793383 | 1·5840903 |
| 33 | 1·7502559 | 2·0925382 | 33 | 1·5157511 | 1·8404041 | 33 | 1·2683336 | 1·5729900 |
| 34 | 1·7391475 | 2·0813012 | 34 | 1·5046427 | 1·8291796 | 34 | 1·2572252 | 1·5617785 |
| 35 | 1·7279280 | 2·0699433 | 35 | 1·4934232 | 1·8178356 | 35 | 1·2460057 | 1·5504497 |
| 36 | 1·7165892 | 2·0584556 | 36 | 1·4820844 | 1·8063618 | 36 | 1·2346669 | 1·5389932 |
| 37 | 1·7051220 | 2·0468287 | 37 | 1·4706172 | 1·7947501 | 37 | 1·2231997 | 1·5273979 |
| 38 | 1·6935166 | 2·0350501 | 38 | 1·4590118 | 1·7829897 | 38 | 1·2115943 | 1·5156553 |
| 39 | 1·6817622 | 2·0231105 | 39 | 1·4472574 | 1·7710661 | 39 | 1·1998399 | 1·5037553 |
| 40 | 1·6698474 | 2·0109959 | 40 | 1·4353426 | 1·7589717 | 40 | 1·1879251 | 1·4916796 |
| 41 | 1·6577597 | 1·9986939 | 41 | 1·4232549 | 1·7466895 | 41 | 1·1758374 | 1·4794227 |
| 42 | 1·6454859 | 1·9861898 | 42 | 1·4109811 | 1·7342084 | 42 | 1·1635636 | 1·4669654 |
| 43 | 1·6330119 | 1·9734691 | 43 | 1·3985071 | 1·7215105 | 43 | 1·1510896 | 1·4542959 |
| 44 | 1·6203230 | 1·9605155 | 44 | 1·3858182 | 1·7085832 | 44 | 1·1384007 | 1·4413950 |
| 45 | 1·6074033 | 1·9473137 | 45 | 1·3728985 | 1·6954073 | 45 | 1·1254810 | 1·4282514 |
| 46 | 1·5942363 | 1·9338425 | 46 | 1·3597315 | 1·6819672 | 46 | 1·1123140 | 1·4148430 |
| 47 | 1·5808046 | 1·9200816 | 47 | 1·3462998 | 1·6682396 | 47 | 1·0988823 | 1·4011558 |
| 48 | 1·5670900 | 1·9060057 | 48 | 1·3325852 | 1·6542016 | 48 | 1·0851677 | 1·3871584 |
| 49 | 1·5530734 | 1·8915838 | 49 | 1·3185686 | 1·6398201 | 49 | 1·0711511 | 1·3728255 |
| 50 | 1·5387350 | 1·8767771 | 50 | 1·3042302 | 1·6250551 | 50 | 1·0568127 | 1·3581119 |
| 51 | 1·5240540 | 1·8615260 | 51 | 1·2895492 | 1·6098515 | 51 | 1·0421317 | 1·3429574 |
| 52 | 1·5087643 | 1·8457397 | 52 | 1·2742595 | 1·5941151 | 52 | 1·0268420 | 1·3272752 |
| 53 | 1·4930298 | 1·8294839 | 53 | 1·2585250 | 1·5779064 | 53 | 1·0111075 | 1·3111285 |
| 54 | 1·4768332 | 1·8127282 | 54 | 1·2423284 | 1·5612052 | 54 | 0·9949109 | 1·2944839 |

## JOINT LIVES:—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of ($y$) | 99 | | 100 | | | 101 | | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$) | λ $D_{x,\,99}$ | λ $N_{x,\,99}$ | Age of ($x$) | λ $D_{x,\,100}$ | λ $N_{x,\,100}$ | Age of ($x$) | λ $D_{x,\,101}$ | λ $N_{x,\,101}$ |
| 55 | 1·4601473 | 1·7954351 | 55 | 1·2256425 | 1·5439713 | 55 | 0·9782250 | 1·2773181 |
| 56 | 1·4429344 | 1·7775573 | 56 | 1·2084296 | 1·5261570 | 56 | 0·9610121 | 1·2595772 |
| 57 | 1·4251464 | 1·7590352 | 57 | 1·1906416 | 1·5077075 | 57 | 0·9432241 | 1·2412052 |
| 58 | 1·4067249 | 1·7398009 | 58 | 1·1722201 | 1·4885521 | 58 | 0·9248026 | 1·2221414 |
| 59 | 1·3876013 | 1·7197769 | 59 | 1·1530965 | 1·4686146 | 59 | 0·9056790 | 1·2023030 |
| 60 | 1·3676965 | 1·6988718 | 60 | 1·1331917 | 1·4478075 | 60 | 0·8857742 | 1·1816064 |
| 61 | 1·3469212 | 1·6769879 | 61 | 1·1124164 | 1·4260295 | 61 | 0·8649989 | 1·1599520 |
| 62 | 1·3251757 | 1·6540166 | 62 | 1·0906709 | 1·4031737 | 62 | 0·8432534 | 1·1372275 |
| 63 | 1·3023500 | 1·6298417 | 63 | 1·0678452 | 1·3791241 | 63 | 0·8204277 | 1·1133215 |
| 64 | 1·2783238 | 1·6043309 | 64 | 1·0438190 | 1·3537528 | 64 | 0·7964015 | 1·0881077 |
| 65 | 1·2529664 | 1·5773470 | 65 | 1·0184616 | 1·3269193 | 65 | 0·7710441 | 1·0614487 |
| 66 | 1·2261368 | 1·5487395 | 66 | 0·9916320 | 1·2984754 | 66 | 0·7442145 | 1·0331904 |
| 67 | 1·1976837 | 1·5183534 | 67 | 0·9631789 | 1·2682620 | 67 | 0·7157614 | 1·0031804 |
| 68 | 1·1674456 | 1·4860166 | 68 | 0·9329408 | 1·2361138 | 68 | 0·6855233 | 0·9712480 |
| 69 | 1·1352503 | 1·4515608 | 69 | 0·9007455 | 1·2018476 | 69 | 0·6533280 | 0·9372169 |
| 70 | 1·1009157 | 1·4147896 | 70 | 0·8664109 | 1·1652918 | 70 | 0·6189934 | 0·9008912 |
| 71 | 1·0642491 | 1·3755063 | 71 | 0·8297443 | 1·1262353 | 71 | 0·5823268 | 0·8621016 |
| 72 | 1·0250475 | 1·3335117 | 72 | 0·7905427 | 1·0844690 | 72 | 0·5431252 | 0·8206152 |
| 73 | 0·9830978 | 1·2885800 | 73 | 0·7485930 | 1·0397908 | 73 | 0·5011755 | 0·7762143 |
| 74 | 0·9381762 | 1·2404918 | 74 | 0·7036714 | 0·9919567 | 74 | 0·4562539 | 0·7287027 |
| 75 | 0·8900489 | 1·1890128 | 75 | 0·6555441 | 0·9407455 | 75 | 0·4081266 | 0·6777985 |
| 76 | 0·8384715 | 1·1338964 | 76 | 0·6039667 | 0·8859094 | 76 | 0·3565492 | 0·6232906 |
| 77 | 0·7831896 | 1·0748895 | 77 | 0·5486848 | 0·8271883 | 77 | 0·3012673 | 0·5649145 |
| 78 | 0·7239382 | 1·0117269 | 78 | 0·4894334 | 0·7643256 | 78 | 0·2420159 | 0·5023998 |
| 79 | 0·6604421 | 0·9441321 | 79 | 0·4259373 | 0·6970374 | 79 | 0·1785198 | 0·4354781 |
| 80 | 0·5924157 | 0·8718472 | 80 | 0·3579109 | 0·6250448 | 80 | 0·1104934 | 0·3638563 |
| 81 | 0·5195631 | 0·7945368 | 81 | 0·2850583 | 0·5480822 | 81 | 0·0376408 | 0·2872417 |
| 82 | 0·4415780 | 0·7119337 | 82 | 0·2070732 | 0·4657842 | 82 | 9·9596557 | 0·2053939 |
| 83 | 0·3581441 | 0·6237144 | 83 | 0·1236393 | 0·3778888 | 83 | 9·8762218 | 0·1178676 |
| 84 | 0·2689343 | 0·5295715 | 84 | 0·0344295 | 0·2840696 | 84 | 9·7870120 | 0·0244446 |
| 85 | 0·1736115 | 0·4291868 | 85 | 9·9391067 | 0·1840096 | 85 | 9·6916892 | $\bar{1}$·9247444 |
| 86 | 0·0718281 | 0·3221572 | 86 | 9·8373233 | 0·0773679 | 86 | 9·5899058 | $\bar{1}$·8184898 |
| 87 | 9·9632263 | 0·2081725 | 87 | 9·7287215 | $\bar{1}$·9636934 | 87 | 9·4813040 | $\bar{1}$·7053505 |
| 88 | 9·8474379 | 0·0868935 | 88 | 9·6129331 | $\bar{1}$·8427340 | 88 | 9·3655156 | $\bar{1}$·5846704 |
| 89 | 9·7240845 | $\bar{1}$·9580380 | 89 | 9·4895797 | $\bar{1}$·7140782 | 89 | 9·2421622 | $\bar{1}$·4565179 |
| 90 | 9·5927770 | $\bar{1}$·8209236 | 90 | 9·3582722 | $\bar{1}$·5776067 | 90 | 9·1108547 | $\bar{1}$·3201463 |
| 91 | 9·4531165 | $\bar{1}$·6755034 | 91 | 9·2186117 | $\bar{1}$·4323278 | 91 | 8·9711942 | $\bar{1}$·1758016 |
| 92 | 9·3046934 | $\bar{1}$·5213996 | 92 | 9·0701886 | $\bar{1}$·2782962 | 92 | 8·8227711 | $\bar{1}$·0220157 |
| 93 | 9·1470879 | $\bar{1}$·3573630 | 93 | 8·9125831 | $\bar{1}$·1156105 | 93 | 8·6651656 | $\bar{2}$·8591383 |
| 94 | 8·9798698 | $\bar{1}$·1844075 | 94 | 8·7453650 | $\bar{2}$·9415114 | 94 | 8·4979475 | $\bar{2}$·6875290 |
| 95 | 8·8025987 | $\bar{1}$·0013009 | 95 | 8·5680939 | $\bar{2}$·7589119 | 95 | 8·3206764 | $\bar{2}$·5024271 |
| 96 | 8·6148238 | $\bar{2}$·8068580 | 96 | 8·3803190 | $\bar{2}$·5658478 | 96 | 8·1329015 | $\bar{2}$·3096302 |
| 97 | 8·4160839 | $\bar{2}$·6031444 | 97 | 8·1815791 | $\bar{2}$·3598355 | 97 | 7·9341616 | $\bar{2}$·1072100 |
| 98 | 8·2059076 | $\bar{2}$·3873898 | 98 | 7·9714028 | $\bar{2}$·1461280 | 98 | 7·7239853 | $\bar{3}$·8864907 |
| 99 | 7·9838132 | $\bar{2}$·1553360 | 99 | 7·7493084 | $\bar{3}$·9190781 | 99 | 7·5018909 | $\bar{3}$·6627578 |
| 100 | 7·7493084 | $\bar{3}$·9190781 | 100 | 7·5148036 | $\bar{3}$·6720979 | 100 | 7·2673861 | $\bar{3}$·4313638 |
| 101 | 7·5018909 | $\bar{3}$·6627578 | 101 | 7·2673861 | $\bar{3}$·4313638 | 101 | 7·0199686 | $\bar{3}$·1461280 |
| 102 | 7·2410479 | $\bar{3}$·3802112 | 102 | 7·0065431 | $\bar{3}$·1461280 | 102 | 6·7591256 | $\bar{4}$·9030900 |
| 103 | 6·9662563 | $\bar{3}$·1139434 | 103 | 6·7317515 | $\bar{4}$·8450980 | 103 | 6·4843340 | $\bar{4}$·6020600 |
| 104 | 6·6769827 | $\bar{4}$·7781513 | 104 | 6·4424779 | $\bar{4}$·6020600 | 104 | 6·1950604 | $\bar{4}$·3010300 |
| 105 | 6·3726833 | | 105 | 6·1381785 | | 105 | 5·8907610 | |
| 106 | 6·0528041 | | 106 | 5·8182993 | | 106 | 5·5708818 | |
| 107 | 5·7167807 | | 107 | 5·4822759 | | 107 | 5·2348584 | |
| 108 | 5·3640384 | | 108 | 5·1295336 | | 108 | 4·8821161 | |
| 109 | 4·9939921 | | 109 | 4·7594873 | | 109 | 4·5120698 | |

## JOINT LIVES :—Two Males.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 102 | | 103 | | | 104 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,102}$ | λ $N_{x,\,102}$ | Age of (x) | λ $D_{x,\,103}$ | λ $N_{x,\,103}$ | Age of (x) | λ $D_{x,\,104}$ | λ $N_{x,\,104}$ |
| 0 | 1·4581951 | 1·6994501 | 0 | 1·1834035 | 1·3921339 | 0 | 0·8941299 | 1·0430320 |
| 1 | 1·3741929 | 1·6396916 | 1 | 1·0994013 | 1·3290845 | 1 | 0·8101277 | 0·9737419 |
| 2 | 1·3389120 | 1·6116744 | 2 | 1·0641204 | 1·2999625 | 2 | 0·7748468 | 0·9426379 |
| 3 | 1·3167987 | 1·5926508 | 3 | 1·0420071 | 1·2804076 | 3 | 0·7527335 | 0·9222011 |
| 4 | 1·2998970 | 1·5774631 | 4 | 1·0251054 | 1·2648933 | 4 | 0·7358318 | 0·9061680 |
| 5 | 1·2856696 | 1·5644116 | 5 | 1·0108780 | 1·2516285 | 5 | 0·7216044 | 0·8925454 |
| 6 | 1·2733084 | 1·5528203 | 6 | 0·9985168 | 1·2398873 | 6 | 0·7092432 | 0·8805850 |
| 7 | 1·2621649 | 1·5421903 | 7 | 0·9873733 | 1·2291492 | 7 | 0·6980997 | 0·8696775 |
| 8 | 1·2517507 | 1·5322229 | 8 | 0·9769591 | 1·2190892 | 8 | 0·6876855 | 0·8594866 |
| 9 | 1·2420033 | 1·5228119 | 9 | 0·9672117 | 1·2096142 | 9 | 0·6779381 | 0·8498983 |
| 10 | 1·2327681 | 1·5138101 | 10 | 0·9579765 | 1·2005714 | 10 | 0·6687029 | 0·8407896 |
| 11 | 1·2239036 | 1·5050889 | 11 | 0·9491120 | 1·1918282 | 11 | 0·6598384 | 0·8320041 |
| 12 | 1·2152816 | 1·4965284 | 12 | 0·9404900 | 1·1832641 | 12 | 0·6512164 | 0·8234221 |
| 13 | 1·2067871 | 1·4880259 | 13 | 0·9319955 | 1·1747719 | 13 | 0·6427219 | 0·8149331 |
| 14 | 1·1983182 | 1·4794846 | 14 | 0·9235266 | 1·1662584 | 14 | 0·6342530 | 0·8064445 |
| 15 | 1·1897864 | 1·4708293 | 15 | 0·9149948 | 1·1576381 | 15 | 0·6257212 | 0·7978697 |
| 16 | 1·1811161 | 1·4619935 | 16 | 0·9063245 | 1·1488462 | 16 | 0·6170509 | 0·7891363 |
| 17 | 1·1722453 | 1·4529252 | 17 | 0·8974537 | 1·1398287 | 17 | 0·6081801 | 0·7801804 |
| 18 | 1·1631248 | 1·4435868 | 18 | 0·8883332 | 1·1305428 | 18 | 0·5990596 | 0·7709698 |
| 19 | 1·1537190 | 1·4339633 | 19 | 0·8789274 | 1·1209653 | 19 | 0·5896538 | 0·7614617 |
| 20 | 1·1440052 | 1·4240760 | 20 | 0·8692136 | 1·1111011 | 20 | 0·5799400 | 0·7516486 |
| 21 | 1·1339740 | 1·4139850 | 21 | 0·8591824 | 1·1010249 | 21 | 0·5699088 | 0·7415849 |
| 22 | 1·1238624 | 1·4038169 | 22 | 0·8490708 | 1·0908680 | 22 | 0·5597972 | 0·7314518 |
| 23 | 1·1136731 | 1·3935717 | 23 | 0·8388815 | 1·0806373 | 23 | 0·5496079 | 0·7212334 |
| 24 | 1·1034079 | 1·3832515 | 24 | 0·8286163 | 1·0703298 | 24 | 0·5393427 | 0·7109462 |
| 25 | 1·0930678 | 1·3728550 | 25 | 0·8182762 | 1·0599495 | 25 | 0·5290026 | 0·7005826 |
| 26 | 1·0826529 | 1·3623826 | 26 | 0·8078613 | 1·0494894 | 26 | 0·5185877 | 0·6901429 |
| 27 | 1·0721625 | 1·3518330 | 27 | 0·7973709 | 1·0389538 | 27 | 0·5080973 | 0·6796277 |
| 28 | 1·0615950 | 1·3412069 | 28 | 0·7868034 | 1·0283394 | 28 | 0·4975298 | 0·6690285 |
| 29 | 1·0509482 | 1·3304990 | 29 | 0·7761566 | 1·0176468 | 29 | 0·4868830 | 0·6583549 |
| 30 | 1·0402188 | 1·3197014 | 30 | 0·7654272 | 1·0068724 | 30 | 0·4761536 | 0·6475981 |
| 31 | 1·0294028 | 1·3088161 | 31 | 0·7546112 | 0·9959991 | 31 | 0·4653376 | 0·6367586 |
| 32 | 1·0184953 | 1·2978349 | 32 | 0·7437037 | 0·9850356 | 32 | 0·4544301 | 0·6258164 |
| 33 | 1·0074906 | 1·2867505 | 33 | 0·7326990 | 0·9739725 | 33 | 0·4434254 | 0·6147707 |
| 34 | 0·9963822 | 1·2755555 | 34 | 0·7215906 | 0·9628001 | 34 | 0·4323170 | 0·6036315 |
| 35 | 0·9851627 | 1·2642439 | 35 | 0·7103711 | 0·9515124 | 35 | 0·4210975 | 0·5923766 |
| 36 | 0·9738239 | 1·2528069 | 36 | 0·6990323 | 0·9400979 | 36 | 0·4097587 | 0·5809934 |
| 37 | 0·9623567 | 1·2412351 | 37 | 0·6875651 | 0·9285495 | 37 | 0·3982915 | 0·5694793 |
| 38 | 0·9507513 | 1·2295129 | 38 | 0·6759597 | 0·9168644 | 38 | 0·3866861 | 0·5578199 |
| 39 | 0·9389969 | 1·2176365 | 39 | 0·6642053 | 0·9050129 | 39 | 0·3749317 | 0·5460242 |
| 40 | 0·9270821 | 1·2055914 | 40 | 0·6522905 | 0·8930012 | 40 | 0·3630169 | 0·5340388 |
| 41 | 0·9149944 | 1·1933584 | 41 | 0·6402028 | 0·8808079 | 41 | 0·3509292 | 0·5218961 |
| 42 | 0·9027206 | 1·1809340 | 42 | 0·6279290 | 0·8684152 | 42 | 0·3386554 | 0·5095654 |
| 43 | 0·8902466 | 1·1682942 | 43 | 0·6154550 | 0·8558219 | 43 | 0·3261814 | 0·4970126 |
| 44 | 0·8775577 | 1·1554301 | 44 | 0·6027661 | 0·8429959 | 44 | 0·3134925 | 0·4842571 |
| 45 | 0·8646380 | 1·1423206 | 45 | 0·5898464 | 0·8299403 | 45 | 0·3005728 | 0·4712477 |
| 46 | 0·8514710 | 1·1289547 | 46 | 0·5766794 | 0·8166191 | 46 | 0·2874058 | 0·4580029 |
| 47 | 0·8380393 | 1·1153076 | 47 | 0·5632477 | 0·8030267 | 47 | 0·2739741 | 0·4444820 |
| 48 | 0·8243247 | 1·1013656 | 48 | 0·5495331 | 0·7891434 | 48 | 0·2602595 | 0·4306716 |
| 49 | 0·8103081 | 1·0870854 | 49 | 0·5355165 | 0·7749401 | 49 | 0·2462429 | 0·4165573 |
| 50 | 0·7959697 | 1·0724374 | 50 | 0·5211781 | 0·7603697 | 50 | 0·2319045 | 0·4020894 |
| 51 | 0·7812887 | 1·0573504 | 51 | 0·5064971 | 0·7453715 | 51 | 0·2172235 | 0·3872118 |
| 52 | 0·7659990 | 1·0417242 | 52 | 0·4912074 | 0·7298287 | 52 | 0·2019338 | 0·3717880 |
| 53 | 0·7502645 | 1·0256458 | 53 | 0·4754729 | 0·7138264 | 53 | 0·1861993 | 0·3558919 |
| 54 | 0·7340679 | 1·0090853 | 54 | 0·4592763 | 0·6973601 | 54 | 0·1700027 | 0·3395309 |

## JOINT LIVES :—Two Males.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 102 | | | 103 | | | 104 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,102}$ | λ $N_{x,\,102}$ | Age of (x) | λ $D_{x,\,103}$ | λ $N_{x,\,103}$ | Age of (x) | λ $D_{x,\,104}$ | λ $N_{x,\,104}$ |
| 55 | 0·7173820 | 0·9919921 | 55 | 0·4425904 | 0·6803808 | 55 | 0·1533168 | 0·3226947 |
| 56 | 0·7001691 | 0·9743413 | 56 | 0·4253775 | 0·6628334 | 56 | 0·1361039 | 0·3053084 |
| 57 | 0·6823811 | 0·9560675 | 57 | 0·4075895 | 0·6446847 | 57 | 0·1183159 | 0·2873090 |
| 58 | 0·6639596 | 0·9371065 | 58 | 0·3891680 | 0·6258575 | 58 | 0·0998944 | 0·2686482 |
| 59 | 0·6448360 | 0·9173900 | 59 | 0·3700444 | 0·6062846 | 59 | 0·0807708 | 0·2492718 |
| 60 | 0·6249312 | 0·8968237 | 60 | 0·3501396 | 0·5858892 | 60 | 0·0608660 | 0·2290672 |
| 61 | 0·6041559 | 0·8753160 | 61 | 0·3293643 | 0·5645595 | 61 | 0·0400907 | 0·2080111 |
| 62 | 0·5824104 | 0·8527605 | 62 | 0·3076188 | 0·5422028 | 62 | 0·0183452 | 0·1859103 |
| 63 | 0·5595847 | 0·8290270 | 63 | 0·2847931 | 0·5187113 | 63 | 9·9955195 | 0·1626839 |
| 64 | 0·5355585 | 0·8040031 | 64 | 0·2607669 | 0·4939318 | 64 | 9·9714933 | 0·1382711 |
| 65 | 0·5102011 | 0·7775501 | 65 | 0·2354095 | 0·4677413 | 65 | 9·9461359 | 0·1124374 |
| 66 | 0·4833715 | 0·7495276 | 66 | 0·2085799 | 0·4400112 | 66 | 9·9193063 | 0·0850764 |
| 67 | 0·4549184 | 0·7197621 | 67 | 0·1801268 | 0·4105748 | 67 | 9·8908532 | 0·0560659 |
| 68 | 0·4246803 | 0·6880993 | 68 | 0·1498887 | 0·3792511 | 68 | 9·8606151 | 0·0252239 |
| 69 | 0·3924850 | 0·6543498 | 69 | 0·1176934 | 0·3458832 | 69 | 9·8284198 | $\bar{1}$·9923326 |
| 70 | 0·3581504 | 0·6183410 | 70 | 0·0833588 | 0·3102684 | 70 | 9·7940852 | $\bar{1}$·9572720 |
| 71 | 0·3214838 | 0·5798522 | 71 | 0·0466922 | 0·2722362 | 71 | 9·7574186 | $\bar{1}$·9198100 |
| 72 | 0·2822822 | 0·5387245 | 72 | 0·0074906 | 0·2315206 | 72 | 9·7182170 | $\bar{1}$·8797838 |
| 73 | 0·2403325 | 0·4946971 | 73 | 9·9655409 | 0·1879999 | 73 | 9·6762673 | $\bar{1}$·8368303 |
| 74 | 0·1954109 | 0·4475456 | 74 | 9·9206193 | 0·1413871 | 74 | 9·6313457 | $\bar{1}$·7909885 |
| 75 | 0·1472836 | 0·3970705 | 75 | 9·8724920 | 0·0914207 | 75 | 9·5832184 | $\bar{1}$·7417817 |
| 76 | 0·0957062 | 0·3429751 | 76 | 9·8209146 | 0·0379442 | 76 | 9·5316410 | $\bar{1}$·6890423 |
| 77 | 0·0404243 | 0·2850394 | 77 | 9·7656327 | $\bar{1}$·9805942 | 77 | 9·4763591 | $\bar{1}$·6326597 |
| 78 | 9·9811729 | 0·2229764 | 78 | 9·7063813 | $\bar{1}$·9191304 | 78 | 9·4171077 | $\bar{1}$·5720580 |
| 79 | 9·9176768 | 0·1565189 | 79 | 9·6428852 | $\bar{1}$·8533331 | 79 | 9·3536116 | $\bar{1}$·5071810 |
| 80 | 9·8496504 | 0·0853976 | 80 | 9·5748588 | $\bar{1}$·7829024 | 80 | 9·2855852 | $\bar{1}$·4377506 |
| 81 | 9·7767978 | 0·0092809 | 81 | 9·5020062 | $\bar{1}$·7074850 | 81 | 9·2127326 | $\bar{1}$·3634239 |
| 82 | 9·6988127 | $\bar{1}$·9278834 | 82 | 9·4240211 | $\bar{1}$·6268534 | 82 | 9·1347475 | $\bar{1}$·2837534 |
| 83 | 9·6153788 | $\bar{1}$·8409838 | 83 | 9·3405872 | $\bar{1}$·5405797 | 83 | 9·0513136 | $\bar{1}$·1986571 |
| 84 | 9·5261690 | $\bar{1}$·7480329 | 84 | 9·2513774 | $\bar{1}$·4485517 | 84 | 8·9621038 | $\bar{1}$·1075491 |
| 85 | 9·4308462 | $\bar{1}$·6488477 | 85 | 9·1560546 | $\bar{1}$·3500541 | 85 | 8·8667810 | $\bar{1}$·0107239 |
| 86 | 9·3290628 | $\bar{1}$·5430742 | 86 | 9·0542712 | $\bar{1}$·2450189 | 86 | 8·7649976 | $\bar{2}$·9068735 |
| 87 | 9·2204610 | $\bar{1}$·4303976 | 87 | 8·9456694 | $\bar{1}$·1332195 | 87 | 8·6563958 | $\bar{2}$·7958800 |
| 88 | 9·1046726 | $\bar{1}$·3106933 | 88 | 8·8298810 | $\bar{1}$·0141003 | 88 | 8·5406074 | $\bar{2}$·6785184 |
| 89 | 8·9813192 | $\bar{1}$·1826999 | 89 | 8·7065276 | $\bar{2}$·8876173 | 89 | 8·4172540 | $\bar{2}$·5526682 |
| 90 | 8·8500117 | $\bar{1}$·0472749 | 90 | 8·5752201 | $\bar{2}$·7520484 | 90 | 8·2859465 | $\bar{2}$·4199557 |
| 91 | 8·7103512 | $\bar{2}$·9025468 | 91 | 8·4355596 | $\bar{2}$·6095944 | 91 | 8·1462860 | $\bar{2}$·2764618 |
| 92 | 8·5619281 | $\bar{2}$·7505084 | 92 | 8·2871365 | $\bar{2}$·4563660 | 92 | 7·9978629 | $\bar{2}$·1271048 |
| 93 | 8·4043226 | $\bar{2}$·5877110 | 93 | 8·1295310 | $\bar{2}$·2966652 | 93 | 7·8402574 | $\bar{3}$·9637878 |
| 94 | 8·2371045 | $\bar{2}$·4149733 | 94 | 7·9623129 | $\bar{2}$·1238516 | 94 | 7·6730393 | $\bar{3}$·7993405 |
| 95 | 8·0598334 | $\bar{2}$·2355284 | 95 | 7·7850418 | $\bar{3}$·9395193 | 95 | 7·4957682 | $\bar{3}$·6127839 |
| 96 | 7·8720585 | $\bar{2}$·0374265 | 96 | 7·5972669 | $\bar{3}$·7558749 | 96 | 7·3079933 | $\bar{3}$·4149733 |
| 97 | 7·6733186 | $\bar{3}$·8325089 | 97 | 7·3985270 | $\bar{3}$·5440680 | 97 | 7·1092534 | $\bar{3}$·2304489 |
| 98 | 7·4631423 | $\bar{3}$·6232493 | 98 | 7·1883507 | $\bar{3}$·3222193 | 98 | 6·8990771 | $\bar{3}$·0000000 |
| 99 | 7·2410479 | $\bar{3}$·3802112 | 99 | 6·9662563 | $\bar{3}$·1139434 | 99 | 6·6769827 | $\bar{4}$·7781513 |
| 100 | 7·0065431 | $\bar{3}$·1461280 | 100 | 6·7317515 | $\bar{4}$·8450980 | 100 | 6·4424779 | $\bar{4}$·6020600 |
| 101 | 6·7591256 | $\bar{4}$·9030900 | 101 | 6·4843340 | $\bar{4}$·6020600 | 101 | 6·1950604 | $\bar{4}$·3010300 |
| 102 | 6·4982826 | $\bar{4}$·6020600 | 102 | 6·2234910 | $\bar{4}$·3010300 | 102 | 5·9342174 | |
| 103 | 6·2234910 | $\bar{4}$·3010300 | 103 | 5·9486994 | | 103 | 5·6594258 | |
| 104 | 5·9342174 | | 104 | 5·6594258 | | 104 | 5·3701522 | |
| 105 | 5·6299180 | | 105 | 5·3551264 | | 105 | 5·0658528 | |
| 106 | 5·3100388 | | 106 | 5·0352472 | | 106 | 4·7459736 | |
| 107 | 4·9740154 | | 107 | 4·6992238 | | 107 | 4·4099502 | |
| 108 | 4·6212731 | | 108 | 4·3464815 | | 108 | 4·0572079 | |
| 109 | 4·2512268 | | 109 | 3·9764352 | | 109 | 3·6871616 | |

## JOINT LIVES:—Two Males.

### Equal Ages.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ | Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | Equal Ages. | | $x$ | $y$ | Equal Ages. | |
| 0 | 0 | 2,618,832 | 32,910,622 | 55 | 55 | 86,393·6 | 817,338·9 |
| 1 | 1 | 1,778,702 | 30,291,790 | 56 | 56 | 79,809·7 | 730,945·3 |
| 2 | 2 | 1,511,964 | 28,513,088 | 57 | 57 | 73,532·5 | 651,135·6 |
| 3 | 3 | 1,365,573 | 27,001,124 | 58 | 58 | 67,551·7 | 577,603·1 |
| 4 | 4 | 1,263,314 | 25,635,551 | 59 | 59 | 61,857·1 | 510,051·4 |
| 5 | 5 | 1,183,196 | 24,372,237 | 60 | 60 | 56,439·1 | 448,194·3 |
| 6 | 6 | 1,117,723 | 23,189,041 | 61 | 61 | 51,289·6 | 391,755·2 |
| 7 | 7 | 1,061,811 | 22,071,318 | 62 | 62 | 46,402·2 | 340,465·6 |
| 8 | 8 | 1,012,089 | 21,009,507 | 63 | 63 | 41,772·1 | 294,063·4 |
| 9 | 9 | 967,663 | 19,997,418 | 64 | 64 | 37,396·8 | 252,291·3 |
| 10 | 10 | 927,371 | 19,029,755 | 65 | 65 | 33,275·1 | 214,894·5 |
| 11 | 11 | 890,276 | 18,102,384 | 66 | 66 | 29,407·7 | 181,619·4 |
| 12 | 12 | 855,619 | 17,212,108 | 67 | 67 | 25,796·1 | 152,211·7 |
| 13 | 13 | 822,795 | 16,356,489 | 68 | 68 | 22,442·9 | 126,415·6 |
| 14 | 14 | 791,323 | 15,533,694 | 69 | 69 | 19,350·3 | 103,972·7 |
| 15 | 15 | 760,835 | 14,742,371 | 70 | 70 | 16,520·3 | 84,622·4 |
| 16 | 16 | 731,054 | 13,981,536 | 71 | 71 | 13,953·6 | 68,102·1 |
| 17 | 17 | 701,791 | 13,250,482 | 72 | 72 | 11,648·8 | 54,148·5 |
| 18 | 18 | 672,925 | 12,548,691 | 73 | 73 | 9,602·46 | 42,499·66 |
| 19 | 19 | 644,400 | 11,875,766 | 74 | 74 | 7,807·99 | 32,897·20 |
| 20 | 20 | 616,209 | 11,231,366 | 75 | 75 | 6,255·82 | 25,089·21 |
| 21 | 21 | 588,390 | 10,615,157 | 76 | 76 | 4,933·21 | 18,833·39 |
| 22 | 22 | 561,620 | 10,026,767 | 77 | 77 | 3,824·42 | 13,900·18 |
| 23 | 23 | 535,875 | 9,465,147 | 78 | 78 | 2,911·14 | 10,075·76 |
| 24 | 24 | 511,132 | 8,929,272 | 79 | 79 | 2,173·06 | 7,164·62 |
| 25 | 25 | 487,363 | 8,418,140 | 80 | 80 | 1,588·61 | 4,991·56 |
| 26 | 26 | 464,540 | 7,930,777 | 81 | 81 | 1,135·83 | 3,402·95 |
| 27 | 27 | 442,632 | 7,466,237 | 82 | 82 | 793·127 | 2,267·119 |
| 28 | 28 | 421,607 | 7,023,605 | 83 | 83 | 540·101 | 1,473·992 |
| 29 | 29 | 401,434 | 6,601,998 | 84 | 84 | 358·142 | 933·891 |
| 30 | 30 | 382,081 | 6,200,564 | 85 | 85 | 230·892 | 575·749 |
| 31 | 31 | 363,516 | 5,818,483 | 86 | 86 | 144·492 | 344·857 |
| 32 | 32 | 345,707 | 5,454,967 | 87 | 87 | 87·6273 | 200·3647 |
| 33 | 33 | 328,623 | 5,109,260 | 88 | 88 | 51·4118 | 112·7374 |
| 34 | 34 | 312,235 | 4,780,637 | 89 | 89 | 29·1310 | 61·3256 |
| 35 | 35 | 296,512 | 4,468,402 | 90 | 90 | 15·9126 | 32·1946 |
| 36 | 36 | 281,427 | 4,171,890 | 91 | 91 | 8·3641 | 16·2820 |
| 37 | 37 | 266,951 | 3,890,463 | 92 | 92 | 4·2225 | 7·9179 |
| 38 | 38 | 253,058 | 3,623,512 | 93 | 93 | 2·0434 | 3·6954 |
| 39 | 39 | 239,724 | 3,370,454 | 94 | 94 | ·9461 | 1·6520 |
| 40 | 40 | 226,925 | 3,130,730 | 95 | 95 | ·4182 | ·7059 |
| 41 | 41 | 214,638 | 2.903,805 | 96 | 96 | ·1761 | ·2877 |
| 42 | 42 | 202,842 | 2,689,167 | 97 | 97 | ·0705 | ·1116 |
| 43 | 43 | 191,518 | 2,486,325 | 98 | 98 | ·0268 | ·0411 |
| 44 | 44 | 180,648 | 2,294,807 | 99 | 99 | ·0096 | ·0143 |
| 45 | 45 | 170,213 | 2,114,159 | 100 | 100 | ·0033 | ·0047 |
| 46 | 46 | 160,199 | 1,943,946 | 101 | 101 | ·0010 | ·0014 |
| 47 | 47 | 150,590 | 1,783,747 | 102 | 102 | ·0003 | ·0004 |
| 48 | 48 | 141,373 | 1,633,157 | 103 | 103 | ·0001 | ·0001 |
| 49 | 49 | 132,536 | 1,491,784 | 104 | 104 | ·0000 | ·0000 |
| 50 | 50 | 124,067 | 1,359,248 | 105 | 105 | ·0000 | ·0000 |
| 51 | 51 | 115,956 | 1,235,181 | | | | |
| 52 | 52 | 108,073 | 1,119,225 | | | | |
| 53 | 53 | 100,519 | 1,011,152 | | | | |
| 54 | 54 | 93,293·9 | 910,632·8 | | | | |

## JOINT LIVES:—Two Males.

### Difference of Age 1 Year.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 1 Year.** | |
| 1 | 0 | 2,158,268 | 31,543,703 |
| 2 | 1 | 1,639,919 | 29,385,435 |
| 3 | 2 | 1,436,905 | 27,745,516 |
| 4 | 3 | 1,313,449 | 26,308,611 |
| 5 | 4 | 1,222,600 | 24,995,162 |
| 6 | 5 | 1,149,994 | 23,772,562 |
| 7 | 6 | 1,089,408 | 22,622,568 |
| 8 | 7 | 1,036,652 | 21,533,160 |
| 9 | 8 | 989,627 | 20,496,508 |
| 10 | 9 | 947,303 | 19,506,881 |
| 11 | 10 | 908,634 | 18,559,578 |
| 12 | 11 | 872,776 | 17,650,944 |
| 13 | 12 | 839,047 | 16,778,168 |
| 14 | 13 | 806,906 | 15,939,121 |
| 15 | 14 | 775,929 | 15,132,215 |
| 16 | 15 | 745,796 | 14,356,286 |
| 17 | 16 | 716,273 | 13,610,490 |
| 18 | 17 | 687,207 | 12,894,217 |
| 19 | 18 | 658,508 | 12,207,010 |
| 20 | 19 | 630,147 | 11,548,502 |
| 21 | 20 | 602,139 | 10,918,355 |
| 22 | 21 | 574,849 | 10,316,216 |
| 23 | 22 | 548,596 | 9,741,367 |
| 24 | 23 | 523,357 | 9,192,771 |
| 25 | 24 | 499,106 | 8,669,414 |
| 26 | 25 | 475,815 | 8,170,308 |
| 27 | 26 | 453,454 | 7,694,493 |
| 28 | 27 | 431,991 | 7,241,039 |
| 29 | 28 | 411,396 | 6,809,048 |
| 30 | 29 | 391,638 | 6,397,652 |
| 31 | 30 | 372,683 | 6,006,014 |
| 32 | 31 | 354,499 | 5,633,331 |
| 33 | 32 | 337,057 | 5,278,832 |
| 34 | 33 | 320,325 | 4,941,775 |
| 35 | 34 | 304,272 | 4,621.450 |
| 36 | 35 | 288,871 | 4,317,178 |
| 37 | 36 | 274,093 | 4,028,307 |
| 38 | 37 | 259,911 | 3,754,214 |
| 39 | 38 | 246,301 | 3,494,303 |
| 40 | 39 | 233,236 | 3,248,002 |
| 41 | 40 | 220,696 | 3,014,766 |
| 42 | 41 | 208,657 | 2,794,070 |
| 43 | 42 | 197,099 | 2,585,413 |
| 44 | 43 | 186,004 | 2,388,314 |
| 45 | 44 | 175,353 | 2,202,310 |
| 46 | 45 | 165,130 | 2,026,957 |
| 47 | 46 | 155,320 | 1,861,827 |
| 48 | 47 | 145,909 | 1,706,507 |
| 49 | 48 | 136,883 | 1,560,598 |
| 50 | 49 | 128,232 | 1,423,715 |
| 51 | 50 | 119,943 | 1,295,483 |
| 52 | 51 | 111,945 | 1,175,540 |
| 53 | 52 | 104,227 | 1,063,595 |
| 54 | 53 | 96,838·9 | 959,368·3 |
| 55 | 54 | 89,777·5 | 862,529·4 |
| 56 | 55 | 83,036·4 | 772,751·9 |
| 57 | 56 | 76,606·8 | 689,715·5 |
| 58 | 57 | 70,478·7 | 613,108·7 |
| 59 | 58 | 64,641·7 | 542,630·0 |
| 60 | 59 | 59,086·0 | 477,988·3 |
| 61 | 60 | 53,802·7 | 418,902·3 |
| 62 | 61 | 48,784·7 | 365,099·6 |
| 63 | 62 | 44,026·3 | 316,314·9 |
| 64 | 63 | 39,524·0 | 272,288·6 |
| 65 | 64 | 35,275·8 | 232,764·6 |
| 66 | 65 | 31,281·7 | 197,488·8 |
| 67 | 66 | 27,542·8 | 166,207·1 |
| 68 | 67 | 24,061·1 | 138,664·3 |
| 69 | 68 | 20,839·3 | 114,603·2 |
| 70 | 69 | 17,879·4 | 93,763·9 |
| 71 | 70 | 15,182·8 | 75,884·5 |
| 72 | 71 | 12,749·2 | 60,701·7 |
| 73 | 72 | 10,576·3 | 47,952·5 |
| 74 | 73 | 8,658·86 | 37,376·24 |
| 75 | 74 | 6,988·95 | 28,717·38 |
| 76 | 75 | 5,555·30 | 21,728·43 |
| 77 | 76 | 4,343·58 | 16,173·13 |
| 78 | 77 | 3,336·68 | 11,829·55 |
| 79 | 78 | 2,515·17 | 8,492·87 |
| 80 | 79 | 1,858·00 | 5,977·70 |
| 81 | 80 | 1,343·28 | 4,119·70 |
| 82 | 81 | 949·135 | 2,776·420 |
| 83 | 82 | 654·499 | 1,827·285 |
| 84 | 83 | 439·810 | 1,172·786 |
| 85 | 84 | 287·563 | 732·976 |
| 86 | 85 | 182·653 | 445·413 |
| 87 | 86 | 112·523 | 262·760 |
| 88 | 87 | 67·1199 | 150·2371 |
| 89 | 88 | 38·6998 | 83·1172 |
| 90 | 89 | 21·5302 | 44·4174 |
| 91 | 90 | 11·5367 | 22·8872 |
| 92 | 91 | 5·9429 | 11·3505 |
| 93 | 92 | 2·9374 | 5·4076 |
| 94 | 93 | 1·3904 | 2·4702 |
| 95 | 94 | ·6290 | 1·0798 |
| 96 | 95 | ·2714 | ·4508 |
| 97 | 96 | ·1115 | ·1794 |
| 98 | 97 | ·0435 | ·0679 |
| 99 | 98 | ·0161 | ·0244 |
| 100 | 99 | ·0056 | ·0083 |
| 101 | 100 | ·0019 | ·0027 |
| 102 | 101 | ·0006 | ·0008 |
| 103 | 102 | ·0002 | ·0002 |
| 104 | 103 | ·0000 | ·0000 |
| 105 | 104 | ·0000 | ·0000 |

## JOINT LIVES:—Two Males.

**Difference of Age 2 Years.**

**Difference of Age 105 Years.**

| Ages *x* | Ages *y* | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| | | **Difference of Age 2 Years.** | |
| 2 | 0 | 1,989,869 | 30,580,264 |
| 3 | 1 | 1,558,508 | 28,590,395 |
| 4 | 2 | 1,382,058 | 27,031,887 |
| 5 | 3 | 1,271,118 | 25,649,829 |
| 6 | 4 | 1,188,291 | 24,378,711 |
| 7 | 5 | 1,120,861 | 23,190,420 |
| 8 | 6 | 1,063,596 | 22,069,559 |
| 9 | 7 | 1,013,644 | 21,005,963 |
| 10 | 8 | 968,805 | 19,992,319 |
| 11 | 9 | 928,163 | 19,023,514 |
| 12 | 10 | 890,773 | 18,095,351 |
| 13 | 11 | 855,871 | 17,204,578 |
| 14 | 12 | 822,843 | 16,348,707 |
| 15 | 13 | 791,208 | 15,525,864 |
| 16 | 14 | 760,592 | 14,734,656 |
| 17 | 15 | 730,717 | 13,974,064 |
| 18 | 16 | 701,388 | 13,243,347 |
| 19 | 17 | 672,484 | 12,541,959 |
| 20 | 18 | 643,943 | 11,869,475 |
| 21 | 19 | 615,758 | 11,225,532 |
| 22 | 20 | 588,281 | 10,609,774 |
| 23 | 21 | 561,519 | 10,021,493 |
| 24 | 22 | 535,781 | 9,459,974 |
| 25 | 23 | 511,044 | 8,924,193 |
| 26 | 24 | 487,280 | 8,413,149 |
| 27 | 25 | 464,459 | 7,925,869 |
| 28 | 26 | 442,553 | 7,461,410 |
| 29 | 27 | 421,530 | 7,018,857 |
| 30 | 28 | 401,357 | 6,597,327 |
| 31 | 29 | 382,004 | 6,195,970 |
| 32 | 30 | 363,439 | 5,813,966 |
| 33 | 31 | 345,629 | 5,450,527 |
| 34 | 32 | 328,545 | 5,104,898 |
| 35 | 33 | 312,155 | 4,776,353 |
| 36 | 34 | 296,431 | 4,464,198 |
| 37 | 35 | 281,343 | 4,167,767 |
| 38 | 36 | 266,866 | 3,886,424 |
| 39 | 37 | 252,971 | 3,619,558 |
| 40 | 38 | 239,635 | 3,366,587 |
| 41 | 39 | 226,834 | 3,126,952 |
| 42 | 40 | 214,546 | 2,900,118 |
| 43 | 41 | 202,749 | 2,685,572 |
| 44 | 42 | 191,424 | 2,482,823 |
| 45 | 43 | 180,552 | 2,291,399 |
| 46 | 44 | 170,116 | 2,110,847 |
| 47 | 45 | 160,101 | 1,940,731 |
| 48 | 46 | 150,492 | 1,780,630 |
| 49 | 47 | 141,275 | 1,630,138 |
| 50 | 48 | 132,438 | 1,488,863 |
| 51 | 49 | 123,969 | 1,356,425 |
| 52 | 50 | 115,794 | 1,232,456 |
| 53 | 51 | 107,962 | 1,116,662 |
| 54 | 52 | 100,412 | 1,008,700 |
| 55 | 53 | 93,188·8 | 908,287·6 |
| 56 | 54 | 86,288·8 | 815,098·8 |
| 57 | 55 | 79,704·1 | 728,810·0 |
| 58 | 56 | 73,425·4 | 649,105·9 |
| 59 | 57 | 67,442·6 | 575,680·5 |
| 60 | 58 | 61,745·9 | 508,237·9 |
| 61 | 59 | 56,326·1 | 446,492·0 |
| 62 | 60 | 51,175·1 | 390,165·9 |
| 63 | 61 | 46,286·9 | 338,990·8 |
| 64 | 62 | 41,656·8 | 292,703·9 |
| 65 | 63 | 37,282·3 | 251,047·1 |
| 66 | 64 | 33,162·5 | 213,764·8 |
| 67 | 65 | 29,297·9 | 180,602·3 |
| 68 | 66 | 25,690·3 | 151,304·4 |
| 69 | 67 | 22,341·9 | 125,614·1 |
| 70 | 68 | 19,255·2 | 103,272·2 |
| 71 | 69 | 16,431·8 | 84,017·0 |
| 72 | 70 | 13,872·3 | 67,585·2 |
| 73 | 71 | 11,575·3 | 53,712·9 |
| 74 | 72 | 9,536·97 | 42,137·61 |
| 75 | 73 | 7,750·57 | 32,600·64 |
| 76 | 74 | 6,206·32 | 24,850·07 |
| 77 | 75 | 4,891·31 | 18,643·75 |
| 78 | 76 | 3,789·63 | 13,752·44 |
| 79 | 77 | 2,882·83 | 9,962·81 |
| 80 | 78 | 2,150·51 | 7,079·98 |
| 81 | 79 | 1,571·06 | 4,929·47 |
| 82 | 80 | 1,122·48 | 3,358·41 |
| 83 | 81 | 783·238 | 2,235·931 |
| 84 | 82 | 532·965 | 1,452·693 |
| 85 | 83 | 353·136 | 919·728 |
| 86 | 84 | 227·483 | 566·592 |
| 87 | 85 | 142·241 | 339·109 |
| 88 | 86 | 86·1892 | 196·8680 |
| 89 | 87 | 50·5240 | 110·6788 |
| 90 | 88 | 28·6023 | 60·1548 |
| 91 | 89 | 15·6095 | 31·5525 |
| 92 | 90 | 8·1970 | 15·9430 |
| 93 | 91 | 4·1342 | 7·7460 |
| 94 | 92 | 1·9987 | 3·6118 |
| 95 | 93 | ·9244 | 1·6131 |
| 96 | 94 | ·4082 | ·6887 |
| 97 | 95 | ·1717 | ·2805 |
| 98 | 96 | ·0687 | ·1088 |
| 99 | 97 | ·0261 | ·0401 |
| 100 | 98 | ·0094 | ·0140 |
| 101 | 99 | ·0032 | ·0046 |
| 102 | 100 | ·0010 | ·0014 |
| 103 | 101 | ·0003 | ·0004 |
| 104 | 102 | ·0001 | ·0001 |
| 105 | 103 | ·0000 | ·0000 |
| | | **Difference of Age 105 Years.** | |
| 105 | 0 | 3·8889 | 3·8889 |

## JOINT LIVES:—Two Males.

**Difference of Age 3 Years.**

**Difference of Age 104 Years.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Difference of Age 3 Years.** | |
| 3 | 0 | 1,891,086 | 29,743,403 |
| 4 | 1 | 1,499,020 | 27,852,317 |
| 5 | 2 | 1,337,516 | 26,353,297 |
| 6 | 3 | 1,235,448 | 25,015,781 |
| 7 | 4 | 1,158,189 | 23,780,333 |
| 8 | 5 | 1,094,303 | 22,622,144 |
| 9 | 6 | 1,039,990 | 21,527,841 |
| 10 | 7 | 992,317 | 20,487,851 |
| 11 | 8 | 949,230 | 19,495,534 |
| 12 | 9 | 909,918 | 18,546,304 |
| 13 | 10 | 873,519 | 17,636,386 |
| 14 | 11 | 839,343 | 16,762,867 |
| 15 | 12 | 806,836 | 15,923,524 |
| 16 | 13 | 775,569 | 15,116,688 |
| 17 | 14 | 745,214 | 14,341,119 |
| 18 | 15 | 715,531 | 13,595,905 |
| 19 | 16 | 686,361 | 12,880,374 |
| 20 | 17 | 657,609 | 12,194,013 |
| 21 | 18 | 629,240 | 11,536,404 |
| 22 | 19 | 601,588 | 10,907,164 |
| 23 | 20 | 574,640 | 10,305,576 |
| 24 | 21 | 548,402 | 9,730,936 |
| 25 | 22 | 523,176 | 9,182,534 |
| 26 | 23 | 498,934 | 8,659,358 |
| 27 | 24 | 475,650 | 8,160,424 |
| 28 | 25 | 453,294 | 7,684,774 |
| 29 | 26 | 431,836 | 7,231,480 |
| 30 | 27 | 411,243 | 6,799,644 |
| 31 | 28 | 391,485 | 6,388,401 |
| 32 | 29 | 372,530 | 5,996,916 |
| 33 | 30 | 354,345 | 5,624,386 |
| 34 | 31 | 336,901 | 5,270,041 |
| 35 | 32 | 320,166 | 4,933,140 |
| 36 | 33 | 304,111 | 4,612,974 |
| 37 | 34 | 288,706 | 4,308,863 |
| 38 | 35 | 273,925 | 4,020,157 |
| 39 | 36 | 259,740 | 3,746,232 |
| 40 | 37 | 246,125 | 3,486,492 |
| 41 | 38 | 233,058 | 3,240,367 |
| 42 | 39 | 220,513 | 3,007,309 |
| 43 | 40 | 208,471 | 2,786,796 |
| 44 | 41 | 196,911 | 2,578,325 |
| 45 | 42 | 185,813 | 2,381,414 |
| 46 | 43 | 175,160 | 2,195,601 |
| 47 | 44 | 164,936 | 2,020,441 |
| 48 | 45 | 155,124 | 1,855,505 |
| 49 | 46 | 145,712 | 1,700,381 |
| 50 | 47 | 136,687 | 1,554,669 |
| 51 | 48 | 128,036 | 1,417,982 |
| 52 | 49 | 119,681 | 1,289,946 |
| 53 | 50 | 111,674 | 1,170,265 |
| 54 | 51 | 104,010 | 1,058,591 |
| 55 | 52 | 96,627·0 | 954,580·6 |
| 56 | 53 | 89,567·6 | 857,953·6 |
| 57 | 54 | 82,825·9 | 768,386·0 |
| 58 | 55 | 76,394·0 | 685,560·1 |
| 59 | 56 | 70,262·3 | 609,166·1 |
| 60 | 57 | 64,421·3 | 538,903·8 |
| 61 | 58 | 58,861·7 | 474,482·5 |
| 62 | 59 | 53,575·2 | 415,620·8 |
| 63 | 60 | 48,554·9 | 362,045·6 |
| 64 | 61 | 43,795·7 | 313,490·7 |
| 65 | 62 | 39,294·2 | 269,695·0 |
| 66 | 63 | 35,048·8 | 230,400·8 |
| 67 | 64 | 31,059·5 | 195,352·0 |
| 68 | 65 | 27,327·4 | 164,292·5 |
| 69 | 66 | 23,854·7 | 136,965·1 |
| 70 | 67 | 20,643·6 | 113,110·4 |
| 71 | 68 | 17,696·3 | 92,466·8 |
| 72 | 69 | 15,013·6 | 74,770·5 |
| 73 | 70 | 12,595·1 | 59,756·9 |
| 74 | 71 | 10,437·9 | 47,161·8 |
| 75 | 72 | 8,536·57 | 36,723·91 |
| 76 | 73 | 6,882·66 | 28,187·34 |
| 77 | 74 | 5,464·53 | 21,304·68 |
| 78 | 75 | 4,267·50 | 15,840·15 |
| 79 | 76 | 3,274·16 | 11,572·65 |
| 80 | 77 | 2,464·86 | 8,298·49 |
| 81 | 78 | 1,818·39 | 5,833·63 |
| 82 | 79 | 1,312·83 | 4,015·24 |
| 83 | 80 | 926·289 | 2,702·405 |
| 84 | 81 | 637·800 | 1,776·116 |
| 85 | 82 | 427·934 | 1,138·316 |
| 86 | 83 | 279·357 | 710·382 |
| 87 | 84 | 177·153 | 431·025 |
| 88 | 85 | 108·952 | 253·872 |
| 89 | 86 | 64·8783 | 144·9197 |
| 90 | 87 | 37·3414 | 80·0414 |
| 91 | 88 | 20·7368 | 42·7000 |
| 92 | 89 | 11·0908 | 21·9632 |
| 93 | 90 | 5·7023 | 10·8724 |
| 94 | 91 | 2·8130 | 5·1701 |
| 95 | 92 | 1·3289 | 2·3571 |
| 96 | 93 | ·5999 | 1·0282 |
| 97 | 94 | ·2583 | ·4283 |
| 98 | 95 | ·1059 | ·1700 |
| 99 | 96 | ·0412 | ·0641 |
| 100 | 97 | ·0152 | ·0229 |
| 101 | 98 | ·0053 | ·0077 |
| 102 | 99 | ·0017 | ·0024 |
| 103 | 100 | ·0005 | ·0007 |
| 104 | 101 | ·0002 | ·0002 |
| 105 | 102 | ·0000 | ·0000 |
| | | **Difference of Age 104 Years.** | |
| 104 | 0 | 7·8366 | 11·0416 |
| 105 | 1 | 3·2050 | 3·2050 |

## JOINT LIVES:—TWO MALES.

### Difference of Age 4 Years.

### Difference of Age 103 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 4 Years.** | |
| 4 | 0 | 1,818,903 | 28,969,992 |
| 5 | 1 | 1,450,708 | 27,151,089 |
| 6 | 2 | 1,299,983 | 25,700,381 |
| 7 | 3 | 1,204,151 | 24,400,398 |
| 8 | 4 | 1,130,746 | 23,196,247 |
| 9 | 5 | 1,070,016 | 22,065,501 |
| 10 | 6 | 1,018,108 | 20,995,485 |
| 11 | 7 | 972,268 | 19,977,377 |
| 12 | 8 | 930,571 | 19,005,109 |
| 13 | 9 | 892,294 | 18,074,538 |
| 14 | 10 | 856,651 | 17,182,244 |
| 15 | 11 | 823,014 | 16,325,593 |
| 16 | 12 | 790,888 | 15,502,579 |
| 17 | 13 | 759,888 | 14,711,691 |
| 18 | 14 | 729,727 | 13,951,803 |
| 19 | 15 | 700,201 | 13,222,076 |
| 20 | 16 | 671,179 | 12,521,875 |
| 21 | 17 | 642,594 | 11,850,696 |
| 22 | 18 | 614,759 | 11,208,102 |
| 23 | 19 | 587,637 | 10,593,343 |
| 24 | 20 | 561,217 | 10,005,706 |
| 25 | 21 | 535,500 | 9,444,489 |
| 26 | 22 | 510,779 | 8,908,989 |
| 27 | 23 | 487,027 | 8,398,210 |
| 28 | 24 | 464,216 | 7,911,183 |
| 29 | 25 | 442,317 | 7,446,967 |
| 30 | 26 | 421,298 | 7,004,650 |
| 31 | 27 | 401,128 | 6,583,352 |
| 32 | 28 | 381,775 | 6,182,224 |
| 33 | 29 | 363,209 | 5,800,449 |
| 34 | 30 | 345·397 | 5,437,240 |
| 35 | 31 | 328,309 | 5,091,843 |
| 36 | 32 | 311,915 | 4,763,534 |
| 37 | 33 | 296,186 | 4,451,619 |
| 38 | 34 | 281,094 | 4,155,433 |
| 39 | 35 | 266,610 | 3,874,339 |
| 40 | 36 | 252,711 | 3,607,729 |
| 41 | 37 | 239,369 | 3,355,018 |
| 42 | 38 | 226,563 | 3,115,649 |
| 43 | 39 | 214,270 | 2,889,086 |
| 44 | 40 | 202,468 | 2,674,816 |
| 45 | 41 | 191,139 | 2,472,348 |
| 46 | 42 | 180,264 | 2,281,209 |
| 47 | 43 | 169,826 | 2,100,945 |
| 48 | 44 | 159,808 | 1,931,119 |
| 49 | 45 | 150,198 | 1,771,311 |
| 50 | 46 | 140,980 | 1,621,113 |
| 51 | 47 | 132,143 | 1,480,133 |
| 52 | 48 | 123,606 | 1,347,990 |
| 53 | 49 | 115,422 | 1,224,384 |
| 54 | 50 | 107,586 | 1,108,962 |
| 55 | 51 | 100,089 | 1,001,376 |
| 56 | 52 | 92,872·1 | 901,286·6 |
| 57 | 53 | 85,973·2 | 808,414·5 |
| 58 | 54 | 79,386·2 | 722,441·3 |
| 59 | 55 | 73,103·0 | 643,055·1 |
| 60 | 56 | 67,114·7 | 569,952·1 |
| 61 | 57 | 61,412·2 | 502,837·4 |
| 62 | 58 | 55,987·0 | 441,425·2 |
| 63 | 59 | 50,832·1 | 385,438·2 |
| 64 | 60 | 45,941·7 | 334,606·1 |
| 65 | 61 | 41,311·8 | 288,664·4 |
| 66 | 62 | 36,940·2 | 247,352·6 |
| 67 | 63 | 32,826·2 | 210,412·4 |
| 68 | 64 | 28,970·5 | 177,586·2 |
| 69 | 65 | 25,374·8 | 148,615·7 |
| 70 | 66 | 22,041·4 | 123,240·9 |
| 71 | 67 | 18,972·3 | 101,199·5 |
| 72 | 68 | 16,168·9 | 82,227·2 |
| 73 | 69 | 13,631·2 | 66,058·3 |
| 74 | 70 | 11,357·4 | 52,427·1 |
| 75 | 71 | 9,342·97 | 41,069·72 |
| 76 | 72 | 7,580·64 | 31,726·75 |
| 77 | 73 | 6,060·02 | 24,146·11 |
| 78 | 74 | 4,767·62 | 18,086·09 |
| 79 | 75 | 3,687·04 | 13,318·47 |
| 80 | 76 | 2,799·46 | 9,631·43 |
| 81 | 77 | 2,084·20 | 6,831·97 |
| 82 | 78 | 1,519·51 | 4,747·77 |
| 83 | 79 | 1,083·36 | 3,228·26 |
| 84 | 80 | 754·287 | 2,144·902 |
| 85 | 81 | 512·108 | 1,390·615 |
| 86 | 82 | 338·527 | 878·507 |
| 87 | 83 | 217·549 | 539·980 |
| 88 | 84 | 135·694 | 322·431 |
| 89 | 85 | 82·0130 | 186·7371 |
| 90 | 86 | 47·9504 | 104·7241 |
| 91 | 87 | 27·0726 | 56·7737 |
| 92 | 88 | 14·7339 | 29·7011 |
| 93 | 89 | 7·7154 | 14·9672 |
| 94 | 90 | 3·8800 | 7·2518 |
| 95 | 91 | 1·8703 | 3·3718 |
| 96 | 92 | ·8624 | 1·5015 |
| 97 | 93 | ·3796 | ·6391 |
| 98 | 94 | ·1592 | ·2595 |
| 99 | 95 | ·0635 | ·1003 |
| 100 | 96 | ·0240 | ·0368 |
| 101 | 97 | ·0086 | ·0128 |
| 102 | 98 | ·0029 | ·0042 |
| 103 | 99 | ·0009 | ·0013 |
| 104 | 100 | ·0003 | ·0004 |
| 105 | 101 | ·0001 | ·0001 |

**Difference of Age 103 Years.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 103 | 0 | 15·2547 | 24·6680 |
| 104 | 1 | 6·4584 | 9·4133 |
| 105 | 2 | 2·9549 | 2·9549 |

## JOINT LIVES:—TWO MALES.

### Difference of Age 5 Years.

### Difference of Age 102 Years.

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 5 Years.** | |
| 5 | 0 | 1,760,281 | 28,237,130 |
| 6 | 1 | 1,410,000 | 26,476,849 |
| 7 | 2 | 1,267,052 | 25,066,849 |
| 8 | 3 | 1,175,619 | 23,799,797 |
| 9 | 4 | 1,105,650 | 22,624,178 |
| 10 | 5 | 1,047,503 | 21,518,528 |
| 11 | 6 | 997,538 | 20,471,025 |
| 12 | 7 | 953,156 | 19,473,487 |
| 13 | 8 | 912,547 | 18,520,331 |
| 14 | 9 | 875,062 | 17,607,784 |
| 15 | 10 | 839,986 | 16,732,722 |
| 16 | 11 | 806,747 | 15,892,736 |
| 17 | 12 | 774,898 | 15,085,989 |
| 18 | 13 | 744,097 | 14,311,091 |
| 19 | 14 | 714,093 | 13,566,994 |
| 20 | 15 | 684,714 | 12,852,901 |
| 21 | 16 | 655,855 | 12,168,187 |
| 22 | 17 | 627,805 | 11,512,332 |
| 23 | 18 | 600,503 | 10,884,527 |
| 24 | 19 | 573,911 | 10,284,024 |
| 25 | 20 | 548,012 | 9,710,113 |
| 26 | 21 | 522,810 | 9,162,101 |
| 27 | 22 | 498,588 | 8,639,291 |
| 28 | 23 | 475,319 | 8,140,703 |
| 29 | 24 | 452,974 | 7,665,384 |
| 30 | 25 | 431,523 | 7,212,410 |
| 31 | 26 | 410,935 | 6,780,887 |
| 32 | 27 | 391,179 | 6,369,952 |
| 33 | 28 | 372,223 | 5,978,773 |
| 34 | 29 | 354,036 | 5,606,550 |
| 35 | 30 | 336,588 | 5,252,514 |
| 36 | 31 | 319,848 | 4,915,926 |
| 37 | 32 | 303,787 | 4,596,078 |
| 38 | 33 | 288,376 | 4,292,291 |
| 39 | 34 | 273,588 | 4,003,915 |
| 40 | 35 | 259,395 | 3,730,327 |
| 41 | 36 | 245,774 | 3,470,932 |
| 42 | 37 | 232,699 | 3,225,158 |
| 43 | 38 | 220,148 | 2,992,459 |
| 44 | 39 | 208,100 | 2,772,311 |
| 45 | 40 | 196,534 | 2,564,211 |
| 46 | 41 | 185,431 | 2,367,677 |
| 47 | 42 | 174,774 | 2,182,246 |
| 48 | 43 | 164,547 | 2,007,472 |
| 49 | 44 | 154,733 | 1,842,925 |
| 50 | 45 | 145,320 | 1,688,192 |
| 51 | 46 | 136,294 | 1,542,872 |
| 52 | 47 | 127,572 | 1,406,578 |
| 53 | 48 | 119,208 | 1,279,006 |
| 54 | 49 | 111,197 | 1,159,798 |
| 55 | 50 | 103,531 | 1,048,601 |
| 56 | 51 | 96,200·0 | 945,069·6 |
| 57 | 52 | 89,145·1 | 848,869·6 |
| 58 | 53 | 82,402·7 | 759,724·5 |
| 59 | 54 | 75,966·4 | 677,321·8 |
| 60 | 55 | 69,828·2 | 601,355·4 |
| 61 | 56 | 63,979·7 | 531,527·2 |
| 62 | 57 | 58,412·9 | 467,547·5 |
| 63 | 58 | 53,120·4 | 409,134·6 |
| 64 | 59 | 48,096·3 | 356,014·2 |
| 65 | 60 | 43,336·1 | 307,917·9 |
| 66 | 61 | 38,836·9 | 264,581·8 |
| 67 | 62 | 34,597·6 | 225,744·9 |
| 68 | 63 | 30,618·4 | 191,147·3 |
| 69 | 64 | 26,900·5 | 160,528·9 |
| 70 | 65 | 23,446·0 | 133,628·4 |
| 71 | 66 | 20,256·9 | 110,182·4 |
| 72 | 67 | 17,334·8 | 89,925·5 |
| 73 | 68 | 14,680·1 | 72,590·7 |
| 74 | 69 | 12,291·7 | 57,910·6 |
| 75 | 70 | 10,166·0 | 45,618·9 |
| 76 | 71 | 8,296·74 | 35,452·94 |
| 77 | 72 | 6,674·58 | 27,156·20 |
| 78 | 73 | 5,287·16 | 20,481·62 |
| 79 | 74 | 4,119·13 | 15,194·46 |
| 80 | 75 | 3,152·47 | 11,075·33 |
| 81 | 76 | 2,367·13 | 7,922·86 |
| 82 | 77 | 1,741·62 | 5,555·73 |
| 83 | 78 | 1,253·92 | 3,814·11 |
| 84 | 79 | 882·192 | 2,560·192 |
| 85 | 80 | 605·639 | 1,678·000 |
| 86 | 81 | 405·115 | 1,072·361 |
| 87 | 82 | 263·628 | 667·246 |
| 88 | 83 | 166·636 | 403·618 |
| 89 | 84 | 102·142 | 236·982 |
| 90 | 85 | 60·6143 | 134·8395 |
| 91 | 86 | 34·7641 | 74·2252 |
| 92 | 87 | 19·2356 | 39·4611 |
| 93 | 88 | 10·2497 | 20·2255 |
| 94 | 89 | 5·2498 | 9·9758 |
| 95 | 90 | 2·5797 | 4·7260 |
| 96 | 91 | 1·2137 | 2·1463 |
| 97 | 92 | ·5457 | ·9326 |
| 98 | 93 | ·2340 | ·3869 |
| 99 | 94 | ·0955 | ·1529 |
| 100 | 95 | ·0370 | ·0574 |
| 101 | 96 | ·0136 | ·0204 |
| 102 | 97 | ·0047 | ·0068 |
| 103 | 98 | ·0015 | ·0021 |
| 104 | 99 | ·0005 | ·0006 |
| 105 | 100 | ·0001 | ·0001 |
| | | **Difference of Age 102 Years.** | |
| 102 | 0 | 28·7207 | 50·0553 |
| 103 | 1 | 12·5719 | 21·3346 |
| 104 | 2 | 5·9545 | 8·7627 |
| 105 | 3 | 2·8082 | 2·8082 |

## JOINT LIVES:—Two Males.

### Difference of Age 6 Years.

### Difference of Age 101 Years.

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Difference of Age 6 Years.** | |
| 6 | 0 | 1,710,886 | 27,533,825 |
| 7 | 1 | 1,374,280 | 25,822,939 |
| 8 | 2 | 1,237,030 | 24,448,659 |
| 9 | 3 | 1,149,527 | 23,211,629 |
| 10 | 4 | 1,082,387 | 22,062,102 |
| 11 | 5 | 1,026,339 | 20,979,715 |
| 12 | 6 | 977,929 | 19,953,376 |
| 13 | 7 | 934,694 | 18,975,447 |
| 14 | 8 | 894,924 | 18,040,753 |
| 15 | 9 | 858,039 | 17,145,829 |
| 16 | 10 | 823,382 | 16,287,790 |
| 17 | 11 | 790,435 | 15,464,408 |
| 18 | 12 | 758,794 | 14,673,973 |
| 19 | 13 | 728,154 | 13,915,179 |
| 20 | 14 | 698,298 | 13,187,025 |
| 21 | 15 | 669,080 | 12,488,727 |
| 22 | 16 | 640,761 | 11,819,647 |
| 23 | 17 | 613,247 | 11,178,886 |
| 24 | 18 | 586,476 | 10,565,639 |
| 25 | 19 | 560,408 | 9,979,163 |
| 26 | 20 | 535,027 | 9,418,755 |
| 27 | 21 | 510,333 | 8,883,728 |
| 28 | 22 | 486,603 | 8,373,395 |
| 29 | 23 | 463,809 | 7,886,792 |
| 30 | 24 | 441,920 | 7,422,983 |
| 31 | 25 | 420,909 | 6,981,063 |
| 32 | 26 | 400,743 | 6,560,154 |
| 33 | 27 | 381,391 | 6,159,411 |
| 34 | 28 | 362,823 | 5,778,020 |
| 35 | 29 | 345,007 | 5,415,197 |
| 36 | 30 | 327,914 | 5,070,190 |
| 37 | 31 | 311,514 | 4,742,276 |
| 38 | 32 | 295,777 | 4,430,762 |
| 39 | 33 | 280,676 | 4,134,985 |
| 40 | 34 | 266,184 | 3,854,309 |
| 41 | 35 | 252,275 | 3,588,125 |
| 42 | 36 | 238,925 | 3,335,850 |
| 43 | 37 | 226,110 | 3,096,925 |
| 44 | 38 | 213,809 | 2,870,815 |
| 45 | 39 | 202,000 | 2,657,006 |
| 46 | 40 | 190,665 | 2,455,006 |
| 47 | 41 | 179,784 | 2,264,341 |
| 48 | 42 | 169,341 | 2,084,557 |
| 49 | 43 | 159,321 | 1,915,216 |
| 50 | 44 | 149,708 | 1,755,895 |
| 51 | 45 | 140,490 | 1,606,187 |
| 52 | 46 | 131,579 | 1,465,697 |
| 53 | 47 | 123,033 | 1,334,118 |
| 54 | 48 | 114,844 | 1,211,085 |
| 55 | 49 | 107,006 | 1,096,241 |
| 56 | 50 | 99,507·6 | 989,234·9 |
| 57 | 51 | 92,339·4 | 889,727·3 |
| 58 | 52 | 85,442·9 | 797,387·9 |
| 59 | 53 | 78,852·9 | 711,945·0 |
| 60 | 54 | 72,563·2 | 633,092·1 |
| 61 | 55 | 66,566·4 | 560,528·9 |
| 62 | 56 | 60,855·1 | 493,962·5 |
| 63 | 57 | 55,422·1 | 433,107·4 |
| 64 | 58 | 50,261·5 | 377,685·3 |
| 65 | 59 | 45,368·5 | 327,423·8 |
| 66 | 60 | 40,739·9 | 282,055·3 |
| 67 | 61 | 36,374·1 | 241,315·4 |
| 68 | 62 | 32,270·7 | 204,941·3 |
| 69 | 63 | 28,430·7 | 172,670·6 |
| 70 | 64 | 24,855·7 | 144,239·9 |
| 71 | 65 | 21,547·8 | 119,384·2 |
| 72 | 66 | 18,508·5 | 97,836·4 |
| 73 | 67 | 15,738·7 | 79,327·9 |
| 74 | 68 | 13,237·6 | 63,589·2 |
| 75 | 69 | 11,002·4 | 50,351·6 |
| 76 | 70 | 9,027·64 | 39,349·23 |
| 77 | 71 | 7,305·09 | 30,321·59 |
| 78 | 72 | 5,823·34 | 23,016·50 |
| 79 | 73 | 4,568·01 | 17,193·16 |
| 80 | 74 | 3,521·91 | 12,625·15 |
| 81 | 75 | 2,665·62 | 9,103·24 |
| 82 | 76 | 1,978·05 | 6,437·62 |
| 83 | 77 | 1,437·21 | 4,459·57 |
| 84 | 78 | 1,021·08 | 3,022·36 |
| 85 | 79 | 708·338 | 2,001·281 |
| 86 | 80 | 479·105 | 1,292·943 |
| 87 | 81 | 315·483 | 813·838 |
| 88 | 82 | 201·931 | 498·355 |
| 89 | 83 | 125·434 | 296·424 |
| 90 | 84 | 75·4915 | 170·9897 |
| 91 | 85 | 43·9455 | 95·4982 |
| 92 | 86 | 24·7006 | 51·5527 |
| 93 | 87 | 13·3814 | 26·8521 |
| 94 | 88 | 6·9742 | 13·4707 |
| 95 | 89 | 3·4904 | 6·4965 |
| 96 | 90 | 1·6741 | 3·0061 |
| 97 | 91 | ·7680 | 1·3320 |
| 98 | 92 | ·3363 | ·5640 |
| 99 | 93 | ·1403 | ·2277 |
| 100 | 94 | ·0556 | ·0874 |
| 101 | 95 | ·0209 | ·0318 |
| 102 | 96 | ·0074 | ·0109 |
| 103 | 97 | ·0025 | ·0035 |
| 104 | 98 | ·0008 | ·0010 |
| 105 | 99 | ·0002 | ·0002 |
| | | **Difference of Age 101 Years.** | |
| 101 | 0 | 52·3646 | 95·9852 |
| 102 | 1 | 23·6697 | 43·6206 |
| 103 | 2 | 11·5910 | 19·9509 |
| 104 | 3 | 5·6589 | 8·3599 |
| 105 | 4 | 2·7010 | 2·7010 |

## JOINT LIVES:—Two Males.

**Difference of Age 7 Years.**

**Difference of Age 100 Years.**

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 7 Years.** | |
| 7 | 0 | 1,667,545 | 26,852,650 |
| 8 | 1 | 1,341,717 | 25,185,105 |
| 9 | 2 | 1,209,575 | 23,843,388 |
| 10 | 3 | 1,125,341 | 22,633,813 |
| 11 | 4 | 1,060,518 | 21,508,472 |
| 12 | 5 | 1,006,164 | 20,447,954 |
| 13 | 6 | 958,987 | 19,441,790 |
| 14 | 7 | 916,644 | 18,482,803 |
| 15 | 8 | 877,515 | 17,566,159 |
| 16 | 9 | 841,079 | 16,688,644 |
| 17 | 10 | 806,735 | 15,847,565 |
| 18 | 11 | 774,009 | 15,040,830 |
| 19 | 12 | 742,537 | 14,266,821 |
| 20 | 13 | 712,049 | 13,524,284 |
| 21 | 14 | 682,354 | 12,812,235 |
| 22 | 15 | 653,681 | 12,129,881 |
| 23 | 16 | 625,902 | 11,476,200 |
| 24 | 17 | 598,922 | 10,850,298 |
| 25 | 18 | 572,677 | 10,251,376 |
| 26 | 19 | 547,129 | 9,678,699 |
| 27 | 20 | 522,258 | 9,131,570 |
| 28 | 21 | 498,065 | 8,609,312 |
| 29 | 22 | 474,819 | 8,111,247 |
| 30 | 23 | 452,490 | 7,636,428 |
| 31 | 24 | 431,050 | 7,183,938 |
| 32 | 25 | 410,469 | 6,752,888 |
| 33 | 26 | 390,716 | 6,342,419 |
| 34 | 27 | 371,760 | 5,951,703 |
| 35 | 28 | 353,570 | 5,579,943 |
| 36 | 29 | 336,116 | 5,226,373 |
| 37 | 30 | 319,369 | 4,890,257 |
| 38 | 31 | 303,299 | 4,570,888 |
| 39 | 32 | 287,879 | 4,267,589 |
| 40 | 33 | 273,080 | 3,979,710 |
| 41 | 34 | 258,877 | 3,706,630 |
| 42 | 35 | 245,245 | 3,447,753 |
| 43 | 36 | 232,160 | 3,202,508 |
| 44 | 37 | 219,600 | 2,970,348 |
| 45 | 38 | 207,542 | 2,750,748 |
| 46 | 39 | 195,968 | 2,543,206 |
| 47 | 40 | 184,858 | 2,347,238 |
| 48 | 41 | 174,195 | 2,162,380 |
| 49 | 42 | 163,963 | 1,988,185 |
| 50 | 43 | 154,146 | 1,824,222 |
| 51 | 44 | 144,732 | 1,670,076 |
| 52 | 45 | 135,630 | 1,525,344 |
| 53 | 46 | 126,897 | 1,389,714 |
| 54 | 47 | 118,529 | 1,262,817 |
| 55 | 48 | 110,516 | 1,144,288 |
| 56 | 49 | 102,848 | 1,033,772 |
| 57 | 50 | 95,514·3 | 930,924·2 |
| 58 | 51 | 88,504·6 | 835,409·9 |
| 59 | 52 | 81,762·2 | 746,905·3 |
| 60 | 53 | 75,320·5 | 665,143·1 |
| 61 | 54 | 69,173·7 | 589,822·6 |
| 62 | 55 | 63,315·5 | 520,648·9 |
| 63 | 56 | 57,739·3 | 457,333·4 |
| 64 | 57 | 52,439·3 | 399,594·1 |
| 65 | 58 | 47,410·9 | 347,154·8 |
| 66 | 59 | 42,650·6 | 299,743·9 |
| 67 | 60 | 38,156·4 | 257,093·3 |
| 68 | 61 | 33,927·6 | 218,936·9 |
| 69 | 62 | 29,964·9 | 185,009·3 |
| 70 | 63 | 26,269·5 | 155,044·4 |
| 71 | 64 | 22,843·3 | 128,774·9 |
| 72 | 65 | 19,688·0 | 105,931·6 |
| 73 | 66 | 16,804·3 | 86,243·6 |
| 74 | 67 | 14,192·1 | 69,439·3 |
| 75 | 68 | 11,849·0 | 55,247·2 |
| 76 | 69 | 9,770·32 | 43,398·17 |
| 77 | 70 | 7,948·63 | 33,627·85 |
| 78 | 71 | 6,373·44 | 25,679·22 |
| 79 | 72 | 5,031·26 | 19,305·78 |
| 80 | 73 | 3,905·71 | 14,274·52 |
| 81 | 74 | 2,978·01 | 10,368·81 |
| 82 | 75 | 2,227·48 | 7,390·80 |
| 83 | 76 | 1,632·31 | 5,163·32 |
| 84 | 77 | 1,170·34 | 3,531·01 |
| 85 | 78 | 819·854 | 2,360·674 |
| 86 | 79 | 560·347 | 1,540·820 |
| 87 | 80 | 373·103 | 980·473 |
| 88 | 81 | 241·651 | 607·370 |
| 89 | 82 | 152·002 | 365·719 |
| 90 | 83 | 92·7060 | 213·7170 |
| 91 | 84 | 54·7315 | 121·0110 |
| 92 | 85 | 31·2242 | 66·2795 |
| 93 | 86 | 17·1832 | 35·0553 |
| 94 | 87 | 9·1051 | 17·8721 |
| 95 | 88 | 4·6369 | 8·7670 |
| 96 | 89 | 2·2651 | 4·1301 |
| 97 | 90 | 1·0594 | 1·8650 |
| 98 | 91 | ·4734 | ·8056 |
| 99 | 92 | ·2017 | ·3322 |
| 100 | 93 | ·0818 | ·1305 |
| 101 | 94 | ·0315 | ·0487 |
| 102 | 95 | ·0115 | ·0172 |
| 103 | 96 | ·0040 | ·0057 |
| 104 | 97 | ·0013 | ·0017 |
| 105 | 98 | ·0004 | ·0004 |

**Difference of Age 100 Years.**

| $x$ | $y$ | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| 100 | 0 | 92·5669 | 176·6178 |
| 101 | 1 | 43·1555 | 84·0509 |
| 102 | 2 | 21·8229 | 40·8954 |
| 103 | 3 | 11·0156 | 19·0725 |
| 104 | 4 | 5·4429 | 8·0569 |
| 105 | 5 | 2·6140 | 2·6140 |

## JOINT LIVES:—Two Males.

### Difference of Age 8 Years.

### Difference of Age 99 Years.

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 8 Years.** | |
| 8 | 0 | 1,628,033 | 26,188,853 |
| 9 | 1 | 1,311,939 | 24,560,820 |
| 10 | 2 | 1,184,125 | 23,248,881 |
| 11 | 3 | 1,102,604 | 22,064,756 |
| 12 | 4 | 1,039,671 | 20,962,152 |
| 13 | 5 | 986,675 | 19,922,481 |
| 14 | 6 | 940,468 | 18,935,806 |
| 15 | 7 | 898,812 | 17,995,338 |
| 16 | 8 | 860,170 | 17,096,526 |
| 17 | 9 | 824,074 | 16,236,356 |
| 18 | 10 | 789,969 | 15,412,282 |
| 19 | 11 | 757,426 | 14,622,313 |
| 20 | 12 | 726,113 | 13,864,887 |
| 21 | 13 | 695,790 | 13,138,774 |
| 22 | 14 | 666,650 | 12,442,984 |
| 23 | 15 | 638,524 | 11,776,334 |
| 24 | 16 | 611,282 | 11,137,810 |
| 25 | 17 | 584,831 | 10,526,528 |
| 26 | 18 | 559,107 | 9,941,697 |
| 27 | 19 | 534,071 | 9,382,590 |
| 28 | 20 | 509,703 | 8,848,519 |
| 29 | 21 | 486,004 | 8,338,816 |
| 30 | 22 | 463,232 | 7,852,812 |
| 31 | 23 | 441,360 | 7,389,580 |
| 32 | 24 | 420,359 | 6,948,220 |
| 33 | 25 | 400,199 | 6,527,861 |
| 34 | 26 | 380,849 | 6,127,662 |
| 35 | 27 | 362,279 | 5,746,813 |
| 36 | 28 | 344,458 | 5,384,534 |
| 37 | 29 | 327,358 | 5,040,076 |
| 38 | 30 | 310,948 | 4,712,718 |
| 39 | 31 | 295,200 | 4,401,770 |
| 40 | 32 | 280,088 | 4,106,570 |
| 41 | 33 | 265,584 | 3,826,482 |
| 42 | 34 | 251,663 | 3,560,898 |
| 43 | 35 | 238,301 | 3,309,235 |
| 44 | 36 | 225,475 | 3,070,934 |
| 45 | 37 | 213,163 | 2,845,459 |
| 46 | 38 | 201,344 | 2,632,296 |
| 47 | 39 | 190,000 | 2,430,952 |
| 48 | 40 | 179,112 | 2,240,952 |
| 49 | 41 | 168,663 | 2,061,840 |
| 50 | 42 | 158,638 | 1,893,177 |
| 51 | 43 | 149,023 | 1,734,539 |
| 52 | 44 | 139,725 | 1,585,516 |
| 53 | 45 | 130,804 | 1,445,791 |
| 54 | 46 | 122,252 | 1,314,987 |
| 55 | 47 | 114,061 | 1,192,735 |
| 56 | 48 | 106,221 | 1,078,674 |
| 57 | 49 | 98,720·3 | 972,452·6 |
| 58 | 50 | 91,547·5 | 873,732·3 |
| 59 | 51 | 84,691·9 | 782,184·8 |
| 60 | 52 | 78,099·4 | 697,492·9 |
| 61 | 53 | 71,802·2 | 619,393·5 |
| 62 | 54 | 65,795·4 | 547,591·3 |
| 63 | 55 | 60,073·7 | 481,795·9 |
| 64 | 56 | 54,631·7 | 421,722·2 |
| 65 | 57 | 49,465·2 | 367,090·5 |
| 66 | 58 | 44,570·6 | 317,625·3 |
| 67 | 59 | 39,945·9 | 273,054·7 |
| 68 | 60 | 35,590·1 | 233,108·8 |
| 69 | 61 | 31,503·5 | 197,518·7 |
| 70 | 62 | 27,687·1 | 166,015·2 |
| 71 | 63 | 24,142·7 | 138,328·1 |
| 72 | 64 | 20,871·7 | 114,185·4 |
| 73 | 65 | 17,875·2 | 93,313·7 |
| 74 | 66 | 15,153·0 | 75,438·5 |
| 75 | 67 | 12,703·4 | 60,285·5 |
| 76 | 68 | 10,522·1 | 47,582·1 |
| 77 | 69 | 8,602·54 | 37,060·00 |
| 78 | 70 | 6,934·91 | 28,457·46 |
| 79 | 71 | 5,506·53 | 21,522·55 |
| 80 | 72 | 4,301·80 | 16,016·02 |
| 81 | 73 | 3,302·54 | 11,714·22 |
| 82 | 74 | 2,488·52 | 8,411·68 |
| 83 | 75 | 1,838·15 | 5,923·16 |
| 84 | 76 | 1,329·21 | 4,085·01 |
| 85 | 77 | 939·697 | 2,755·796 |
| 86 | 78 | 648·564 | 1,816·099 |
| 87 | 79 | 436·370 | 1,167·535 |
| 88 | 80 | 285·786 | 731·165 |
| 89 | 81 | 181·901 | 445·379 |
| 90 | 82 | 112·342 | 263·478 |
| 91 | 83 | 67·2121 | 151·1360 |
| 92 | 84 | 38·8879 | 83·9239 |
| 93 | 85 | 21·7213 | 45·0360 |
| 94 | 86 | 11·6919 | 23·3147 |
| 95 | 87 | 6·0536 | 11·6228 |
| 96 | 88 | 3·0092 | 5·5692 |
| 97 | 89 | 1·4334 | 2·5600 |
| 98 | 90 | ·6529 | 1·1266 |
| 99 | 91 | ·2839 | ·4737 |
| 100 | 92 | ·1175 | ·1898 |
| 101 | 93 | ·0463 | ·0723 |
| 102 | 94 | ·0173 | ·0260 |
| 103 | 95 | ·0061 | ·0087 |
| 104 | 96 | ·0020 | ·0026 |
| 105 | 97 | ·0006 | ·0006 |

**Difference of Age 99 Years.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | | |
| 99 | 0 | 158·840 | 314·059 |
| 100 | 1 | 76·2875 | 155·2185 |
| 101 | 2 | 39·7883 | 78·9310 |
| 102 | 3 | 20·7395 | 39·1427 |
| 103 | 4 | 10·5951 | 18·4032 |
| 104 | 5 | 5·2675 | 7·8081 |
| 105 | 6 | 2·5406 | 2·5406 |

## JOINT LIVES :—Two Males.

**Difference of Age 9 Years.**

**Difference of Age 98 Years.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 9 Years.** | |
| 9 | 0 | 1,591,900 | 25,539,717 |
| 10 | 1 | 1,284,335 | 23,947,817 |
| 11 | 2 | 1,160,200 | 22,663,482 |
| 12 | 3 | 1,080,930 | 21,503,282 |
| 13 | 4 | 1,019,534 | 20,422,352 |
| 14 | 5 | 967,621 | 19,402,818 |
| 15 | 6 | 922,173 | 18,435,197 |
| 16 | 7 | 881,046 | 17,513,024 |
| 17 | 8 | 842,778 | 16,631,978 |
| 18 | 9 | 806,948 | 15,789,200 |
| 19 | 10 | 773,045 | 14,982,252 |
| 20 | 11 | 740,672 | 14,209,207 |
| 21 | 12 | 709,534 | 13,468,535 |
| 22 | 13 | 679,778 | 12,759,001 |
| 23 | 14 | 651,191 | 12,079,223 |
| 24 | 15 | 623,608 | 11,428,032 |
| 25 | 16 | 596,900 | 10,804,424 |
| 26 | 17 | 570,973 | 10,207,524 |
| 27 | 18 | 545,764 | 9,636,551 |
| 28 | 19 | 521,232 | 9,090,787 |
| 29 | 20 | 497,360 | 8,569,555 |
| 30 | 21 | 474,144 | 8,072,195 |
| 31 | 22 | 451,838 | 7,598,051 |
| 32 | 23 | 430,413 | 7,146,213 |
| 33 | 24 | 409,841 | 6,715,800 |
| 34 | 25 | 390,092 | 6,305,959 |
| 35 | 26 | 371,136 | 5,915,867 |
| 36 | 27 | 352,942 | 5,544,731 |
| 37 | 28 | 335,482 | 5,191,789 |
| 38 | 29 | 318,726 | 4,856,307 |
| 39 | 30 | 302,645 | 4,537,581 |
| 40 | 31 | 287,212 | 4,234,936 |
| 41 | 32 | 272,400 | 3,947,724 |
| 42 | 33 | 258,184 | 3,675,324 |
| 43 | 34 | 244,538 | 3,417,140 |
| 44 | 35 | 231,440 | 3,172,602 |
| 45 | 36 | 218,867 | 2,941,162 |
| 46 | 37 | 206,797 | 2,722,295 |
| 47 | 38 | 195,213 | 2,515,498 |
| 48 | 39 | 184,094 | 2,320,285 |
| 49 | 40 | 173,423 | 2,136,191 |
| 50 | 41 | 163,185 | 1,962,768 |
| 51 | 42 | 153,365 | 1,799,583 |
| 52 | 43 | 143,868 | 1,646,218 |
| 53 | 44 | 134,753 | 1,502,350 |
| 54 | 45 | 126,015 | 1,367,597 |
| 55 | 46 | 117,644 | 1,241,582 |
| 56 | 47 | 109,629 | 1,123,938 |
| 57 | 48 | 101,958 | 1,014,309 |
| 58 | 49 | 94,620·5 | 912,350·8 |
| 59 | 50 | 87,603·8 | 817,730·3 |
| 60 | 51 | 80,897·9 | 730,126·5 |
| 61 | 52 | 74,451·3 | 649,228·6 |
| 62 | 53 | 68,295·5 | 574,777·3 |
| 63 | 54 | 62,426·6 | 506,481·8 |
| 64 | 55 | 56,840·5 | 444,055·2 |
| 65 | 56 | 51,533·3 | 387,214·7 |
| 66 | 57 | 46,501·8 | 335,681·4 |
| 67 | 58 | 41,744·1 | 289,179·6 |
| 68 | 59 | 37,259·2 | 247,435·5 |
| 69 | 60 | 33,047·1 | 210,176·3 |
| 70 | 61 | 29,108·8 | 177,129·2 |
| 71 | 62 | 25,445·5 | 148,020·4 |
| 72 | 63 | 22,058·9 | 122,574·9 |
| 73 | 64 | 18,950·0 | 100,516·0 |
| 74 | 65 | 16,118·7 | 81,566·0 |
| 75 | 66 | 13,563·5 | 65,447·3 |
| 76 | 67 | 11,280·9 | 51,883·8 |
| 77 | 68 | 9,264·50 | 40,602·94 |
| 78 | 69 | 7,505·43 | 31,338·44 |
| 79 | 70 | 5,991·62 | 23,833·01 |
| 80 | 71 | 4,708·16 | 17,841·39 |
| 81 | 72 | 3,637·45 | 13,133·23 |
| 82 | 73 | 2,759·70 | 9,495·78 |
| 83 | 74 | 2,053·56 | 6,736·08 |
| 84 | 75 | 1,496·82 | 4,682·52 |
| 85 | 76 | 1,067·26 | 3,185·70 |
| 86 | 77 | 743·369 | 2,118·435 |
| 87 | 78 | 505·070 | 1,375·066 |
| 88 | 79 | 334·246 | 869·996 |
| 89 | 80 | 215·123 | 535·750 |
| 90 | 81 | 134·439 | 320·627 |
| 91 | 82 | 81·4482 | 186·1879 |
| 92 | 83 | 47·7556 | 104·7397 |
| 93 | 84 | 27·0526 | 56·9841 |
| 94 | 85 | 14·7798 | 29·9315 |
| 95 | 86 | 7·7734 | 15·1517 |
| 96 | 87 | 3·9286 | 7·3783 |
| 97 | 88 | 1·9042 | 3·4497 |
| 98 | 89 | ·8834 | 1·5455 |
| 99 | 90 | ·3915 | ·6621 |
| 100 | 91 | ·1654 | ·2706 |
| 101 | 92 | ·0665 | ·1052 |
| 102 | 93 | ·0254 | ·0387 |
| 103 | 94 | ·0092 | ·0133 |
| 104 | 95 | ·0031 | ·0041 |
| 105 | 96 | ·0010 | ·0010 |

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 98 Years.** | |
| 98 | 0 | 264·883 | 541·735 |
| 99 | 1 | 130·906 | 276·852 |
| 100 | 2 | 70·3352 | 145·9458 |
| 101 | 3 | 37·8131 | 75·6106 |
| 102 | 4 | 19·9479 | 37·7975 |
| 103 | 5 | 10·2536 | 17·8496 |
| 104 | 6 | 5·1197 | 7·5960 |
| 105 | 7 | 2·4763 | 2·4763 |

## JOINT LIVES :—Two Males.

### Difference of Age 10 Years.
### Difference of Age 97 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | Difference of Age 10 Years. | |
| 10 | 0 | 1,558,406 | 24,902,754 |
| 11 | 1 | 1,258,386 | 23,344,348 |
| 12 | 2 | 1,137,394 | 22,085,962 |
| 13 | 3 | 1,059,993 | 20,948,568 |
| 14 | 4 | 999,845 | 19,888,575 |
| 15 | 5 | 948,797 | 18,888,730 |
| 16 | 6 | 903,945 | 17,939,933 |
| 17 | 7 | 863,232 | 17,035,988 |
| 18 | 8 | 825,264 | 16,172,756 |
| 19 | 9 | 789,659 | 15,347,492 |
| 20 | 10 | 755,946 | 14,557,833 |
| 21 | 11 | 723,761 | 13,801,887 |
| 22 | 12 | 693,204 | 13,078,126 |
| 23 | 13 | 664,015 | 12,384,922 |
| 24 | 14 | 635,980 | 11,720,907 |
| 25 | 15 | 608,936 | 11,084,927 |
| 26 | 16 | 582,756 | 10,475,991 |
| 27 | 17 | 557,346 | 9,893,235 |
| 28 | 18 | 532,644 | 9,335,889 |
| 29 | 19 | 508,610 | 8,803,245 |
| 30 | 20 | 485,223 | 8,294,635 |
| 31 | 21 | 462,481 | 7,809,412 |
| 32 | 22 | 440,631 | 7,346,931 |
| 33 | 23 | 419,644 | 6,906,300 |
| 34 | 24 | 399,491 | 6,486,656 |
| 35 | 25 | 380,144 | 6,087,165 |
| 36 | 26 | 361,572 | 5,707,021 |
| 37 | 27 | 343,745 | 5,345,449 |
| 38 | 28 | 326,636 | 5,001,704 |
| 39 | 29 | 310,215 | 4,675,068 |
| 40 | 30 | 294,455 | 4,364,853 |
| 41 | 31 | 279,328 | 4,070,398 |
| 42 | 32 | 264,809 | 3,791,070 |
| 43 | 33 | 250,873 | 3,526,261 |
| 44 | 34 | 237,497 | 3,275,388 |
| 45 | 35 | 224,656 | 3,037,891 |
| 46 | 36 | 212,330 | 2,813,235 |
| 47 | 37 | 200,500 | 2,600,905 |
| 48 | 38 | 189,144 | 2,400,405 |
| 49 | 39 | 178,247 | 2,211,261 |
| 50 | 40 | 167,791 | 2,033,014 |
| 51 | 41 | 157,761 | 1,865,223 |
| 52 | 42 | 148,060 | 1,707,462 |
| 53 | 43 | 138,749 | 1,559,402 |
| 54 | 44 | 129,820 | 1,420,653 |
| 55 | 45 | 121,266 | 1,290,833 |
| 56 | 46 | 113,073 | 1,169,567 |
| 57 | 47 | 105,230 | 1,056,494 |
| 58 | 48 | 97,724·1 | 951,263·6 |
| 59 | 49 | 90,544·4 | 853,539·5 |
| 60 | 50 | 83,679·3 | 762,995·1 |
| 61 | 51 | 77,119·1 | 679,315·8 |
| 62 | 52 | 70,815·2 | 602,196·7 |
| 63 | 53 | 64,798·7 | 531,381·5 |
| 64 | 54 | 59,066·9 | 466,582·8 |
| 65 | 55 | 53,616·7 | 407,515·9 |
| 66 | 56 | 48,446·0 | 353,899·2 |
| 67 | 57 | 43,552·9 | 305,453·2 |
| 68 | 58 | 38,936·5 | 261,900·3 |
| 69 | 59 | 34,597·0 | 222,963·8 |
| 70 | 60 | 30,535·1 | 188,366·8 |
| 71 | 61 | 26,752·0 | 157,831·7 |
| 72 | 62 | 23,249·3 | 131,079·7 |
| 73 | 63 | 20,027·9 | 107,830·4 |
| 74 | 64 | 17,087·8 | 87,802·5 |
| 75 | 65 | 14,427·9 | 70,714·7 |
| 76 | 66 | 12,044·7 | 56,286·8 |
| 77 | 67 | 9,932·53 | 44,242·06 |
| 78 | 68 | 8,082·96 | 34,309·53 |
| 79 | 69 | 6,484·54 | 26,226·57 |
| 80 | 70 | 5,122·93 | 19,742·03 |
| 81 | 71 | 3,981·06 | 14,619·10 |
| 82 | 72 | 3,039·57 | 10,638·04 |
| 83 | 73 | 2,277·34 | 7,598·47 |
| 84 | 74 | 1,672·24 | 5,321·13 |
| 85 | 75 | 1,201·84 | 3,648·89 |
| 86 | 76 | 844·280 | 2,447·050 |
| 87 | 77 | 578·899 | 1,602·770 |
| 88 | 78 | 386·868 | 1,023·871 |
| 89 | 79 | 251·602 | 637·003 |
| 90 | 80 | 158·994 | 385·401 |
| 91 | 81 | 97·4690 | 226·4071 |
| 92 | 82 | 57·8706 | 128·9381 |
| 93 | 83 | 33·2215 | 71·0675 |
| 94 | 84 | 18·4073 | 37·8460 |
| 95 | 85 | 9·8265 | 19·4387 |
| 96 | 86 | 5·0447 | 9·6122 |
| 97 | 87 | 2·4860 | 4·5675 |
| 98 | 88 | 1·1736 | 2·0815 |
| 99 | 89 | ·5298 | ·9079 |
| 100 | 90 | ·2282 | ·3781 |
| 101 | 91 | ·0936 | ·1499 |
| 102 | 92 | ·0365 | ·0563 |
| 103 | 93 | ·0135 | ·0198 |
| 104 | 94 | ·0047 | ·0063 |
| 105 | 95 | ·0016 | ·0016 |
| | | Difference of Age 97 Years. | |
| 97 | 0 | 429·765 | 908·648 |
| 98 | 1 | 218·299 | 478·883 |
| 99 | 2 | 120·692 | 260·584 |
| 100 | 3 | 66·8435 | 139·8917 |
| 101 | 4 | 36·3697 | 73·0482 |
| 102 | 5 | 19·3050 | 36·6785 |
| 103 | 6 | 9·9659 | 17·3735 |
| 104 | 7 | 4·9900 | 7·4076 |
| 105 | 8 | 2·4176 | 2·4176 |

## JOINT LIVES:—Two Males.

**Difference of Age 11 Years.**

**Difference of Age 96 Years.**

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
|  |  | **Difference of Age 11 Years.** |  |
| 11 | 0 | 1,526,919 | 24,276,033 |
| 12 | 1 | 1,233,650 | 22,749,114 |
| 13 | 2 | 1,115,364 | 21,515,464 |
| 14 | 3 | 1,039,523 | 20,400,100 |
| 15 | 4 | 980,394 | 19,360,577 |
| 16 | 5 | 930,043 | 18,380,183 |
| 17 | 6 | 885,668 | 17,450,140 |
| 18 | 7 | 845,293 | 16,564,472 |
| 19 | 8 | 807,583 | 15,719,179 |
| 20 | 9 | 772,193 | 14,911,596 |
| 21 | 10 | 738,685 | 14,139,403 |
| 22 | 11 | 707,104 | 13,400,718 |
| 23 | 12 | 677,130 | 12,693,614 |
| 24 | 13 | 648,504 | 12,016,484 |
| 25 | 14 | 621,017 | 11,367,980 |
| 26 | 15 | 594,507 | 10,746,963 |
| 27 | 16 | 568,848 | 10,152,456 |
| 28 | 17 | 543,948 | 9,583,608 |
| 29 | 18 | 519,745 | 9,039,660 |
| 30 | 19 | 496,198 | 8,519,915 |
| 31 | 20 | 473,288 | 8,023,717 |
| 32 | 21 | 451,011 | 7,550,429 |
| 33 | 22 | 429,606 | 7,099,418 |
| 34 | 23 | 409,046 | 6,669,812 |
| 35 | 24 | 389,303 | 6,260,766 |
| 36 | 25 | 370,347 | 5,871,463 |
| 37 | 26 | 352,149 | 5,501,116 |
| 38 | 27 | 334,681 | 5,148,967 |
| 39 | 28 | 317,914 | 4,814,286 |
| 40 | 29 | 301,820 | 4,496,372 |
| 41 | 30 | 286,372 | 4,194,552 |
| 42 | 31 | 271,544 | 3,908,180 |
| 43 | 32 | 257,312 | 3,636,636 |
| 44 | 33 | 243,650 | 3,379,324 |
| 45 | 34 | 230,535 | 3,135,674 |
| 46 | 35 | 217,947 | 2,905,139 |
| 47 | 36 | 205,864 | 2,687,192 |
| 48 | 37 | 194,267 | 2,481,328 |
| 49 | 38 | 183,137 | 2,287,061 |
| 50 | 39 | 172,458 | 2,103,924 |
| 51 | 40 | 162,214 | 1,931,466 |
| 52 | 41 | 152,304 | 1,769,252 |
| 53 | 42 | 142,792 | 1,616,948 |
| 54 | 43 | 133,669 | 1,474,156 |
| 55 | 44 | 124,927 | 1,340,487 |
| 56 | 45 | 116,553 | 1,215,560 |
| 57 | 46 | 108,535 | 1,099,007 |
| 58 | 47 | 100,859 | 990,472 |
| 59 | 48 | 93,514·3 | 889,612·6 |
| 60 | 49 | 86,488·2 | 796,098·3 |
| 61 | 50 | 79,770·6 | 709,610·1 |
| 62 | 51 | 73,352·8 | 629,839·5 |
| 63 | 52 | 67,189·4 | 556,486·7 |
| 64 | 53 | 61,311·3 | 489,297·3 |
| 65 | 54 | 55,716·8 | 427,986·0 |
| 66 | 55 | 50,404·7 | 372,269·2 |
| 67 | 56 | 45,373·8 | 321,864·5 |
| 68 | 57 | 40,623·6 | 276,490·7 |
| 69 | 58 | 36,154·5 | 235,867·1 |
| 70 | 59 | 31,967·1 | 199,712·6 |
| 71 | 60 | 28,062·9 | 167,745·5 |
| 72 | 61 | 24,443·1 | 139,682·6 |
| 73 | 62 | 21,108·6 | 115,239·5 |
| 74 | 63 | 18,059·8 | 94,130·9 |
| 75 | 64 | 15,295·4 | 76,071·1 |
| 76 | 65 | 12,812·2 | 60,775·7 |
| 77 | 66 | 10,605·1 | 47,963·5 |
| 78 | 67 | 8,665·80 | 37,358·38 |
| 79 | 68 | 6,983·52 | 28,692·58 |
| 80 | 69 | 5,544·38 | 21,709·06 |
| 81 | 70 | 4,331·77 | 16,164·68 |
| 82 | 71 | 3,326·70 | 11,832·91 |
| 83 | 72 | 2,508·29 | 8,506·21 |
| 84 | 73 | 1,854·47 | 5,997·92 |
| 85 | 74 | 1,342·69 | 4,143·45 |
| 86 | 75 | 950·744 | 2,800·761 |
| 87 | 76 | 657·483 | 1,850·017 |
| 88 | 77 | 443·419 | 1,192·534 |
| 89 | 78 | 291·212 | 749·115 |
| 90 | 79 | 185·954 | 457·903 |
| 91 | 80 | 115·271 | 271·949 |
| 92 | 81 | 69·2537 | 156·6779 |
| 93 | 82 | 40·2580 | 87·4242 |
| 94 | 83 | 22·6048 | 47·1662 |
| 95 | 84 | 12·2383 | 24·5614 |
| 96 | 85 | 6·3771 | 12·3231 |
| 97 | 86 | 3·1923 | 5·9460 |
| 98 | 87 | 1·5322 | 2·7537 |
| 99 | 88 | ·7038 | 1·2215 |
| 100 | 89 | ·3087 | ·5177 |
| 101 | 90 | ·1291 | ·2090 |
| 102 | 91 | ·0513 | ·0799 |
| 103 | 92 | ·0194 | ·0286 |
| 104 | 93 | ·0069 | ·0092 |
| 105 | 94 | ·0023 | ·0023 |

**Difference of Age 96 Years.**

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 96 | 0 | 679·158 | 1,484·511 |
| 97 | 1 | 354·184 | 805·353 |
| 98 | 2 | 201·267 | 451·169 |
| 99 | 3 | 114·700 | 249·902 |
| 100 | 4 | 64·2921 | 135·2022 |
| 101 | 5 | 35·1976 | 70·9101 |
| 102 | 6 | 18·7633 | 35·7125 |
| 103 | 7 | 9·7134 | 16·9492 |
| 104 | 8 | 4·8718 | 7·2358 |
| 105 | 9 | 2·3640 | 2·3640 |

## JOINT LIVES :—TWO MALES.

### Difference of Age 12 Years.

### Difference of Age 95 Years.

#### Difference of Age 12 Years.

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 12 | 0 | 1,496,904 | 23,658,115 |
| 13 | 1 | 1,209,755 | 22,161,211 |
| 14 | 2 | 1,093,825 | 20,951,456 |
| 15 | 3 | 1,019,301 | 19,857,631 |
| 16 | 4 | 961,016 | 18,838,330 |
| 17 | 5 | 911,239 | 17,877,314 |
| 18 | 6 | 867,263 | 16,966,075 |
| 19 | 7 | 827,182 | 16,098,812 |
| 20 | 8 | 789,720 | 15,271,630 |
| 21 | 9 | 754,562 | 14,481,910 |
| 22 | 10 | 721,685 | 13,727,348 |
| 23 | 11 | 690,707 | 13,005,663 |
| 24 | 12 | 661,313 | 12,314,956 |
| 25 | 13 | 633,246 | 11,653,643 |
| 26 | 14 | 606,301 | 11,020,397 |
| 27 | 15 | 580,318 | 10,414,096 |
| 28 | 16 | 555,173 | 9,833,778 |
| 29 | 17 | 530,775 | 9,278,605 |
| 30 | 18 | 507,062 | 8,747,830 |
| 31 | 19 | 483,993 | 8,240,768 |
| 32 | 20 | 461,549 | 7,756,775 |
| 33 | 21 | 439,726 | 7,295,226 |
| 34 | 22 | 418,757 | 6,855,500 |
| 35 | 23 | 398,615 | 6,436,743 |
| 36 | 24 | 379,271 | 6,038,128 |
| 37 | 25 | 360,697 | 5,658,857 |
| 38 | 26 | 342,864 | 5,298,160 |
| 39 | 27 | 325,744 | 4,955,296 |
| 40 | 28 | 309,310 | 4,629,552 |
| 41 | 29 | 293,535 | 4,320,242 |
| 42 | 30 | 278,392 | 4,026,707 |
| 43 | 31 | 263,856 | 3,748,315 |
| 44 | 32 | 249,902 | 3,484,459 |
| 45 | 33 | 236,508 | 3,234,557 |
| 46 | 34 | 223,651 | 2,998,049 |
| 47 | 35 | 211,310 | 2,774,398 |
| 48 | 36 | 199,465 | 2,563,088 |
| 49 | 37 | 188,097 | 2,363,623 |
| 50 | 38 | 177,190 | 2,175,526 |
| 51 | 39 | 166,726 | 1,998,336 |
| 52 | 40 | 156,602 | 1,831,610 |
| 53 | 41 | 146,885 | 1,675,008 |
| 54 | 42 | 137,564 | 1,528,123 |
| 55 | 43 | 128,631 | 1,390,559 |
| 56 | 44 | 120,073 | 1,261,928 |
| 57 | 45 | 111,876 | 1,141,855 |
| 58 | 46 | 104,027 | 1,029,979 |
| 59 | 47 | 96,514·5 | 925,952·3 |
| 60 | 48 | 89,325·1 | 829,437·8 |
| 61 | 49 | 82,448·2 | 740,112·7 |
| 62 | 50 | 75,874·8 | 657,664·5 |
| 63 | 51 | 69,597·0 | 581,789·7 |
| 64 | 52 | 63,573·3 | 512,192·7 |
| 65 | 53 | 57,834·0 | 448,619·4 |
| 66 | 54 | 52,378·9 | 390,785·4 |
| 67 | 55 | 47,208·2 | 338,406·5 |
| 68 | 56 | 42,322·1 | 291,198·3 |
| 69 | 57 | 37,721·0 | 248,876·2 |
| 70 | 58 | 33,406·2 | 211,155·2 |
| 71 | 59 | 29,379·0 | 177,749·0 |
| 72 | 60 | 25,640·8 | 148,370·0 |
| 73 | 61 | 22,192·5 | 122,729·2 |
| 74 | 62 | 19,034·4 | 100,536·7 |
| 75 | 63 | 16,165·4 | 81,502·3 |
| 76 | 64 | 13,582·6 | 65,336·9 |
| 77 | 65 | 11,280·9 | 51,754·3 |
| 78 | 66 | 9,252·56 | 40,473·38 |
| 79 | 67 | 7,487·08 | 31,220·82 |
| 80 | 68 | 5,971·01 | 23,733·74 |
| 81 | 69 | 4,688·14 | 17,762·73 |
| 82 | 70 | 3,619·77 | 13,074·59 |
| 83 | 71 | 2,745·24 | 9,454·82 |
| 84 | 72 | 2,042·53 | 6,709·58 |
| 85 | 73 | 1,489·00 | 4,667·05 |
| 86 | 74 | 1,062·16 | 3,178·05 |
| 87 | 75 | 740·393 | 2,115·893 |
| 88 | 76 | 503·612 | 1,375·500 |
| 89 | 77 | 333·780 | 871·888 |
| 90 | 78 | 215·230 | 538·108 |
| 91 | 79 | 134·817 | 322·878 |
| 92 | 80 | 81·9023 | 188·0610 |
| 93 | 81 | 48·1768 | 106·1587 |
| 94 | 82 | 27·3927 | 57·9819 |
| 95 | 83 | 15·0290 | 30·5892 |
| 96 | 84 | 7·9423 | 15·5602 |
| 97 | 85 | 4·0354 | 7·6179 |
| 98 | 86 | 1·9675 | 3·5825 |
| 99 | 87 | ·9188 | 1·6150 |
| 100 | 88 | ·4101 | ·6962 |
| 101 | 89 | ·1746 | ·2861 |
| 102 | 90 | ·0708 | ·1115 |
| 103 | 91 | ·0273 | ·0407 |
| 104 | 92 | ·0100 | ·0134 |
| 105 | 93 | ·0034 | ·0034 |

#### Difference of Age 95 Years.

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 95 | 0 | 1,046·52 | 2,365·66 |
| 96 | 1 | 559·717 | 1,319·142 |
| 97 | 2 | 326·549 | 759·425 |
| 98 | 3 | 191·275 | 432·876 |
| 99 | 4 | 110·322 | 241·601 |
| 100 | 5 | 62·2200 | 131·2789 |
| 101 | 6 | 34·2099 | 69·0589 |
| 102 | 7 | 18·2879 | 34·8490 |
| 103 | 8 | 9·4833 | 16·5611 |
| 104 | 9 | 4·7636 | 7·0778 |
| 105 | 10 | 2·3142 | 2·3142 |

## JOINT LIVES :—Two Males.

**Difference of Age 13 Years.**

**Difference of Age 94 Years.**

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | Difference of Age 13 Years. | |
| 13 | 0 | 1,467,910 | 23,047,961 |
| 14 | 1 | 1,186,393 | 21,580,051 |
| 15 | 2 | 1,072,546 | 20,393,658 |
| 16 | 3 | 999,153 | 19,321,112 |
| 17 | 4 | 941,585 | 18,321,959 |
| 18 | 5 | 892,302 | 17,380,374 |
| 19 | 6 | 848,682 | 16,488,072 |
| 20 | 7 | 808,886 | 15,639,390 |
| 21 | 8 | 771,689 | 14,830,504 |
| 22 | 9 | 737,196 | 14,058,815 |
| 23 | 10 | 704,950 | 13,321,619 |
| 24 | 11 | 674,573 | 12,616,669 |
| 25 | 12 | 645,754 | 11,942,096 |
| 26 | 13 | 618,240 | 11,296,342 |
| 27 | 14 | 591,832 | 10,678,102 |
| 28 | 15 | 566,368 | 10,086,270 |
| 29 | 16 | 541,729 | 9,519,902 |
| 30 | 17 | 517,823 | 8,978,173 |
| 31 | 18 | 494,590 | 8,460,350 |
| 32 | 19 | 471,989 | 7,965,760 |
| 33 | 20 | 450,001 | 7,493,771 |
| 34 | 21 | 428,621 | 7,043,770 |
| 35 | 22 | 408,077 | 6,615,149 |
| 36 | 23 | 388,342 | 6,207,072 |
| 37 | 24 | 369,387 | 5,818,730 |
| 38 | 25 | 351,185 | 5,449,343 |
| 39 | 26 | 333,708 | 5,098,158 |
| 40 | 27 | 316,929 | 4,764,450 |
| 41 | 28 | 300,820 | 4,447,521 |
| 42 | 29 | 285,355 | 4,146,701 |
| 43 | 30 | 270,510 | 3,861,346 |
| 44 | 31 | 256,258 | 3,590,836 |
| 45 | 32 | 242,578 | 3,334,578 |
| 46 | 33 | 229,445 | 3,092,000 |
| 47 | 34 | 216,840 | 2,862,555 |
| 48 | 35 | 204,741 | 2,645,715 |
| 49 | 36 | 193,130 | 2,440,974 |
| 50 | 37 | 181,988 | 2,247,844 |
| 51 | 38 | 171,300 | 2,065,856 |
| 52 | 39 | 160,958 | 1,894,556 |
| 53 | 40 | 151,030 | 1,733,598 |
| 54 | 41 | 141,508 | 1,582,568 |
| 55 | 42 | 132,379 | 1,441,060 |
| 56 | 43 | 123,633 | 1,308,681 |
| 57 | 44 | 115,254 | 1,185,048 |
| 58 | 45 | 107,230 | 1,069,794 |
| 59 | 46 | 99,546·1 | 962,564·0 |
| 60 | 47 | 92,190·9 | 863,017·9 |
| 61 | 48 | 85,152·6 | 770,827·0 |
| 62 | 49 | 78,421·6 | 685,674·4 |
| 63 | 50 | 71,989·9 | 607,252·8 |
| 64 | 51 | 65,851·3 | 535,262·9 |
| 65 | 52 | 59,967·7 | 469,411·6 |
| 66 | 53 | 54,369·3 | 409,443·9 |
| 67 | 54 | 49,057·3 | 355,074·6 |
| 68 | 55 | 44,033·1 | 306,017·3 |
| 69 | 56 | 39,298·1 | 261,984·2 |
| 70 | 57 | 34,853·7 | 222,686·1 |
| 71 | 58 | 30,701·6 | 187,832·4 |
| 72 | 59 | 26,843·3 | 157,130·8 |
| 73 | 60 | 23,279·9 | 130,287·5 |
| 74 | 61 | 20,011·7 | 107,007·6 |
| 75 | 62 | 17,037·7 | 86,995·9 |
| 76 | 63 | 14,355·2 | 69,958·2 |
| 77 | 64 | 11,959·1 | 55,603·0 |
| 78 | 65 | 9,842·18 | 43,643·92 |
| 79 | 66 | 7,994·03 | 33,801·74 |
| 80 | 67 | 6,401·57 | 25,807·71 |
| 81 | 68 | 5,048·88 | 19,406·14 |
| 82 | 69 | 3,917·55 | 14,357·26 |
| 83 | 70 | 2,987·08 | 10,439·71 |
| 84 | 71 | 2,235·48 | 7,452·63 |
| 85 | 72 | 1,640·01 | 5,217·15 |
| 86 | 73 | 1,177·91 | 3,577·14 |
| 87 | 74 | 827·160 | 2,399·226 |
| 88 | 75 | 567·118 | 1,572·066 |
| 89 | 76 | 379·090 | 1,004·948 |
| 90 | 77 | 246·691 | 625·858 |
| 91 | 78 | 156·042 | 379·167 |
| 92 | 79 | 95·7905 | 223·1254 |
| 93 | 80 | 56·9758 | 127·3349 |
| 94 | 81 | 32·7808 | 70·3591 |
| 95 | 82 | 18·2122 | 37·5783 |
| 96 | 83 | 9·7534 | 19·3661 |
| 97 | 84 | 5·0258 | 9·6127 |
| 98 | 85 | 2·4872 | 4·5869 |
| 99 | 86 | 1·1799 | 2·0997 |
| 100 | 87 | ·5355 | ·9198 |
| 101 | 88 | ·2320 | ·3843 |
| 102 | 89 | ·0958 | ·1523 |
| 103 | 90 | ·0376 | ·0565 |
| 104 | 91 | ·0140 | ·0189 |
| 105 | 92 | ·0049 | ·0049 |
| | | Difference of Age 94 Years. | |
| 94 | 0 | 1,574·04 | 3,681·51 |
| 95 | 1 | 862·469 | 2,107·468 |
| 96 | 2 | 516·045 | 1,244·999 |
| 97 | 3 | 310·338 | 728·954 |
| 98 | 4 | 183·974 | 418·616 |
| 99 | 5 | 106·766 | 234·642 |
| 100 | 6 | 60·4740 | 127·8755 |
| 101 | 7 | 33·3432 | 67·4015 |
| 102 | 8 | 17·8546 | 34·0583 |
| 103 | 9 | 9·2728 | 16·2037 |
| 104 | 10 | 4·6634 | 6·9309 |
| 105 | 11 | 2·2675 | 2·2675 |

## JOINT LIVES:—Two Males.

### Difference of Age 14 Years.

### Difference of Age 93 Years.

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | Difference of Age 14 Years. | |
| 14 | 0 | 1,439,563 | 22,444,899 |
| 15 | 1 | 1,163,313 | 21,005,336 |
| 16 | 2 | 1,051,346 | 19,842,023 |
| 17 | 3 | 978,952 | 18,790,677 |
| 18 | 4 | 922,018 | 17,811,725 |
| 19 | 5 | 873,184 | 16,889,707 |
| 20 | 6 | 829,910 | 16,016,523 |
| 21 | 7 | 790,417 | 15,186,613 |
| 22 | 8 | 753,929 | 14,396,196 |
| 23 | 9 | 720,102 | 13,642,267 |
| 24 | 10 | 688,483 | 12,922,165 |
| 25 | 11 | 658,702 | 12,233,682 |
| 26 | 12 | 630,452 | 11,574,980 |
| 27 | 13 | 603,486 | 10,944,528 |
| 28 | 14 | 577,605 | 10,341,042 |
| 29 | 15 | 552,652 | 9,763,437 |
| 30 | 16 | 528,509 | 9,210,785 |
| 31 | 17 | 505,086 | 8,682,276 |
| 32 | 18 | 482,322 | 8,177,190 |
| 33 | 19 | 460,179 | 7,694,868 |
| 34 | 20 | 438,637 | 7,234,689 |
| 35 | 21 | 417,690 | 6,796,052 |
| 36 | 22 | 397,561 | 6,378,362 |
| 37 | 23 | 378,222 | 5,980,801 |
| 38 | 24 | 359,647 | 5,602,579 |
| 39 | 25 | 341,808 | 5,242,932 |
| 40 | 26 | 324,678 | 4,901,124 |
| 41 | 27 | 308,230 | 4,576,446 |
| 42 | 28 | 292,437 | 4,268,216 |
| 43 | 29 | 277,276 | 3,975,779 |
| 44 | 30 | 262,720 | 3,698,503 |
| 45 | 31 | 248,747 | 3,435,783 |
| 46 | 32 | 235,333 | 3,187,036 |
| 47 | 33 | 222,458 | 2,951,703 |
| 48 | 34 | 210,099 | 2,729,245 |
| 49 | 35 | 198,239 | 2,519,146 |
| 50 | 36 | 186,858 | 2,320,907 |
| 51 | 37 | 175,939 | 2,134,049 |
| 52 | 38 | 165,374 | 1,958,110 |
| 53 | 39 | 155,231 | 1,792,736 |
| 54 | 40 | 145,501 | 1,637,505 |
| 55 | 41 | 136,174 | 1,492,004 |
| 56 | 42 | 127,235 | 1,355,830 |
| 57 | 43 | 118,671 | 1,228,595 |
| 58 | 44 | 110,468 | 1,109,924 |
| 59 | 45 | 102,610 | 999,456 |
| 60 | 46 | 95,086·7 | 896,845·7 |
| 61 | 47 | 87,884·6 | 801,759·0 |
| 62 | 48 | 80,993·9 | 713,874·4 |
| 63 | 49 | 74,406·4 | 632,880·5 |
| 64 | 50 | 68,115·4 | 558,474·1 |
| 65 | 51 | 62,116·5 | 490,358·7 |
| 66 | 52 | 56,375·2 | 428,242·2 |
| 67 | 53 | 50,921·4 | 371,867·0 |
| 68 | 54 | 45,757·9 | 320,945·6 |
| 69 | 55 | 40,886·9 | 275,187·7 |
| 70 | 56 | 36,310·9 | 234,300·8 |
| 71 | 57 | 32,031·9 | 197,989·9 |
| 72 | 58 | 28,051·7 | 165,958·0 |
| 73 | 59 | 24,371·7 | 137,906·3 |
| 74 | 60 | 20,992·3 | 113,534·6 |
| 75 | 61 | 17,912·5 | 92,542·3 |
| 76 | 62 | 15,129·8 | 74,629·8 |
| 77 | 63 | 12,639·4 | 59,500·0 |
| 78 | 64 | 10,434·0 | 46,860·6 |
| 79 | 65 | 8,503·45 | 36,426·60 |
| 80 | 66 | 6,835·01 | 27,923·15 |
| 81 | 67 | 5,412·95 | 21,088·14 |
| 82 | 68 | 4,219·01 | 15,675·19 |
| 83 | 69 | 3,232·82 | 11,456·18 |
| 84 | 70 | 2,432·41 | 8,223·36 |
| 85 | 71 | 1,794·93 | 5,790·95 |
| 86 | 72 | 1,297·37 | 3,996·02 |
| 87 | 73 | 917·299 | 2,698·649 |
| 88 | 74 | 633·579 | 1,781·350 |
| 89 | 75 | 426·894 | 1,147·771 |
| 90 | 76 | 280·179 | 720·877 |
| 91 | 77 | 178·852 | 440·698 |
| 92 | 78 | 110·871 | 261·846 |
| 93 | 79 | 66·6372 | 150·9748 |
| 94 | 80 | 38·7679 | 84·3376 |
| 95 | 81 | 21·7946 | 45·5697 |
| 96 | 82 | 11·8192 | 23·7751 |
| 97 | 83 | 6·1718 | 11·9559 |
| 98 | 84 | 3·0976 | 5·7841 |
| 99 | 85 | 1·4915 | 2·6865 |
| 100 | 86 | ·6876 | 1·1950 |
| 101 | 87 | ·3029 | ·5074 |
| 102 | 88 | ·1273 | ·2045 |
| 103 | 89 | ·0509 | ·0772 |
| 104 | 90 | ·0193 | ·0263 |
| 105 | 91 | ·0070 | ·0070 |

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | Difference of Age 93 Years. | |
| 93 | 0 | 2,313·32 | 5,601·27 |
| 94 | 1 | 1,297·22 | 3,287·95 |
| 95 | 2 | 795·175 | 1,990·733 |
| 96 | 3 | 490·427 | 1,195·558 |
| 97 | 4 | 298·492 | 705·131 |
| 98 | 5 | 178·045 | 406·639 |
| 99 | 6 | 103·770 | 228·594 |
| 100 | 7 | 58·9421 | 124·8235 |
| 101 | 8 | 32·5532 | 65·8814 |
| 102 | 9 | 17·4584 | 33·3282 |
| 103 | 10 | 9·0777 | 15·8698 |
| 104 | 11 | 4·5692 | 6·7921 |
| 105 | 12 | 2·2229 | 2·2229 |

## JOINT LIVES:—Two Males.

### Difference of Age 15 Years.

### Difference of Age 92 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 15 Years.** | |
| 15 | 0 | 1,411,558 | 21,848,556 |
| 16 | 1 | 1,140,319 | 20,436,998 |
| 17 | 2 | 1,030,089 | 19,296,679 |
| 18 | 3 | 958,608 | 18,266,590 |
| 19 | 4 | 902,264 | 17,307,982 |
| 20 | 5 | 853,871 | 16,405,718 |
| 21 | 6 | 810,961 | 15,551,847 |
| 22 | 7 | 772,226 | 14,740,886 |
| 23 | 8 | 736,447 | 13,968,660 |
| 24 | 9 | 703,280 | 13,232,213 |
| 25 | 10 | 672,285 | 12,528,933 |
| 26 | 11 | 643,093 | 11,856,648 |
| 27 | 12 | 615,406 | 11,213,555 |
| 28 | 13 | 588,979 | 10,598,149 |
| 29 | 14 | 563,617 | 10,009,170 |
| 30 | 15 | 539,166 | 9,445,553 |
| 31 | 16 | 515,509 | 8,906,387 |
| 32 | 17 | 492,559 | 8,390,878 |
| 33 | 18 | 470,254 | 7,898,319 |
| 34 | 19 | 448,558 | 7,428,065 |
| 35 | 20 | 427,450 | 6,979,507 |
| 36 | 21 | 406,926 | 6,552,057 |
| 37 | 22 | 387,201 | 6,145,131 |
| 38 | 23 | 368,249 | 5,757,930 |
| 39 | 24 | 350,044 | 5,389,681 |
| 40 | 25 | 332,558 | 5,039,637 |
| 41 | 26 | 315,766 | 4,707,079 |
| 42 | 27 | 299,640 | 4,391,313 |
| 43 | 28 | 284,157 | 4,091,673 |
| 44 | 29 | 269,292 | 3,807,516 |
| 45 | 30 | 255,020 | 3,538,224 |
| 46 | 31 | 241,319 | 3,283,204 |
| 47 | 32 | 228,167 | 3,041,885 |
| 48 | 33 | 215,542 | 2,813,718 |
| 49 | 34 | 203,427 | 2,598,176 |
| 50 | 35 | 191,801 | 2,394,749 |
| 51 | 36 | 180,647 | 2,202,948 |
| 52 | 37 | 169,853 | 2,022,301 |
| 53 | 38 | 159,490 | 1,852,448 |
| 54 | 39 | 149,549 | 1,692,958 |
| 55 | 40 | 140,017 | 1,543,409 |
| 56 | 41 | 130,882 | 1,403,392 |
| 57 | 42 | 122,129 | 1,272,510 |
| 58 | 43 | 113,743 | 1,150,381 |
| 59 | 44 | 105,709 | 1,036,638 |
| 60 | 45 | 98,013·7 | 930,929·1 |
| 61 | 46 | 90,645·1 | 832,915·4 |
| 62 | 47 | 83,592·5 | 742,270·3 |
| 63 | 48 | 76,847·0 | 658,677·8 |
| 64 | 49 | 70,401·8 | 581,830·8 |
| 65 | 50 | 64,252·2 | 511,429·0 |
| 66 | 51 | 58,395·3 | 447,176·8 |
| 67 | 52 | 52,800·1 | 388,781·5 |
| 68 | 53 | 47,496·6 | 335,981·4 |
| 69 | 54 | 42,488·4 | 288,484·8 |
| 70 | 55 | 37,778·9 | 245,996·4 |
| 71 | 56 | 33,371·1 | 208,217·5 |
| 72 | 57 | 29,267·2 | 174,846·4 |
| 73 | 58 | 25,468·9 | 145,579·2 |
| 74 | 59 | 21,976·8 | 120,110·3 |
| 75 | 60 | 18,790·2 | 98,133·5 |
| 76 | 61 | 15,906·7 | 79,343·3 |
| 77 | 62 | 13,321·5 | 63,436·6 |
| 78 | 63 | 11,027·4 | 50,115·1 |
| 79 | 64 | 9,014·73 | 39,087·70 |
| 80 | 65 | 7,270·58 | 30,072·97 |
| 81 | 66 | 5,779·45 | 22,802·39 |
| 82 | 67 | 4,523·23 | 17,022·94 |
| 83 | 68 | 3,481·58 | 12,499·71 |
| 84 | 69 | 2,632·52 | 9,018·13 |
| 85 | 70 | 1,953·05 | 6,385·61 |
| 86 | 71 | 1,419·92 | 4,432·56 |
| 87 | 72 | 1,010·32 | 3,012·64 |
| 88 | 73 | 702·623 | 2,002·320 |
| 89 | 74 | 476·922 | 1,299·697 |
| 90 | 75 | 315·510 | 822·775 |
| 91 | 76 | 203·130 | 507·265 |
| 92 | 77 | 127·078 | 304·135 |
| 93 | 78 | 77·1281 | 177·0572 |
| 94 | 79 | 45·3418 | 99·9291 |
| 95 | 80 | 25·7751 | 54·5873 |
| 96 | 81 | 14·1440 | 28·8122 |
| 97 | 82 | 7·4791 | 14·6682 |
| 98 | 83 | 3·8040 | 7·1891 |
| 99 | 84 | 1·8575 | 3·3851 |
| 100 | 85 | ·8692 | 1·5276 |
| 101 | 86 | ·3890 | ·6584 |
| 102 | 87 | ·1661 | ·2694 |
| 103 | 88 | ·0676 | ·1033 |
| 104 | 89 | ·0261 | ·0357 |
| 105 | 90 | ·0096 | ·0096 |

**Difference of Age 92 Years.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 92 | 0 | 3,325·37 | 8,340·35 |
| 93 | 1 | 1,906·48 | 5,014·98 |
| 94 | 2 | 1,196·01 | 3,108·50 |
| 95 | 3 | 755·700 | 1,912·492 |
| 96 | 4 | 471·708 | 1,156·792 |
| 97 | 5 | 288·872 | 685·084 |
| 98 | 6 | 173·049 | 396·212 |
| 99 | 7 | 101·142 | 223·163 |
| 100 | 8 | 57·5455 | 122·0207 |
| 101 | 9 | 31·8307 | 64·4752 |
| 102 | 10 | 17·0910 | 32·6445 |
| 103 | 11 | 8·8943 | 15·5535 |
| 104 | 12 | 4·4794 | 6·6592 |
| 105 | 13 | 2·1798 | 2·1798 |

## JOINT LIVES:—TWO MALES.

**Difference of Age 16 Years.**

**Difference of Age 91 Years.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 16 Years.** | |
| 16 | 0 | 1,383,657 | 21,258,800 |
| 17 | 1 | 1,117,264 | 19,875,143 |
| 18 | 2 | 1,008,682 | 18,757,879 |
| 19 | 3 | 938,070 | 17,749,197 |
| 20 | 4 | 882,307 | 16,811,127 |
| 21 | 5 | 834,374 | 15,928,820 |
| 22 | 6 | 792,297 | 15,094,446 |
| 23 | 7 | 754,320 | 14,302,149 |
| 24 | 8 | 719,244 | 13,547,829 |
| 25 | 9 | 686,734 | 12,828,585 |
| 26 | 10 | 656,354 | 12,141,851 |
| 27 | 11 | 627,745 | 11,485,497 |
| 28 | 12 | 600,612 | 10,857,752 |
| 29 | 13 | 574,715 | 10,257,140 |
| 30 | 14 | 549,863 | 9,682,425 |
| 31 | 15 | 525,904 | 9,132,562 |
| 32 | 16 | 502,723 | 8,606,658 |
| 33 | 17 | 480,234 | 8,103,935 |
| 34 | 18 | 458,379 | 7,623,701 |
| 35 | 19 | 437,118 | 7,165,322 |
| 36 | 20 | 416,434 | 6,728,204 |
| 37 | 21 | 396,322 | 6,311,770 |
| 38 | 22 | 376,991 | 5,915,448 |
| 39 | 23 | 358,416 | 5,538,457 |
| 40 | 24 | 340,571 | 5,180,041 |
| 41 | 25 | 323,429 | 4,839,470 |
| 42 | 26 | 306,966 | 4,516,041 |
| 43 | 27 | 291,157 | 4,209,075 |
| 44 | 28 | 275,975 | 3,917,918 |
| 45 | 29 | 261,399 | 3,641,943 |
| 46 | 30 | 247,404 | 3,380,544 |
| 47 | 31 | 233,970 | 3,133,140 |
| 48 | 32 | 221,074 | 2,899,170 |
| 49 | 33 | 208,697 | 2,678,096 |
| 50 | 34 | 196,820 | 2,469,399 |
| 51 | 35 | 185,425 | 2,272,579 |
| 52 | 36 | 174,398 | 2,087,154 |
| 53 | 37 | 163,809 | 1,912,756 |
| 54 | 38 | 153,651 | 1,748,947 |
| 55 | 39 | 143,912 | 1,595,296 |
| 56 | 40 | 134,576 | 1,451,384 |
| 57 | 41 | 125,630 | 1,316,808 |
| 58 | 42 | 117,057 | 1,191,178 |
| 59 | 43 | 108,843 | 1,074,121 |
| 60 | 44 | 100,973 | 965,278 |
| 61 | 45 | 93,435·4 | 864,305·4 |
| 62 | 46 | 86,218·2 | 770,870·0 |
| 63 | 47 | 79,312·5 | 684,651·8 |
| 64 | 48 | 72,711·1 | 605,339·3 |
| 65 | 49 | 66,408·9 | 532,628·2 |
| 66 | 50 | 60,403·0 | 466,219·3 |
| 67 | 51 | 54,692·1 | 405,816·3 |
| 68 | 52 | 49,248·9 | 351,124·2 |
| 69 | 53 | 44,102·9 | 301,875·3 |
| 70 | 54 | 39,258·7 | 257,772·4 |
| 71 | 55 | 34,720·3 | 218,513·7 |
| 72 | 56 | 30,490·8 | 183,793·4 |
| 73 | 57 | 26,572·4 | 153,302·6 |
| 74 | 58 | 22,966·1 | 126,730·2 |
| 75 | 59 | 19,671·5 | 103,764·1 |
| 76 | 60 | 16,686·1 | 84,092·6 |
| 77 | 61 | 14,005·5 | 67,406·5 |
| 78 | 62 | 11,622·5 | 53,401·0 |
| 79 | 63 | 9,527·50 | 41,778·54 |
| 80 | 64 | 7,707·73 | 32,251·04 |
| 81 | 65 | 6,147·75 | 24,543·31 |
| 82 | 66 | 4,829·49 | 18,395·56 |
| 83 | 67 | 3,732·63 | 13,566·07 |
| 84 | 68 | 2,835·09 | 9,833·44 |
| 85 | 69 | 2,113·73 | 6,998·35 |
| 86 | 70 | 1,545·01 | 4,884·62 |
| 87 | 71 | 1,105·76 | 3,339·61 |
| 88 | 72 | 773·878 | 2,233·849 |
| 89 | 73 | 528·894 | 1,459·971 |
| 90 | 74 | 352·484 | 931·077 |
| 91 | 75 | 228·745 | 578·593 |
| 92 | 76 | 144·328 | 349·848 |
| 93 | 77 | 88·4024 | 205·5201 |
| 94 | 78 | 52·4801 | 117·1177 |
| 95 | 79 | 30·1459 | 64·6376 |
| 96 | 80 | 16·7273 | 34·4917 |
| 97 | 81 | 8·9502 | 17·7644 |
| 98 | 82 | 4·6097 | 8·8142 |
| 99 | 83 | 2·2811 | 4·2045 |
| 100 | 84 | 1·0825 | 1·9234 |
| 101 | 85 | ·4917 | ·8409 |
| 102 | 86 | ·2133 | ·3492 |
| 103 | 87 | ·0882 | ·1359 |
| 104 | 88 | ·0347 | ·0477 |
| 105 | 89 | ·0130 | ·0130 |

**Difference of Age 91 Years.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 91 | 0 | 4,680·19 | 12,166·06 |
| 92 | 1 | 2,740·55 | 7,485·87 |
| 93 | 2 | 1,757·73 | 4,745·32 |
| 94 | 3 | 1,136·63 | 2,987·59 |
| 95 | 4 | 726·855 | 1,850·961 |
| 96 | 5 | 456·505 | 1,124·106 |
| 97 | 6 | 280·766 | 667·601 |
| 98 | 7 | 168·665 | 386·835 |
| 99 | 8 | 98·7452 | 218·1700 |
| 100 | 9 | 56·2683 | 119·4248 |
| 101 | 10 | 31·1610 | 63·1565 |
| 102 | 11 | 16·7457 | 31·9955 |
| 103 | 12 | 8·7195 | 15·2498 |
| 104 | 13 | 4·3926 | 6·5303 |
| 105 | 14 | 2·1377 | 2·1377 |

## JOINT LIVES:—Two Males.

**Difference of Age 17 Years.**

**Difference of Age 90 Years.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 17 Years.** | |
| 17 | 0 | 1,355,682 | 20,675,736 |
| 18 | 1 | 1,094,045 | 19,320,054 |
| 19 | 2 | 987,071 | 18,226,009 |
| 20 | 3 | 917,321 | 17,238,938 |
| 21 | 4 | 862,161 | 16,321,617 |
| 22 | 5 | 815,172 | 15,459,456 |
| 23 | 6 | 773,925 | 14,644,284 |
| 24 | 7 | 736,699 | 13,870,359 |
| 25 | 8 | 702,321 | 13,133,660 |
| 26 | 9 | 670,461 | 12,431,339 |
| 27 | 10 | 640,690 | 11,760,878 |
| 28 | 11 | 612,655 | 11,120,188 |
| 29 | 12 | 586,067 | 10,507,533 |
| 30 | 13 | 560,691 | 9,921,466 |
| 31 | 14 | 536,338 | 9,360,775 |
| 32 | 15 | 512,860 | 8,824,437 |
| 33 | 16 | 490,144 | 8,311,577 |
| 34 | 17 | 468,107 | 7,821,433 |
| 35 | 18 | 446,689 | 7,353,326 |
| 36 | 19 | 425,854 | 6,906,637 |
| 37 | 20 | 405,583 | 6,480,783 |
| 38 | 21 | 385,872 | 6,075,200 |
| 39 | 22 | 366,925 | 5,689,328 |
| 40 | 23 | 348,717 | 5,322,403 |
| 41 | 24 | 331,222 | 4,973,686 |
| 42 | 25 | 314,417 | 4,642,464 |
| 43 | 26 | 298,275 | 4,328,047 |
| 44 | 27 | 282,773 | 4,029,772 |
| 45 | 28 | 267,886 | 3,746,999 |
| 46 | 29 | 253,593 | 3,479,113 |
| 47 | 30 | 239,870 | 3,225,520 |
| 48 | 31 | 226,697 | 2,985,650 |
| 49 | 32 | 214,053 | 2,758,953 |
| 50 | 33 | 201,919 | 2,544,900 |
| 51 | 34 | 190,278 | 2,342,981 |
| 52 | 35 | 179,011 | 2,152,703 |
| 53 | 36 | 168,192 | 1,973,692 |
| 54 | 37 | 157,813 | 1,805,500 |
| 55 | 38 | 147,860 | 1,647,687 |
| 56 | 39 | 138,319 | 1,499,827 |
| 57 | 40 | 129,176 | 1,361,508 |
| 58 | 41 | 120,412 | 1,232,332 |
| 59 | 42 | 112,014 | 1,111,920 |
| 60 | 43 | 103,967 | 999,906 |
| 61 | 44 | 96,256·7 | 895,939·4 |
| 62 | 45 | 88,872·2 | 799,682·7 |
| 63 | 46 | 81,803·7 | 710,810·5 |
| 64 | 47 | 75,043·9 | 629,006·8 |
| 65 | 48 | 68,587·2 | 553,962·9 |
| 66 | 49 | 62,430·5 | 485,375·7 |
| 67 | 50 | 56,572·5 | 422,945·2 |
| 68 | 51 | 51,013·6 | 366,372·7 |
| 69 | 52 | 45,730·0 | 315,359·1 |
| 70 | 53 | 40,750·4 | 269,629·1 |
| 71 | 54 | 36,080·2 | 228,878·7 |

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 17 Years.** | |
| 72 | 55 | 31,723·5 | 192,798·5 |
| 73 | 56 | 27,683·4 | 161,075·0 |
| 74 | 57 | 23,961·2 | 133,391·6 |
| 75 | 58 | 20,557·0 | 109,430·4 |
| 76 | 59 | 17,468·7 | 88,873·4 |
| 77 | 60 | 14,691·7 | 71,404·7 |
| 78 | 61 | 12,219·3 | 56,713·0 |
| 79 | 62 | 10,041·6 | 44,493·7 |
| 80 | 63 | 8,146·15 | 34,452·09 |
| 81 | 64 | 6,517·39 | 26,305·94 |
| 82 | 65 | 5,137·26 | 19,788·55 |
| 83 | 66 | 3,985·36 | 14,651·29 |
| 84 | 67 | 3,039·52 | 10,665·93 |
| 85 | 68 | 2,276·38 | 7,626·41 |
| 86 | 69 | 1,672·11 | 5,350·03 |
| 87 | 70 | 1,203·17 | 3,677·92 |
| 88 | 71 | 846·981 | 2,474·751 |
| 89 | 72 | 582·531 | 1,627·770 |
| 90 | 73 | 390·896 | 1,045·239 |
| 91 | 74 | 255·552 | 654·343 |
| 92 | 75 | 162·528 | 398·791 |
| 93 | 76 | 100·403 | 236·263 |
| 94 | 77 | 60·1515 | 135·8599 |
| 95 | 78 | 34·8918 | 75·7084 |
| 96 | 79 | 19·5638 | 40·8166 |
| 97 | 80 | 10·5849 | 21·2528 |
| 98 | 81 | 5·5164 | 10·6679 |
| 99 | 82 | 2·7643 | 5·1515 |
| 100 | 83 | 1·3293 | 2·3872 |
| 101 | 84 | ·6124 | 1·0579 |
| 102 | 85 | ·2697 | ·4455 |
| 103 | 86 | ·1133 | ·1758 |
| 104 | 87 | ·0453 | ·0625 |
| 105 | 88 | ·0172 | ·0172 |

**Difference of Age 90 Years.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 90 | 0 | 6,455·41 | 17,401·95 |
| 91 | 1 | 3,857·11 | 10,946·54 |
| 92 | 2 | 2,526·72 | 7,089·43 |
| 93 | 3 | 1,670·47 | 4,562·71 |
| 94 | 4 | 1,093·25 | 2,892·24 |
| 95 | 5 | 703·429 | 1,798·985 |
| 96 | 6 | 443·695 | 1,095·556 |
| 97 | 7 | 273·653 | 651·861 |
| 98 | 8 | 164·668 | 378·208 |
| 99 | 9 | 96·5536 | 213·5404 |
| 100 | 10 | 55·0844 | 116·9868 |
| 101 | 11 | 30·5314 | 61·9024 |
| 102 | 12 | 16·4165 | 31·3710 |
| 103 | 13 | 8·5506 | 14·9545 |
| 104 | 14 | 4·3078 | 6·4039 |
| 105 | 15 | 2·0961 | 2·0961 |

## JOINT LIVES:—TWO MALES.

### Difference of Age 18 Years.
### Difference of Age 89 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 18 Years.** | |
| 18 | 0 | 1,327,509 | 20,099,601 |
| 19 | 1 | 1,070,605 | 18,772,092 |
| 20 | 2 | 965,238 | 17,701,487 |
| 21 | 3 | 896,376 | 16,736,249 |
| 22 | 4 | 842,319 | 15,839,873 |
| 23 | 5 | 796,269 | 14,997,554 |
| 24 | 6 | 755,847 | 14,201,285 |
| 25 | 7 | 719,366 | 13,445,438 |
| 26 | 8 | 685,679 | 12,726,072 |
| 27 | 9 | 654,460 | 12,040,393 |
| 28 | 10 | 625,289 | 11,385,933 |
| 29 | 11 | 597,818 | 10,760,644 |
| 30 | 12 | 571,765 | 10,162,826 |
| 31 | 13 | 546,899 | 9,591,061 |
| 32 | 14 | 523,035 | 9,044,162 |
| 33 | 15 | 500,028 | 8,521,127 |
| 34 | 16 | 477,766 | 8,021,099 |
| 35 | 17 | 456,169 | 7,543,333 |
| 36 | 18 | 435,177 | 7,087,164 |
| 37 | 19 | 414,756 | 6,651,987 |
| 38 | 20 | 394,888 | 6,237,231 |
| 39 | 21 | 375,568 | 5,842,343 |
| 40 | 22 | 356,995 | 5,466,775 |
| 41 | 23 | 339,145 | 5,109,780 |
| 42 | 24 | 321,993 | 4,770,635 |
| 43 | 25 | 305,514 | 4,448,642 |
| 44 | 26 | 289,686 | 4,143,128 |
| 45 | 27 | 274,485 | 3,853,442 |
| 46 | 28 | 259,886 | 3,578,957 |
| 47 | 29 | 245,870 | 3,319,071 |
| 48 | 30 | 232,413 | 3,073,201 |
| 49 | 31 | 219,497 | 2,840,788 |
| 50 | 32 | 207,101 | 2,621,291 |
| 51 | 33 | 195,208 | 2,414,190 |
| 52 | 34 | 183,696 | 2,218,982 |
| 53 | 35 | 172,641 | 2,035,286 |
| 54 | 36 | 162,035 | 1,862,645 |
| 55 | 37 | 151,864 | 1,700,610 |
| 56 | 38 | 142,114 | 1,548,746 |
| 57 | 39 | 132,769 | 1,406,632 |
| 58 | 40 | 123,811 | 1,273,863 |
| 59 | 41 | 115,225 | 1,150,052 |
| 60 | 42 | 106,996 | 1,034,827 |
| 61 | 43 | 99,110·5 | 927,830·5 |
| 62 | 44 | 91,555·7 | 828,720·0 |
| 63 | 45 | 84,321·8 | 737,164·3 |
| 64 | 46 | 77,401·1 | 652,842·5 |
| 65 | 47 | 70,787·7 | 575,441·4 |
| 66 | 48 | 64,478·3 | 504,653·7 |
| 67 | 49 | 58,471·5 | 440,175·4 |
| 68 | 50 | 52,767·6 | 381,703·9 |
| 69 | 51 | 47,368·7 | 328,936·3 |
| 70 | 52 | 42,253·9 | 281,567·6 |
| 71 | 53 | 37,451·2 | 239,313·7 |
| 72 | 54 | 32,966·1 | 201,862·5 |
| 73 | 55 | 28,802·6 | 168,896·4 |
| 74 | 56 | 24,963·0 | 140,093·8 |
| 75 | 57 | 21,447·8 | 115,130·8 |
| 76 | 58 | 18,255·1 | 93,683·0 |
| 77 | 59 | 15,380·8 | 75,427·9 |
| 78 | 60 | 12,818·0 | 60,047·1 |
| 79 | 61 | 10,557·2 | 47,229·1 |
| 80 | 62 | 8,585·75 | 36,671·93 |
| 81 | 63 | 6,888·11 | 28,086·18 |
| 82 | 64 | 5,446·14 | 21,198·07 |
| 83 | 65 | 4,239·33 | 15,751·93 |
| 84 | 66 | 3,245·32 | 11,512·60 |
| 85 | 67 | 2,440·52 | 8,267·28 |
| 86 | 68 | 1,800·78 | 5,826·76 |
| 87 | 69 | 1,302·16 | 4,025·98 |
| 88 | 70 | 921·595 | 2,723·819 |
| 89 | 71 | 637·559 | 1,802·224 |
| 90 | 72 | 430·538 | 1,164·665 |
| 91 | 73 | 283·401 | 734·127 |
| 92 | 74 | 181·575 | 450·726 |
| 93 | 75 | 113·064 | 269·151 |
| 94 | 76 | 68·3169 | 156·0873 |
| 95 | 77 | 39·9922 | 87·7704 |
| 96 | 78 | 22·6438 | 47·7782 |
| 97 | 79 | 12·3798 | 25·1344 |
| 98 | 80 | 6·5239 | 12·7546 |
| 99 | 81 | 3·3080 | 6·2307 |
| 100 | 82 | 1·6109 | 2·9227 |
| 101 | 83 | ·7520 | 1·3118 |
| 102 | 84 | ·3359 | ·5598 |
| 103 | 85 | ·1432 | ·2239 |
| 104 | 86 | ·0582 | ·0807 |
| 105 | 87 | ·0225 | ·0225 |
| | | **Difference of Age 89 Years.** | |
| 89 | 0 | 8,734·37 | 24,430·18 |
| 90 | 1 | 5,320·13 | 15,695·81 |
| 91 | 2 | 3,556·15 | 10,375·68 |
| 92 | 3 | 2,401·29 | 6,819·53 |
| 93 | 4 | 1,606·71 | 4,418·24 |
| 94 | 5 | 1,058·01 | 2,811·53 |
| 95 | 6 | 683·690 | 1,753·516 |
| 96 | 7 | 432·455 | 1,069·826 |
| 97 | 8 | 267·169 | 637·371 |
| 98 | 9 | 161·014 | 370·202 |
| 99 | 10 | 94·5221 | 209·1876 |
| 100 | 11 | 53·9715 | 114·6655 |
| 101 | 12 | 29·9312 | 60·6940 |
| 102 | 13 | 16·0986 | 30·7628 |
| 103 | 14 | 8·3855 | 14·6642 |
| 104 | 15 | 4·2240 | 6·2787 |
| 105 | 16 | 2·0547 | 2·0547 |

## JOINT LIVES:—Two Males.

**Difference of Age 19 Years.**

**Difference of Age 88 Years.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 19 Years.** | |
| 19 | 0 | 1,299,067 | 19,530,787 |
| 20 | 1 | 1,046,925 | 18,231,720 |
| 21 | 2 | 943,199 | 17,184,795 |
| 22 | 3 | 875,747 | 16,241,596 |
| 23 | 4 | 822,787 | 15,365,849 |
| 24 | 5 | 777,669 | 14,543,062 |
| 25 | 6 | 738,063 | 13,765,393 |
| 26 | 7 | 702,320 | 13,027,330 |
| 27 | 8 | 669,315 | 12,325,010 |
| 28 | 9 | 638,728 | 11,655,695 |
| 29 | 10 | 610,146 | 11,016,967 |
| 30 | 11 | 583,230 | 10,406,821 |
| 31 | 12 | 557,702 | 9,823,591 |
| 32 | 13 | 533,335 | 9,265,889 |
| 33 | 14 | 509,948 | 8,732,554 |
| 34 | 15 | 487,401 | 8,222,606 |
| 35 | 16 | 465,582 | 7,735,205 |
| 36 | 17 | 444,413 | 7,269,623 |
| 37 | 18 | 423,837 | 6,825,210 |
| 38 | 19 | 403,820 | 6,401,373 |
| 39 | 20 | 384,343 | 5,997,553 |
| 40 | 21 | 365,404 | 5,613,210 |
| 41 | 22 | 347,196 | 5,247,806 |
| 42 | 23 | 329,694 | 4,900,610 |
| 43 | 24 | 312,876 | 4,570,916 |
| 44 | 25 | 296,717 | 4,258,040 |
| 45 | 26 | 281,195 | 3,961,323 |
| 46 | 27 | 266,288 | 3,680,128 |
| 47 | 28 | 251,972 | 3,413,840 |
| 48 | 29 | 238,227 | 3,161,868 |
| 49 | 30 | 225,032 | 2,923,641 |
| 50 | 31 | 212,368 | 2,698,609 |
| 51 | 32 | 200,217 | 2,486,241 |
| 52 | 33 | 188,455 | 2,286,024 |
| 53 | 34 | 177,159 | 2,097,569 |
| 54 | 35 | 166,321 | 1,920,410 |
| 55 | 36 | 155,928 | 1,754,089 |
| 56 | 37 | 145,963 | 1,598,161 |
| 57 | 38 | 136,411 | 1,452,198 |
| 58 | 39 | 127,255 | 1,315,787 |
| 59 | 40 | 118,477 | 1,188,532 |
| 60 | 41 | 110,063 | 1,070,055 |
| 61 | 42 | 101,999 | 959,992 |
| 62 | 43 | 94,270·2 | 857,992·9 |
| 63 | 44 | 86,868·0 | 763,722·7 |
| 64 | 45 | 79,783·7 | 676,854·7 |
| 65 | 46 | 73,011·2 | 597,071·0 |
| 66 | 47 | 66,546·9 | 524,059·8 |
| 67 | 48 | 60,389·4 | 457,512·9 |
| 68 | 49 | 54,538·8 | 397,123·5 |
| 69 | 50 | 48,997·3 | 342,584·7 |
| 70 | 51 | 43,768·0 | 293,587·4 |
| 71 | 52 | 38,832·9 | 249,819·4 |
| 72 | 53 | 34,218·7 | 210,986·5 |
| 73 | 54 | 29,930·8 | 176,767·8 |
| 74 | 55 | 25,972·3 | 146,837·0 |
| 75 | 56 | 22,344·5 | 120,864·7 |
| 76 | 57 | 19,046·0 | 98,520·2 |
| 77 | 58 | 16,073·2 | 79,474·2 |
| 78 | 59 | 13,419·2 | 63,401·0 |
| 79 | 60 | 11,074·5 | 49,981·8 |
| 80 | 61 | 9,026·59 | 38,907·30 |
| 81 | 62 | 7,259·82 | 29,880·71 |
| 82 | 63 | 5,755·92 | 22,620·89 |
| 83 | 64 | 4,494·22 | 16,864·97 |
| 84 | 65 | 3,452·13 | 12,370·75 |
| 85 | 66 | 2,605·76 | 8,918·62 |
| 86 | 67 | 1,930·63 | 6,312·86 |
| 87 | 68 | 1,402·36 | 4,382·23 |
| 88 | 69 | 997·413 | 2,979·872 |
| 89 | 70 | 693·724 | 1,982·459 |
| 90 | 71 | 471·208 | 1,288·735 |
| 91 | 72 | 312·141 | 817·527 |
| 92 | 73 | 201·362 | 505·386 |
| 93 | 74 | 126·314 | 304·024 |
| 94 | 75 | 76·9317 | 177·7102 |
| 95 | 76 | 45·4210 | 100·7785 |
| 96 | 77 | 25·9538 | 55·3575 |
| 97 | 78 | 14·3288 | 29·4037 |
| 98 | 79 | 7·6302 | 15·0749 |
| 99 | 80 | 3·9122 | 7·4447 |
| 100 | 81 | 1·9278 | 3·5325 |
| 101 | 82 | ·9113 | 1·6047 |
| 102 | 83 | ·4125 | ·6934 |
| 103 | 84 | ·1784 | ·2809 |
| 104 | 85 | ·0736 | ·1025 |
| 105 | 86 | ·0289 | ·0289 |

**Difference of Age 88 Years.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 88 | 0 | 11,603·4 | 33,691·7 |
| 89 | 1 | 7,198·29 | 22,088·29 |
| 90 | 2 | 4,905·02 | 14,890·00 |
| 91 | 3 | 3,379·62 | 9,984·98 |
| 92 | 4 | 2,309·63 | 6,605·36 |
| 93 | 5 | 1,554·93 | 4,295·73 |
| 94 | 6 | 1,028·32 | 2,740·80 |
| 95 | 7 | 666·370 | 1,712·482 |
| 96 | 8 | 422·208 | 1,046·112 |
| 97 | 9 | 261·240 | 623·904 |
| 98 | 10 | 157·626 | 362·664 |
| 99 | 11 | 92·6123 | 205·0380 |
| 100 | 12 | 52·9105 | 112·4257 |
| 101 | 13 | 29·3515 | 59·5152 |
| 102 | 14 | 15·7877 | 30·1637 |
| 103 | 15 | 8·2223 | 14·3760 |
| 104 | 16 | 4·1405 | 6·1537 |
| 105 | 17 | 2·0132 | 2·0132 |

## JOINT LIVES:—TWO MALES.

### Difference of Age 20 Years.

### Difference of Age 87 Years.

**Difference of Age 20 Years.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 20 | 0 | 1,270,333 | 18,969,754 |
| 21 | 1 | 1,023,020 | 17,699,421 |
| 22 | 2 | 921,493 | 16,676,401 |
| 23 | 3 | 855,439 | 15,754,908 |
| 24 | 4 | 803,567 | 14,899,469 |
| 25 | 5 | 759,372 | 14,095,902 |
| 26 | 6 | 720,574 | 13,336,530 |
| 27 | 7 | 685,559 | 12,615,956 |
| 28 | 8 | 653,225 | 11,930,397 |
| 29 | 9 | 623,259 | 11,277,172 |
| 30 | 10 | 595,257 | 10,653,913 |
| 31 | 11 | 568,884 | 10,058,656 |
| 32 | 12 | 543,869 | 9,489,772 |
| 33 | 13 | 519,990 | 8,945,903 |
| 34 | 14 | 497,070 | 8,425,913 |
| 35 | 15 | 474,970 | 7,928,843 |
| 36 | 16 | 453,584 | 7,453,873 |
| 37 | 17 | 432,832 | 7,000,289 |
| 38 | 18 | 412,661 | 6,567,457 |
| 39 | 19 | 393,037 | 6,154,796 |
| 40 | 20 | 373,942 | 5,761,759 |
| 41 | 21 | 355,374 | 5,387,817 |
| 42 | 22 | 337,521 | 5,032,443 |
| 43 | 23 | 320,359 | 4,694,922 |
| 44 | 24 | 303,867 | 4,374,563 |
| 45 | 25 | 288,020 | 4,070,696 |
| 46 | 26 | 272,798 | 3,782,676 |
| 47 | 27 | 258,178 | 3,509,878 |
| 48 | 28 | 244,139 | 3,251,700 |
| 49 | 29 | 230,661 | 3,007,561 |
| 50 | 30 | 217,724 | 2,776,900 |
| 51 | 31 | 205,309 | 2,559,176 |
| 52 | 32 | 193,291 | 2,353,867 |
| 53 | 33 | 181,749 | 2,160,576 |
| 54 | 34 | 170,674 | 1,978,827 |
| 55 | 35 | 160,052 | 1,808,153 |
| 56 | 36 | 149,869 | 1,648,101 |
| 57 | 37 | 140,106 | 1,498,232 |
| 58 | 38 | 130,746 | 1,358,126 |
| 59 | 39 | 121,773 | 1,227,380 |
| 60 | 40 | 113,170 | 1,105,607 |
| 61 | 41 | 104,922 | 992,437 |
| 62 | 42 | 97,017·1 | 887,515·0 |
| 63 | 43 | 89,443·5 | 790,497·9 |
| 64 | 44 | 82,192·8 | 701,054·4 |
| 65 | 45 | 75,258·7 | 618,861·6 |
| 66 | 46 | 68,637·2 | 543,602·9 |
| 67 | 47 | 62,326·8 | 474,965·7 |
| 68 | 48 | 56,327·8 | 412,638·9 |
| 69 | 49 | 50,642·0 | 356,311·1 |
| 70 | 50 | 45,272·8 | 305,669·1 |
| 71 | 51 | 40,224·4 | 260,396·3 |
| 72 | 52 | 35,481·2 | 220,171·9 |
| 73 | 53 | 31,068·1 | 184,690·7 |
| 74 | 54 | 26,989·6 | 153,622·6 |
| 75 | 55 | 23,247·9 | 126,633·0 |
| 76 | 56 | 19,842·3 | 103,385·1 |
| 77 | 57 | 16,769·6 | 83,542·8 |
| 78 | 58 | 14,023·3 | 66,773·2 |
| 79 | 59 | 11,593·9 | 52,749·9 |
| 80 | 60 | 9,468·89 | 41,155·99 |
| 81 | 61 | 7,632·58 | 31,687·10 |
| 82 | 62 | 6,066·53 | 24,054·52 |
| 83 | 63 | 4,749·86 | 17,987·99 |
| 84 | 64 | 3,659·70 | 13,238·13 |
| 85 | 65 | 2,771·82 | 9,578·43 |
| 86 | 66 | 2,061·35 | 6,806·61 |
| 87 | 67 | 1,503·48 | 4,745·26 |
| 88 | 68 | 1,074·16 | 3,241·78 |
| 89 | 69 | 750·795 | 2,167·624 |
| 90 | 70 | 512·719 | 1,416·829 |
| 91 | 71 | 341·627 | 904·110 |
| 92 | 72 | 221·783 | 562·483 |
| 93 | 73 | 140·079 | 340·700 |
| 94 | 74 | 85·9474 | 200·6207 |
| 95 | 75 | 51·1487 | 114·6733 |
| 96 | 76 | 29·4769 | 63·5246 |
| 97 | 77 | 16·4233 | 34·0477 |
| 98 | 78 | 8·8315 | 17·6244 |
| 99 | 79 | 4·5755 | 8·7929 |
| 100 | 80 | 2·2799 | 4·2174 |
| 101 | 81 | 1·0905 | 1·9375 |
| 102 | 82 | ·4998 | ·8470 |
| 103 | 83 | ·2191 | ·3472 |
| 104 | 84 | ·0916 | ·1281 |
| 105 | 85 | ·0365 | ·0365 |

**Difference of Age 87 Years.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 87 | 0 | 15,148·6 | 45,683·5 |
| 88 | 1 | 9,562·75 | 30,534·92 |
| 89 | 2 | 6,636·65 | 20,972·17 |
| 90 | 3 | 4,661·52 | 14,335·52 |
| 91 | 4 | 3,250·62 | 9,674·00 |
| 92 | 5 | 2,235·19 | 6,423·38 |
| 93 | 6 | 1,511·29 | 4,188·19 |
| 94 | 7 | 1,002·27 | 2,676·90 |
| 95 | 8 | 650·581 | 1,674·634 |
| 96 | 9 | 412·838 | 1,024·053 |
| 97 | 10 | 255·743 | 611·215 |
| 98 | 11 | 154·441 | 355·472 |
| 99 | 12 | 90·7919 | 201·0308 |
| 100 | 13 | 51·8857 | 110·2389 |
| 101 | 14 | 28·7847 | 58·3532 |
| 102 | 15 | 15·4806 | 29·5685 |
| 103 | 16 | 8·0598 | 14·0879 |
| 104 | 17 | 4·0568 | 6·0281 |
| 105 | 18 | 1·9713 | 1·9713 |

## JOINT LIVES :—TWO MALES.

**Difference of Age 21 Years.**

**Difference of Age 86 Years.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 21 Years.** | |
| 21 | 0 | 1,241,328 | 18,417,052 |
| 22 | 1 | 999,477 | 17,175,724 |
| 23 | 2 | 900,124 | 16,176,247 |
| 24 | 3 | 835,457 | 15,276,123 |
| 25 | 4 | 784,661 | 14,440,666 |
| 26 | 5 | 741,378 | 13,656,005 |
| 27 | 6 | 703,377 | 12,914,627 |
| 28 | 7 | 669,079 | 12,211,250 |
| 29 | 8 | 637,406 | 11,542,171 |
| 30 | 9 | 608,050 | 10,904,765 |
| 31 | 10 | 580,615 | 10,296,715 |
| 32 | 11 | 554,774 | 9,716,100 |
| 33 | 12 | 530,261 | 9,161,326 |
| 34 | 13 | 506,858 | 8,631,065 |
| 35 | 14 | 484,393 | 8,124,207 |
| 36 | 15 | 462,730 | 7,639,814 |
| 37 | 16 | 441,764 | 7,177,084 |
| 38 | 17 | 421,419 | 6,735,320 |
| 39 | 18 | 401,642 | 6,313,901 |
| 40 | 19 | 382,401 | 5,912,259 |
| 41 | 20 | 363,678 | 5,529,858 |
| 42 | 21 | 345,471 | 5,166,180 |
| 43 | 22 | 327,964 | 4,820,709 |
| 44 | 23 | 311,135 | 4,492,745 |
| 45 | 24 | 294,960 | 4,181,610 |
| 46 | 25 | 279,419 | 3,886,650 |
| 47 | 26 | 264,490 | 3,607,231 |
| 48 | 27 | 250,152 | 3,342,741 |
| 49 | 28 | 236,385 | 3,092,589 |
| 50 | 29 | 223,170 | 2,856,204 |
| 51 | 30 | 210,487 | 2,633,034 |
| 52 | 31 | 198,207 | 2,422,547 |
| 53 | 32 | 186,413 | 2,224,340 |
| 54 | 33 | 175,096 | 2,037,927 |
| 55 | 34 | 164,241 | 1,862,831 |
| 56 | 35 | 153,833 | 1,698,590 |
| 57 | 36 | 143,854 | 1,544,757 |
| 58 | 37 | 134,287 | 1,400,903 |
| 59 | 38 | 125,114 | 1,266,616 |
| 60 | 39 | 116,318 | 1,141,502 |
| 61 | 40 | 107,884 | 1,025,184 |
| 62 | 41 | 99,798·1 | 917,300·2 |
| 63 | 42 | 92,049·8 | 817,502·1 |
| 64 | 43 | 84,629·6 | 725,452·3 |
| 65 | 44 | 77,531·1 | 640,822·7 |
| 66 | 45 | 70,750·1 | 563,291·6 |
| 67 | 46 | 64,284·6 | 492,541·5 |
| 68 | 47 | 58,134·9 | 428,256·9 |
| 69 | 48 | 52,303·1 | 370,122·0 |
| 70 | 49 | 46,792·5 | 317,818·9 |
| 71 | 50 | 41,607·4 | 271,026·4 |
| 72 | 51 | 36,752·6 | 229,419·0 |
| 73 | 52 | 32,214·3 | 192,666·4 |
| 74 | 53 | 28,015·1 | 160,452·1 |
| 75 | 54 | 24,158·4 | 132,437·0 |
| 76 | 55 | 20,644·6 | 108,278·6 |
| 77 | 56 | 17,470·7 | 87,634·0 |
| 78 | 57 | 14,630·9 | 70,163·3 |
| 79 | 58 | 12,115·8 | 55,532·4 |
| 80 | 59 | 9,912·97 | 43,416·60 |
| 81 | 60 | 8,006·57 | 33,503·63 |
| 82 | 61 | 6,378·02 | 25,497·06 |
| 83 | 62 | 5,006·18 | 19,119·04 |
| 84 | 63 | 3,867·86 | 14,112·86 |
| 85 | 64 | 2,938·48 | 10,245·00 |
| 86 | 65 | 2,192·71 | 7,306·52 |
| 87 | 66 | 1,605·28 | 5,113·81 |
| 88 | 67 | 1,151·62 | 3,508·53 |
| 89 | 68 | 808·569 | 2,356·907 |
| 90 | 69 | 554·899 | 1,548·338 |
| 91 | 70 | 371·723 | 993·439 |
| 92 | 71 | 242·733 | 621·716 |
| 93 | 72 | 154·284 | 378·983 |
| 94 | 73 | 95·3135 | 224·6991 |
| 95 | 74 | 57·1428 | 129·3856 |
| 96 | 75 | 33·1940 | 72·2428 |
| 97 | 76 | 18·6527 | 39·0488 |
| 98 | 77 | 10·1224 | 20·3961 |
| 99 | 78 | 5·2959 | 10·2737 |
| 100 | 79 | 2·6665 | 4·9778 |
| 101 | 80 | 1·2897 | 2·3113 |
| 102 | 81 | ·5981 | 1·0216 |
| 103 | 82 | ·2655 | ·4235 |
| 104 | 83 | ·1125 | ·1580 |
| 105 | 84 | ·0455 | ·0455 |

**Difference of Age 86 Years.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 86 | 0 | 19,452·5 | 60,953·6 |
| 87 | 1 | 12,484·5 | 41,501·1 |
| 88 | 2 | 8,816·62 | 29,016·64 |
| 89 | 3 | 6,307·18 | 20,200·02 |
| 90 | 4 | 4,483·59 | 13,892·84 |
| 91 | 5 | 3,145·85 | 9,409·25 |
| 92 | 6 | 2,172·47 | 6,263·40 |
| 93 | 7 | 1,473·01 | 4,090·93 |
| 94 | 8 | 978·527 | 2,617·916 |
| 95 | 9 | 636·142 | 1,639·389 |
| 96 | 10 | 404·151 | 1,003·247 |
| 97 | 11 | 250·576 | 599·096 |
| 98 | 12 | 151·405 | 348·520 |
| 99 | 13 | 89·0333 | 197·1147 |
| 100 | 14 | 50·8837 | 108·0814 |
| 101 | 15 | 28·2247 | 57·1977 |
| 102 | 16 | 15·1746 | 28·9730 |
| 103 | 17 | 7·8968 | 13·7984 |
| 104 | 18 | 3·9725 | 5·9016 |
| 105 | 19 | 1·9291 | 1·9291 |

## JOINT LIVES:—Two Males.

**Difference of Age 22 Years.**

**Difference of Age 85 Years.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 22 Years.** | |
| 22 | 0 | 1,212,760 | 17,873,321 |
| 23 | 1 | 976,300 | 16,660,561 |
| 24 | 2 | 879,098 | 15,684,261 |
| 25 | 3 | 815,800 | 14,805,163 |
| 26 | 4 | 766,068 | 13,989,363 |
| 27 | 5 | 723,685 | 13,223,295 |
| 28 | 6 | 686,469 | 12,499,610 |
| 29 | 7 | 652,876 | 11,813,141 |
| 30 | 8 | 621,852 | 11,160,265 |
| 31 | 9 | 593,094 | 10,538,413 |
| 32 | 10 | 566,214 | 9,945,319 |
| 33 | 11 | 540,893 | 9,379,105 |
| 34 | 12 | 516,870 | 8,838,212 |
| 35 | 13 | 493,932 | 8,321,342 |
| 36 | 14 | 471,910 | 7,827,410 |
| 37 | 15 | 450,672 | 7,355,500 |
| 38 | 16 | 430,115 | 6,904,828 |
| 39 | 17 | 410,166 | 6,474,713 |
| 40 | 18 | 390,773 | 6,064,547 |
| 41 | 19 | 371,904 | 5,673,774 |
| 42 | 20 | 353,544 | 5,301,870 |
| 43 | 21 | 335,690 | 4,948,326 |
| 44 | 22 | 318,521 | 4,612,636 |
| 45 | 23 | 302,015 | 4,294,115 |
| 46 | 24 | 286,152 | 3,992,100 |
| 47 | 25 | 270,910 | 3,705,948 |
| 48 | 26 | 256,268 | 3,435,038 |
| 49 | 27 | 242,208 | 3,178,770 |
| 50 | 28 | 228,708 | 2,936,562 |
| 51 | 29 | 215,752 | 2,707,854 |
| 52 | 30 | 203,205 | 2,492,102 |
| 53 | 31 | 191,155 | 2,288,897 |
| 54 | 32 | 179,589 | 2,097,742 |
| 55 | 33 | 168,496 | 1,918,153 |
| 56 | 34 | 157,859 | 1,749,657 |
| 57 | 35 | 147,659 | 1,591,798 |
| 58 | 36 | 137,880 | 1,444,139 |
| 59 | 37 | 128,502 | 1,306,259 |
| 60 | 38 | 119,509 | 1,177,757 |
| 61 | 39 | 110,884 | 1,058,248 |
| 62 | 40 | 102,615 | 947,364 |
| 63 | 41 | 94,688·3 | 844,749·2 |
| 64 | 42 | 87,095·7 | 750,060·9 |
| 65 | 43 | 79,829·8 | 662,965·2 |
| 66 | 44 | 72,886·4 | 583,135·4 |
| 67 | 45 | 66,263·4 | 510,249·0 |
| 68 | 46 | 59,961·0 | 443,985·6 |
| 69 | 47 | 53,981·1 | 384,024·6 |
| 70 | 48 | 48,327·3 | 330,043·5 |
| 71 | 49 | 43,004·0 | 281,716·2 |
| 72 | 50 | 38,016·3 | 238,712·2 |
| 73 | 51 | 33,368·6 | 200,695·9 |
| 74 | 52 | 29,048·7 | 167,327·3 |
| 75 | 53 | 25,076·4 | 138,278·6 |
| 76 | 54 | 21,453·2 | 113,202·2 |
| 77 | 55 | 18,177·1 | 91,749·0 |
| 78 | 56 | 15,242·6 | 73,571·9 |
| 79 | 57 | 12,640·8 | 58,329·3 |
| 80 | 58 | 10,359·2 | 45,688·5 |
| 81 | 59 | 8,382·07 | 35,329·33 |
| 82 | 60 | 6,690·54 | 26,947·26 |
| 83 | 61 | 5,263·23 | 20,256·72 |
| 84 | 62 | 4,076·59 | 14,993·49 |
| 85 | 63 | 3,105·62 | 10,916·90 |
| 86 | 64 | 2,324·55 | 7,811·28 |
| 87 | 65 | 1,707·57 | 5,486·73 |
| 88 | 66 | 1,229·59 | 3,779·16 |
| 89 | 67 | 866·872 | 2,549·565 |
| 90 | 68 | 597·598 | 1,682·693 |
| 91 | 69 | 402·303 | 1,085·095 |
| 92 | 70 | 264·117 | 682·792 |
| 93 | 71 | 168·859 | 418·675 |
| 94 | 72 | 104·979 | 249·816 |
| 95 | 73 | 63·3699 | 144·8372 |
| 96 | 74 | 37·0840 | 81·4673 |
| 97 | 75 | 21·0048 | 44·3833 |
| 98 | 76 | 11·4965 | 23·3785 |
| 99 | 77 | 6·0700 | 11·8820 |
| 100 | 78 | 3·0863 | 5·8120 |
| 101 | 79 | 1·5084 | 2·7257 |
| 102 | 80 | ·7074 | 1·2173 |
| 103 | 81 | ·3177 | ·5099 |
| 104 | 82 | ·1364 | ·1922 |
| 105 | 83 | ·0558 | ·0558 |

**Difference of Age 85 Years.**

| $x$ | $y$ | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 85 | 0 | 24,590·0 | 80,092·4 |
| 86 | 1 | 16,031·5 | 55,502·4 |
| 87 | 2 | 11,510·4 | 39,470·9 |
| 88 | 3 | 8,378·93 | 27,960·50 |
| 89 | 4 | 6,066·44 | 19,581·57 |
| 90 | 5 | 4,339·09 | 13,515·13 |
| 91 | 6 | 3,057·57 | 9,176·04 |
| 92 | 7 | 2,117·44 | 6,118·47 |
| 93 | 8 | 1,438·11 | 4,001·03 |
| 94 | 9 | 956·809 | 2,562·924 |
| 95 | 10 | 622·757 | 1,606·115 |
| 96 | 11 | 395·986 | 983·358 |
| 97 | 12 | 245·650 | 587·372 |
| 98 | 13 | 148·473 | 341·722 |
| 99 | 14 | 87·3139 | 193·2488 |
| 100 | 15 | 49·8938 | 105·9349 |
| 101 | 16 | 27·6668 | 56·0411 |
| 102 | 17 | 14·8678 | 28·3743 |
| 103 | 18 | 7·7327 | 13·5065 |
| 104 | 19 | 3·8874 | 5·7738 |
| 105 | 20 | 1·8864 | 1·8864 |

## JOINT LIVES:—Two Males.

### Difference of Age 23 Years.

### Difference of Age 84 Years.

| Ages |  | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 23 Years.** |  |
| 23 | 0 | 1,184,638 | 17,338,489 |
| 24 | 1 | 953,495 | 16,153,851 |
| 25 | 2 | 858,415 | 15,200,356 |
| 26 | 3 | 796,469 | 14,341,941 |
| 27 | 4 | 747,785 | 13,545,472 |
| 28 | 5 | 706,288 | 12,797,687 |
| 29 | 6 | 669,844 | 12,091,399 |
| 30 | 7 | 636,944 | 11,421,555 |
| 31 | 8 | 606,556 | 10,784,611 |
| 32 | 9 | 578,384 | 10,178,055 |
| 33 | 10 | 552,047 | 9,599,671 |
| 34 | 11 | 527,234 | 9,047,624 |
| 35 | 12 | 503,688 | 8,520,390 |
| 36 | 13 | 481,203 | 8,016,702 |
| 37 | 14 | 459,613 | 7,535,499 |
| 38 | 15 | 438,788 | 7,075,886 |
| 39 | 16 | 418,630 | 6,637,098 |
| 40 | 17 | 399,066 | 6,218,468 |
| 41 | 18 | 380,046 | 5,819,402 |
| 42 | 19 | 361,541 | 5,439,356 |
| 43 | 20 | 343,534 | 5,077,815 |
| 44 | 21 | 326,024 | 4,734,281 |
| 45 | 22 | 309,185 | 4,408,257 |
| 46 | 23 | 292,996 | 4,099,072 |
| 47 | 24 | 277,437 | 3,806,076 |
| 48 | 25 | 262,488 | 3,528,639 |
| 49 | 26 | 248,129 | 3,266,151 |
| 50 | 27 | 234,342 | 3,018,022 |
| 51 | 28 | 221,106 | 2,783,680 |
| 52 | 29 | 208,288 | 2,562,574 |
| 53 | 30 | 195,975 | 2,354,286 |
| 54 | 31 | 184,157 | 2,158,311 |
| 55 | 32 | 172,820 | 1,974,154 |
| 56 | 33 | 161,949 | 1,801,334 |
| 57 | 34 | 151,524 | 1,639,385 |
| 58 | 35 | 141,527 | 1,487,861 |
| 59 | 36 | 131,940 | 1,346,334 |
| 60 | 37 | 122,745 | 1,214,394 |
| 61 | 38 | 113,926 | 1,091,649 |
| 62 | 39 | 105,469 | 977,723 |
| 63 | 40 | 97,360·8 | 872,253·5 |
| 64 | 41 | 89,592·2 | 774,892·7 |
| 65 | 42 | 82,156·0 | 685,300·5 |
| 66 | 43 | 75,047·4 | 603,144·5 |
| 67 | 44 | 68,264·3 | 528,097·1 |
| 68 | 45 | 61,806·7 | 459,832·8 |
| 69 | 46 | 55,676·7 | 398,026·1 |
| 70 | 47 | 49,877·8 | 342,349·4 |
| 71 | 48 | 44,414·6 | 292,471·6 |
| 72 | 49 | 39,292·3 | 248,057·0 |
| 73 | 50 | 34,515·9 | 208,764·7 |
| 74 | 51 | 30,089·6 | 174,248·8 |
| 75 | 52 | 26,001·6 | 144,159·2 |
| 76 | 53 | 22,268·4 | 118,157·6 |
| 77 | 54 | 18,889·0 | 95,889·2 |

| Ages |  | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 23 Years.** |  |
| 78 | 55 | 15,858·9 | 77,000·2 |
| 79 | 56 | 13,169·3 | 61,141·3 |
| 80 | 57 | 10,808·1 | 47,972·0 |
| 81 | 58 | 8,759·41 | 37,163·86 |
| 82 | 59 | 7,004·32 | 28,404·45 |
| 83 | 60 | 5,521·12 | 21,400·13 |
| 84 | 61 | 4,285·90 | 15,879·01 |
| 85 | 62 | 3,273·21 | 11,593·11 |
| 86 | 63 | 2,456·77 | 8,319·90 |
| 87 | 64 | 1,810·24 | 5,863·13 |
| 88 | 65 | 1,307·95 | 4,052·89 |
| 89 | 66 | 925·567 | 2,744·936 |
| 90 | 67 | 640·689 | 1,819·369 |
| 91 | 68 | 433·260 | 1,178·680 |
| 92 | 69 | 285·845 | 745·420 |
| 93 | 70 | 183·734 | 459·575 |
| 94 | 71 | 114·896 | 275·841 |
| 95 | 72 | 69·7964 | 160·9454 |
| 96 | 73 | 41·1252 | 91·1490 |
| 97 | 74 | 23·4664 | 50·0238 |
| 98 | 75 | 12·9462 | 26·5574 |
| 99 | 76 | 6·8940 | 13·6112 |
| 100 | 77 | 3·5374 | 6·7172 |
| 101 | 78 | 1·7459 | 3·1798 |
| 102 | 79 | ·8273 | 1·4339 |
| 103 | 80 | ·3757 | ·6066 |
| 104 | 81 | ·1632 | ·2309 |
| 105 | 82 | ·0677 | ·0677 |
|  |  | **Difference of Age 84 Years.** |  |
| 84 | 0 | 30,625·4 | 103,722·4 |
| 85 | 1 | 20,265·5 | 73,097·0 |
| 86 | 2 | 14,780·6 | 52,831·5 |
| 87 | 3 | 10,939·0 | 38,050·9 |
| 88 | 4 | 8,059·11 | 27,111·89 |
| 89 | 5 | 5,870·92 | 19,052·78 |
| 90 | 6 | 4,217·33 | 13,181·86 |
| 91 | 7 | 2,980·12 | 8,964·53 |
| 92 | 8 | 2,067·27 | 5,984·41 |
| 93 | 9 | 1,406·19 | 3,917·14 |
| 94 | 10 | 936·677 | 2,510·953 |
| 95 | 11 | 610·175 | 1,574·276 |
| 96 | 12 | 388·202 | 964·101 |
| 97 | 13 | 240·892 | 575·899 |
| 98 | 14 | 145·606 | 335·007 |
| 99 | 15 | 85·6154 | 189·4011 |
| 100 | 16 | 48·9076 | 103·7857 |
| 101 | 17 | 27·1074 | 54·8781 |
| 102 | 18 | 14·5588 | 27·7707 |
| 103 | 19 | 7·5671 | 13·2119 |
| 104 | 20 | 3·8014 | 5·6448 |
| 105 | 21 | 1·8434 | 1·8434 |

## JOINT LIVES:—Two Males.

**Difference of Age 24 Years.**

**Difference of Age 83 Years.**

**Difference of Age 24 Years.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 24 | 0 | 1,156,965 | 16,812,481 |
| 25 | 1 | 931,061 | 15,655,516 |
| 26 | 2 | 838,074 | 14,724,455 |
| 27 | 3 | 777,461 | 13,886,381 |
| 28 | 4 | 729,809 | 13,108,920 |
| 29 | 5 | 689,184 | 12,379,111 |
| 30 | 6 | 653,498 | 11,689,927 |
| 31 | 7 | 621,277 | 11,036,429 |
| 32 | 8 | 591,512 | 10,415,152 |
| 33 | 9 | 563,912 | 9,823,640 |
| 34 | 10 | 538,106 | 9,259,728 |
| 35 | 11 | 513,788 | 8,721,622 |
| 36 | 12 | 490,708 | 8,207,834 |
| 37 | 13 | 468,664 | 7,717,126 |
| 38 | 14 | 447,494 | 7,248,462 |
| 39 | 15 | 427,072 | 6,800,968 |
| 40 | 16 | 407,301 | 6,373,896 |
| 41 | 17 | 388,112 | 5,966,595 |
| 42 | 18 | 369,456 | 5,578,483 |
| 43 | 19 | 351,304 | 5,209,027 |
| 44 | 20 | 333,642 | 4,857,723 |
| 45 | 21 | 316,468 | 4,524,081 |
| 46 | 22 | 299,951 | 4,207,613 |
| 47 | 23 | 284,073 | 3,907,662 |
| 48 | 24 | 268,813 | 3,623,589 |
| 49 | 25 | 254,152 | 3,354,776 |
| 50 | 26 | 240,071 | 3,100,624 |
| 51 | 27 | 226,552 | 2,860,553 |
| 52 | 28 | 213,457 | 2,634,001 |
| 53 | 29 | 200,877 | 2,420,544 |
| 54 | 30 | 188,801 | 2,219,667 |
| 55 | 31 | 177,216 | 2,030,866 |
| 56 | 32 | 166,105 | 1,853,650 |
| 57 | 33 | 155,449 | 1,687,545 |
| 58 | 34 | 145,231 | 1,532,096 |
| 59 | 35 | 135,430 | 1,386,865 |
| 60 | 36 | 126,030 | 1,251,435 |
| 61 | 37 | 117,012 | 1,125,405 |
| 62 | 38 | 108,363 | 1,008,393 |
| 63 | 39 | 100,069 | 900,030 |
| 64 | 40 | 92,120·9 | 799,961·0 |
| 65 | 41 | 84,510·9 | 707,840·1 |
| 66 | 42 | 77,234·2 | 623,329·2 |
| 67 | 43 | 70,288·2 | 546,095·0 |
| 68 | 44 | 63,673·0 | 475,806·8 |
| 69 | 45 | 57,390·6 | 412,133·8 |
| 70 | 46 | 51,444·5 | 354,743·2 |
| 71 | 47 | 45,839·6 | 303,298·7 |
| 72 | 48 | 40,581·1 | 257,459·1 |
| 73 | 49 | 35,674·5 | 216,878·0 |
| 74 | 50 | 31,124·2 | 181,203·5 |
| 75 | 51 | 26,933·3 | 150,079·3 |
| 76 | 52 | 23,089·9 | 123,146·0 |
| 77 | 53 | 19,606·8 | 100,056·1 |
| 78 | 54 | 16,480·0 | 80,449·3 |
| 79 | 55 | 13,701·8 | 63,969·3 |
| 80 | 56 | 11,260·0 | 50,267·5 |
| 81 | 57 | 9,138·95 | 39,007·45 |
| 82 | 58 | 7,319·64 | 29,868·50 |
| 83 | 59 | 5,780·06 | 22,548·86 |
| 84 | 60 | 4,495·91 | 16,768·80 |
| 85 | 61 | 3,441·28 | 12,272·89 |
| 86 | 62 | 2,589·35 | 8,831·61 |
| 87 | 63 | 1,913·21 | 6,242·26 |
| 88 | 64 | 1,386·59 | 4,329·05 |
| 89 | 65 | 984·550 | 2,942·455 |
| 90 | 66 | 684·070 | 1,957·905 |
| 91 | 67 | 464·501 | 1,273·835 |
| 92 | 68 | 307·840 | 809·334 |
| 93 | 69 | 198·850 | 501·494 |
| 94 | 70 | 125·018 | 302·644 |
| 95 | 71 | 76·3897 | 177·6256 |
| 96 | 72 | 45·2958 | 101·2359 |
| 97 | 73 | 26·0237 | 55·9401 |
| 98 | 74 | 14·4634 | 29·9164 |
| 99 | 75 | 7·7633 | 15·4530 |
| 100 | 76 | 4·0176 | 7·6897 |
| 101 | 77 | 2·0011 | 3·6721 |
| 102 | 78 | ·9576 | 1·6710 |
| 103 | 79 | ·4394 | ·7134 |
| 104 | 80 | ·1930 | ·2740 |
| 105 | 81 | ·0810 | ·0810 |

**Difference of Age 83 Years.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 83 | 0 | 37,609·0 | 132,485·5 |
| 84 | 1 | 25,239·4 | 94,876·5 |
| 85 | 2 | 18,684·2 | 69,637·1 |
| 86 | 3 | 14,046·8 | 50,952·9 |
| 87 | 4 | 10,521·4 | 36,906·1 |
| 88 | 5 | 7,799·37 | 26,384·70 |
| 89 | 6 | 5,706·17 | 18,585·33 |
| 90 | 7 | 4,110·49 | 12,879·16 |
| 91 | 8 | 2,909·51 | 8,768·67 |
| 92 | 9 | 2,021·38 | 5,859·16 |
| 93 | 10 | 1,376·60 | 3,837·78 |
| 94 | 11 | 917·752 | 2,461·177 |
| 95 | 12 | 598·181 | 1,543·425 |
| 96 | 13 | 380·683 | 945·244 |
| 97 | 14 | 236·240 | 564·561 |
| 98 | 15 | 142·773 | 328·321 |
| 99 | 16 | 83·9231 | 185·5481 |
| 100 | 17 | 47·9188 | 101·6250 |
| 101 | 18 | 26·5441 | 53·7062 |
| 102 | 19 | 14·2469 | 27·1621 |
| 103 | 20 | 7·3997 | 12·9152 |
| 104 | 21 | 3·7146 | 5·5155 |
| 105 | 22 | 1·8009 | 1·8009 |

## JOINT LIVES:—Two Males.

**Difference of Age 25 Years.**

**Difference of Age 82 Years.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Difference of Age 25 Years.** | |
| 25 | 0 | 1,129,745 | 16,295,202 |
| 26 | 1 | 908,999 | 15,165,457 |
| 27 | 2 | 818,073 | 14,256,458 |
| 28 | 3 | 758,772 | 13,438,385 |
| 29 | 4 | 712,135 | 12,679,613 |
| 30 | 5 | 672,366 | 11,967,478 |
| 31 | 6 | 637,424 | 11,295,112 |
| 32 | 7 | 605,867 | 10,657,688 |
| 33 | 8 | 576,712 | 10,051,821 |
| 34 | 9 | 549,671 | 9,475,109 |
| 35 | 10 | 524,382 | 8,925,438 |
| 36 | 11 | 500,547 | 8,401,056 |
| 37 | 12 | 477,921 | 7,900,509 |
| 38 | 13 | 456,306 | 7,422,588 |
| 39 | 14 | 435,545 | 6,966,282 |
| 40 | 15 | 415,514 | 6,530,737 |
| 41 | 16 | 396,121 | 6,115,223 |
| 42 | 17 | 377,297 | 5,719,102 |
| 43 | 18 | 358,995 | 5,341,805 |
| 44 | 19 | 341,188 | 4,982,810 |
| 45 | 20 | 323,862 | 4,641,622 |
| 46 | 21 | 307,017 | 4,317,760 |
| 47 | 22 | 290,817 | 4,010,743 |
| 48 | 23 | 275,242 | 3,719,926 |
| 49 | 24 | 260,276 | 3,444,684 |
| 50 | 25 | 245,898 | 3,184,408 |
| 51 | 26 | 232,091 | 2,938,510 |
| 52 | 27 | 218,715 | 2,706,419 |
| 53 | 28 | 205,862 | 2,487,704 |
| 54 | 29 | 193,523 | 2,281,842 |
| 55 | 30 | 181,685 | 2,088,319 |
| 56 | 31 | 170,329 | 1,906,634 |
| 57 | 32 | 159,439 | 1,736,305 |
| 58 | 33 | 148,994 | 1,576,866 |
| 59 | 34 | 138,975 | 1,427,872 |
| 60 | 35 | 129,363 | 1,288,897 |
| 61 | 36 | 120,143 | 1,159,534 |
| 62 | 37 | 111,297 | 1,039,391 |
| 63 | 38 | 102,814 | 928,094 |
| 64 | 39 | 94,683·2 | 825,279·5 |
| 65 | 40 | 86,896·2 | 730,596·3 |
| 66 | 41 | 79,448·1 | 643,700·1 |
| 67 | 42 | 72,336·3 | 564,252·0 |
| 68 | 43 | 65,560·8 | 491,915·7 |
| 69 | 44 | 59,123·5 | 426,354·9 |
| 70 | 45 | 53,028·1 | 367,231·4 |
| 71 | 46 | 47,279·4 | 314,203·3 |
| 72 | 47 | 41,883·1 | 266,923·9 |
| 73 | 48 | 36,844·7 | 225,040·8 |
| 74 | 49 | 32,168·9 | 188,196·1 |
| 75 | 50 | 27,859·3 | 156,027·2 |
| 76 | 51 | 23,917·3 | 128,167·9 |
| 77 | 52 | 20,330·2 | 104,250·6 |
| 78 | 53 | 17,106·2 | 83,920·4 |
| 79 | 54 | 14,238·4 | 66,814·2 |
| 80 | 55 | 11,715·2 | 52,575·8 |
| 81 | 56 | 9,521·04 | 40,860·63 |
| 82 | 57 | 7,636·80 | 31,339·59 |
| 83 | 58 | 6,040·26 | 23,702·79 |
| 84 | 59 | 4,706·76 | 17,662·53 |
| 85 | 60 | 3,609·90 | 12,955·77 |
| 86 | 61 | 2,722·30 | 9,345·87 |
| 87 | 62 | 2,016·46 | 6,623·57 |
| 88 | 63 | 1,465·46 | 4,607·11 |
| 89 | 64 | 1,043·75 | 3,141·65 |
| 90 | 65 | 727·663 | 2,097·902 |
| 91 | 66 | 495·953 | 1,370·239 |
| 92 | 67 | 330·038 | 874·286 |
| 93 | 68 | 214·151 | 544·248 |
| 94 | 69 | 135·303 | 330·097 |
| 95 | 70 | 83·1192 | 194·7939 |
| 96 | 71 | 49·5747 | 111·6747 |
| 97 | 72 | 28·6628 | 62·1000 |
| 98 | 73 | 16·0395 | 33·4372 |
| 99 | 74 | 8·6731 | 17·3977 |
| 100 | 75 | 4·5242 | 8·7246 |
| 101 | 76 | 2·2727 | 4·2004 |
| 102 | 77 | 1·0976 | 1·9277 |
| 103 | 78 | ·5086 | ·8301 |
| 104 | 79 | ·2257 | ·3215 |
| 105 | 80 | ·0958 | ·0958 |

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Difference of Age 82 Years.** | |
| 82 | 0 | 45,574·8 | 167,030·1 |
| 83 | 1 | 30,994·8 | 121,455·3 |
| 84 | 2 | 23,270·1 | 90,460·5 |
| 85 | 3 | 17,756·7 | 67,190·4 |
| 86 | 4 | 13,510·7 | 49,433·7 |
| 87 | 5 | 10,182·3 | 35,923·0 |
| 88 | 6 | 7,580·51 | 25,740·71 |
| 89 | 7 | 5,561·62 | 18,160·20 |
| 90 | 8 | 4,013·10 | 12,598·58 |
| 91 | 9 | 2,844·93 | 8,585·48 |
| 92 | 10 | 1,978·85 | 5,740·55 |
| 93 | 11 | 1,348·79 | 3,761·70 |
| 94 | 12 | 899·712 | 2,412·908 |
| 95 | 13 | 586·594 | 1,513·196 |
| 96 | 14 | 373·331 | 926·602 |
| 97 | 15 | 231·645 | 553·271 |
| 98 | 16 | 139·951 | 321·626 |
| 99 | 17 | 82·2263 | 181·6753 |
| 100 | 18 | 46·9229 | 99·4490 |
| 101 | 19 | 25·9754 | 52·5261 |
| 102 | 20 | 13·9317 | 26·5507 |
| 103 | 21 | 7·2307 | 12·6190 |
| 104 | 22 | 3·6291 | 5·3883 |
| 105 | 23 | 1·7592 | 1·7592 |

## JOINT LIVES:—Two Males.

### Difference of Age 26 Years.

### Difference of Age 81 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ | Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | **Difference of Age 26 Years.** | | $x$ | $y$ | **Difference of Age 26 Years.** | |
| 26 | 0 | 1,102,974 | 15,786,564 | 81 | 55 | 9,905·97 | 42,724·25 |
| 27 | 1 | 887,305 | 14,683,590 | 82 | 56 | 7,956·08 | 32,818·28 |
| 28 | 2 | 798,407 | 13,796,285 | 83 | 57 | 6,301·98 | 24,862·20 |
| 29 | 3 | 740,397 | 12,997,878 | 84 | 58 | 4,918·65 | 18,560·22 |
| 30 | 4 | 694,757 | 12,257,481 | 85 | 59 | 3,779·20 | 13,641·57 |
| 31 | 5 | 655,828 | 11,562,724 | 86 | 60 | 2,855·69 | 9,862·37 |
| 32 | 6 | 621,614 | 10,906,896 | 87 | 61 | 2,119·99 | 7,006·68 |
| 33 | 7 | 590,708 | 10,285,282 | 88 | 62 | 1,544·54 | 4,886·69 |
| 34 | 8 | 562,148 | 9,694,574 | 89 | 63 | 1,103·12 | 3,342·15 |
| 35 | 9 | 535,653 | 9,132,426 | 90 | 64 | 771·414 | 2,239·033 |
| 36 | 10 | 510,869 | 8,596,773 | 91 | 65 | 527·557 | 1,467·619 |
| 37 | 11 | 487,503 | 8,085,904 | 92 | 66 | 352·385 | 940·062 |
| 38 | 12 | 465,319 | 7,598,401 | 93 | 67 | 229·593 | 587·677 |
| 39 | 13 | 444,121 | 7,133,082 | 94 | 68 | 145·714 | 358·084 |
| 40 | 14 | 423,758 | 6,688,961 | 95 | 69 | 89·9572 | 212·3704 |
| 41 | 15 | 404,109 | 6,265,203 | 96 | 70 | 53·9419 | 122·4132 |
| 42 | 16 | 385,083 | 5,861,094 | 97 | 71 | 31·3704 | 68·4713 |
| 43 | 17 | 366,614 | 5,476,011 | 98 | 72 | 17·6661 | 37·1009 |
| 44 | 18 | 348,658 | 5,109,397 | 99 | 73 | 9·6183 | 19·4348 |
| 45 | 19 | 331,188 | 4,760,739 | 100 | 74 | 5·0544 | 9·8165 |
| 46 | 20 | 314,191 | 4,429,551 | 101 | 75 | 2·5593 | 4·7621 |
| 47 | 21 | 297,667 | 4,115,360 | 102 | 76 | 1·2465 | 2·2028 |
| 48 | 22 | 281,776 | 3,817,693 | 103 | 77 | ·5830 | ·9563 |
| 49 | 23 | 266,501 | 3,535,917 | 104 | 78 | ·2613 | ·3733 |
| 50 | 24 | 251,823 | 3,269,416 | 105 | 79 | ·1120 | ·1120 |
| 51 | 25 | 237,724 | 3,017,593 | | | | |
| 52 | 26 | 224,063 | 2,779,869 | | | | |
| 53 | 27 | 210,933 | 2,555,806 | | | **Difference of Age 81 Years.** | |
| 54 | 28 | 198,326 | 2,344,873 | | | | |
| 55 | 29 | 186,229 | 2,146,547 | | | | |
| 56 | 30 | 174,625 | 1,960,318 | 81 | 0 | 54,539·4 | 207,995·4 |
| 57 | 31 | 163,494 | 1,785,693 | 82 | 1 | 37,559·8 | 153,456·0 |
| 58 | 32 | 152,817 | 1,622,199 | 83 | 2 | 28,576·4 | 115,896·2 |
| 59 | 33 | 142,575 | 1,469,382 | 84 | 3 | 22,114·9 | 87,319·8 |
| 60 | 34 | 132,749 | 1,326,807 | 85 | 4 | 17,078·9 | 65,204·9 |
| 61 | 35 | 123,321 | 1,194,058 | 86 | 5 | 13,075·2 | 48,126·0 |
| 62 | 36 | 114,275 | 1,070,737 | 87 | 6 | 9,896·62 | 35,050·76 |
| 63 | 37 | 105,599 | 956,462 | 88 | 7 | 7,388·48 | 25,154·14 |
| 64 | 38 | 97,280·8 | 850,863·3 | 89 | 8 | 5,429·84 | 17,765·66 |
| 65 | 39 | 89,313·1 | 753,582·5 | 90 | 9 | 3,924·03 | 12,335·82 |
| 66 | 40 | 81,690·4 | 664,269·4 | 91 | 10 | 2,785·07 | 8,411·79 |
| 67 | 41 | 74,409·8 | 582,579·0 | 92 | 11 | 1,938·87 | 5,626·72 |
| 68 | 42 | 67,471·2 | 508,169·2 | 93 | 12 | 1,322·27 | 3,687·85 |
| 69 | 43 | 60,876·4 | 440,698·0 | 94 | 13 | 882·285 | 2,365·584 |
| 70 | 44 | 54,629·3 | 379,821·6 | 95 | 14 | 575·266 | 1,483·299 |
| 71 | 45 | 48,734·8 | 325,192·3 | 96 | 15 | 366·069 | 908·033 |
| 72 | 46 | 43,198·7 | 276,457·5 | 97 | 16 | 227·066 | 541·964 |
| 73 | 47 | 38,026·7 | 233,258·8 | 98 | 17 | 137·121 | 314·898 |
| 74 | 48 | 33,224·1 | 195,232·1 | 99 | 18 | 80·5175 | 177·7768 |
| 75 | 49 | 28,794·5 | 162,008·0 | 100 | 19 | 45·9176 | 97·2593 |
| 76 | 50 | 24,739·6 | 133,213·5 | 101 | 20 | 25·4008 | 51·3417 |
| 77 | 51 | 21,058·6 | 108,473·9 | 102 | 21 | 13·6136 | 25·9409 |
| 78 | 52 | 17,737·4 | 87,415·3 | 103 | 22 | 7·0643 | 12·3273 |
| 79 | 53 | 14,779·5 | 69,677·9 | 104 | 23 | 3·5449 | 5·2630 |
| 80 | 54 | 12,174·1 | 54,898·4 | 105 | 24 | 1·7181 | 1·7181 |

## JOINT LIVES:—Two Males.

**Difference of Age 27 Years.**

**Difference of Age 80 Years.**

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 27 Years.** | |
| 27 | 0 | 1,076,651 | 15,286,464 |
| 28 | 1 | 865,975 | 14,209,813 |
| 29 | 2 | 779,072 | 13,343,838 |
| 30 | 3 | 722,329 | 12,564,766 |
| 31 | 4 | 677,668 | 11,842,437 |
| 32 | 5 | 639,561 | 11,164,769 |
| 33 | 6 | 606,061 | 10,525,208 |
| 34 | 7 | 575,791 | 9,919,147 |
| 35 | 8 | 547,811 | 9,343,356 |
| 36 | 9 | 521,849 | 8,795,545 |
| 37 | 10 | 497,556 | 8,273,696 |
| 38 | 11 | 474,649 | 7,776,140 |
| 39 | 12 | 452,893 | 7,301,491 |
| 40 | 13 | 432,102 | 6,848,598 |
| 41 | 14 | 412,126 | 6,416,496 |
| 42 | 15 | 392,848 | 6,004,370 |
| 43 | 16 | 374,180 | 5,611,522 |
| 44 | 17 | 356,058 | 5,237,342 |
| 45 | 18 | 338,439 | 4,881,284 |
| 46 | 19 | 321,298 | 4,542,845 |
| 47 | 20 | 304,622 | 4,221,547 |
| 48 | 21 | 288,414 | 3,916,925 |
| 49 | 22 | 272,827 | 3,628,511 |
| 50 | 23 | 257,846 | 3,355,684 |
| 51 | 24 | 243,452 | 3,097,838 |
| 52 | 25 | 229,501 | 2,854,386 |
| 53 | 26 | 216,090 | 2,624,885 |
| 54 | 27 | 203,211 | 2,408,795 |
| 55 | 28 | 190,851 | 2,205,584 |
| 56 | 29 | 178,992 | 2,014,733 |
| 57 | 30 | 167,617 | 1,835,741 |
| 58 | 31 | 156,704 | 1,668,124 |
| 59 | 32 | 146,234 | 1,511,420 |
| 60 | 33 | 136,188 | 1,365,186 |
| 61 | 34 | 126,548 | 1,228,998 |
| 62 | 35 | 117,298 | 1,102,450 |
| 63 | 36 | 108,424 | 985,152 |
| 64 | 37 | 99,915·4 | 876,727·6 |
| 65 | 38 | 91,763·5 | 776,812·2 |
| 66 | 39 | 83,962·6 | 685,048·7 |
| 67 | 40 | 76,510·0 | 601,086·1 |
| 68 | 41 | 69,405·2 | 524,576·1 |
| 69 | 42 | 62,650·3 | 455,170·9 |
| 70 | 43 | 56,249·0 | 392,520·6 |
| 71 | 44 | 50,206·4 | 336,271·6 |
| 72 | 45 | 44,528·5 | 286,065·2 |
| 73 | 46 | 39,221·2 | 241,536·7 |
| 74 | 47 | 34,290·0 | 202,315·5 |
| 75 | 48 | 29,739·0 | 168,025·5 |
| 76 | 49 | 25,570·1 | 138,286·5 |
| 77 | 50 | 21,782·7 | 112,716·4 |
| 78 | 51 | 18,373·0 | 90,933·7 |
| 79 | 52 | 15,324·7 | 72,560·7 |
| 80 | 53 | 12,636·7 | 57,236·0 |
| 81 | 54 | 10,294·0 | 44,599·3 |
| 82 | 55 | 8,277·75 | 34,305·34 |
| 83 | 56 | 6,565·46 | 26,027·59 |
| 84 | 57 | 5,131·77 | 19,462·13 |
| 85 | 58 | 3,949·33 | 14,330·36 |
| 86 | 59 | 2,989·62 | 10,381·03 |
| 87 | 60 | 2,223·87 | 7,391·41 |
| 88 | 61 | 1,623·85 | 5,167·54 |
| 89 | 62 | 1,162·64 | 3,543·69 |
| 90 | 63 | 815·293 | 2,381·051 |
| 91 | 64 | 559·277 | 1,565·758 |
| 92 | 65 | 374·841 | 1,006·481 |
| 93 | 66 | 245·138 | 631·640 |
| 94 | 67 | 156·221 | 386·502 |
| 95 | 68 | 96·8793 | 230·2810 |
| 96 | 69 | 58·3796 | 133·4017 |
| 97 | 70 | 34·1339 | 75·0221 |
| 98 | 71 | 19·3350 | 40·8882 |
| 99 | 72 | 10·5937 | 21·5532 |
| 100 | 73 | 5·6052 | 10·9595 |
| 101 | 74 | 2·8593 | 5·3543 |
| 102 | 75 | 1·4037 | 2·4950 |
| 103 | 76 | ·6621 | 1·0913 |
| 104 | 77 | ·2995 | ·4292 |
| 105 | 78 | ·1297 | ·1297 |

**Difference of Age 80 Years.**

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | | |
| 80 | 0 | 64,500·5 | 255,998·0 |
| 81 | 1 | 44,947·8 | 191,497·5 |
| 82 | 2 | 34,629·2 | 146,549·7 |
| 83 | 3 | 27,157·8 | 111,920·5 |
| 84 | 4 | 21,270·8 | 84,762·7 |
| 85 | 5 | 16,528·5 | 63,491·9 |
| 86 | 6 | 12,708·3 | 46,963·4 |
| 87 | 7 | 9,645·91 | 34,255·10 |
| 88 | 8 | 7,213·41 | 24,609·19 |
| 89 | 9 | 5,309·33 | 17,395·78 |
| 90 | 10 | 3,841·47 | 12,086·45 |
| 91 | 11 | 2,728·80 | 8,244·98 |
| 92 | 12 | 1,900·76 | 5,516·18 |
| 93 | 13 | 1,296·66 | 3,615·42 |
| 94 | 14 | 865·247 | 2,318·758 |
| 95 | 15 | 564·075 | 1,453·511 |
| 96 | 16 | 358·833 | 889·436 |
| 97 | 17 | 222·475 | 530·603 |
| 98 | 18 | 134·272 | 308·128 |
| 99 | 19 | 78·7924 | 173·8559 |
| 100 | 20 | 44·9020 | 95·0635 |
| 101 | 21 | 24·8209 | 50·1615 |
| 102 | 22 | 13·3003 | 25·3406 |
| 103 | 23 | 6·9005 | 12·0403 |
| 104 | 24 | 3·4621 | 5·1398 |
| 105 | 25 | 1·6777 | 1·6777 |

## JOINT LIVES:—TWO MALES.

### Difference of Age 28 Years.

### Difference of Age 79 Years.

**Difference of Age 28 Years.**

| Ages *x* | Ages *y* | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 28 | 0 | 1,050,770 | 14,794,805 |
| 29 | 1 | 845,004 | 13,744,035 |
| 30 | 2 | 760,061 | 12,899,031 |
| 31 | 3 | 704,561 | 12,138,970 |
| 32 | 4 | 660,860 | 11,434,409 |
| 33 | 5 | 623,559 | 10,773,549 |
| 34 | 6 | 590,756 | 10,149,990 |
| 35 | 7 | 561,106 | 9,559,234 |
| 36 | 8 | 533,694 | 8,998,128 |
| 37 | 9 | 508,250 | 8,464,434 |
| 38 | 10 | 484,436 | 7,956,184 |
| 39 | 11 | 461,974 | 7,471,748 |
| 40 | 12 | 440,637 | 7,009,774 |
| 41 | 13 | 420,241 | 6,569,137 |
| 42 | 14 | 400,642 | 6,148,896 |
| 43 | 15 | 381,725 | 5,748,254 |
| 44 | 16 | 363,405 | 5,366,529 |
| 45 | 17 | 345,621 | 5,003,124 |
| 46 | 18 | 328,332 | 4,657,503 |
| 47 | 19 | 311,513 | 4,329,171 |
| 48 | 20 | 295,153 | 4,017,658 |
| 49 | 21 | 279,254 | 3,722,505 |
| 50 | 22 | 263,967 | 3,443,251 |
| 51 | 23 | 249,275 | 3,179,284 |
| 52 | 24 | 235,031 | 2,930,009 |
| 53 | 25 | 221,335 | 2,694,978 |
| 54 | 26 | 208,180 | 2,473,643 |
| 55 | 27 | 195,552 | 2,265,463 |
| 56 | 28 | 183,435 | 2,069,911 |
| 57 | 29 | 171,809 | 1,886,476 |
| 58 | 30 | 160,656 | 1,714,667 |
| 59 | 31 | 149,953 | 1,554,011 |
| 60 | 32 | 139,683 | 1,404,058 |
| 61 | 33 | 129,827 | 1,264,375 |
| 62 | 34 | 120,368 | 1,134,548 |
| 63 | 35 | 111,292 | 1,014,180 |
| 64 | 36 | 102,589 | 902,888 |
| 65 | 37 | 94,248·7 | 800,298·5 |
| 66 | 38 | 86,266·1 | 706,049·8 |
| 67 | 39 | 78,638·0 | 619,783·7 |
| 68 | 40 | 71,364·1 | 541,145·7 |
| 69 | 41 | 64,446·1 | 469,781·6 |
| 70 | 42 | 57,888·0 | 405,335·5 |
| 71 | 43 | 51,694·9 | 347,447·5 |
| 72 | 44 | 45,873·0 | 295,752·6 |
| 73 | 45 | 40,428·5 | 249,879·6 |
| 74 | 46 | 35,367·1 | 209,451·1 |
| 75 | 47 | 30,693·1 | 174,084·0 |
| 76 | 48 | 26,408·8 | 143,390·9 |
| 77 | 49 | 22,513·9 | 116,982·1 |
| 78 | 50 | 19,004·7 | 94,468·2 |
| 79 | 51 | 15,873·9 | 75,463·5 |
| 80 | 52 | 13,102·9 | 59,589·6 |
| 81 | 53 | 10,685·1 | 46,486·7 |
| 82 | 54 | 8,601·97 | 35,801·57 |
| 83 | 55 | 6,830·90 | 27,199·60 |
| 84 | 56 | 5,346·33 | 20,368·70 |
| 85 | 57 | 4,120·45 | 15,022·37 |
| 86 | 58 | 3,124·21 | 10,901·92 |
| 87 | 59 | 2,328·17 | 7,777·71 |
| 88 | 60 | 1,703·42 | 5,449·54 |
| 89 | 61 | 1,222·34 | 3,746·12 |
| 90 | 62 | 859·289 | 2,523·775 |
| 91 | 63 | 591·090 | 1,664·486 |
| 92 | 64 | 397·378 | 1,073·396 |
| 93 | 65 | 260·760 | 676·018 |
| 94 | 66 | 166·799 | 415·258 |
| 95 | 67 | 103·865 | 248·459 |
| 96 | 68 | 62·8718 | 144·5936 |
| 97 | 69 | 36·9421 | 81·7218 |
| 98 | 70 | 21·0383 | 44·7797 |
| 99 | 71 | 11·5944 | 23·7414 |
| 100 | 72 | 6·1737 | 12·1470 |
| 101 | 73 | 3·1708 | 5·9733 |
| 102 | 74 | 1·5682 | 2·8025 |
| 103 | 75 | ·7456 | 1·2343 |
| 104 | 76 | ·3401 | ·4887 |
| 105 | 77 | ·1486 | ·1486 |

**Difference of Age 79 Years.**

| Ages *x* | Ages *y* | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 79 | 0 | 75,437·9 | 311,618·2 |
| 80 | 1 | 53,157·0 | 236,180·3 |
| 81 | 2 | 41,440·7 | 183,023·3 |
| 82 | 3 | 32,910·1 | 141,582·6 |
| 83 | 4 | 26,121·2 | 108,672·5 |
| 84 | 5 | 20,585·2 | 82,551·3 |
| 85 | 6 | 16,064·7 | 61,966·1 |
| 86 | 7 | 12,386·4 | 45,901·4 |
| 87 | 8 | 9,417·36 | 33,514·95 |
| 88 | 9 | 7,053·31 | 24,097·59 |
| 89 | 10 | 5,197·62 | 17,044·28 |
| 90 | 11 | 3,763·85 | 11,846·66 |
| 91 | 12 | 2,675·16 | 8,082·81 |
| 92 | 13 | 1,863·94 | 5,407·65 |
| 93 | 14 | 1,271·62 | 3,543·71 |
| 94 | 15 | 848·415 | 2,272·092 |
| 95 | 16 | 552·926 | 1,423·677 |
| 96 | 17 | 351·578 | 870·751 |
| 97 | 18 | 217·852 | 519·173 |
| 98 | 19 | 131·395 | 301·321 |
| 99 | 20 | 77·0496 | 169·9259 |
| 100 | 21 | 43·8768 | 92·8763 |
| 101 | 22 | 24·2497 | 48·9995 |
| 102 | 23 | 12·9919 | 24·7498 |
| 103 | 24 | 6·7393 | 11·7579 |
| 104 | 25 | 3·3807 | 5·0186 |
| 105 | 26 | 1·6379 | 1·6379 |

## JOINT LIVES:—Two Males.

**Difference of Age 29 Years.**

**Difference of Age 78 Years.**

### Difference of Age 29 Years.

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 29 | 0 | 1,025,323 | 14,311,478 |
| 30 | 1 | 824,383 | 13,286,155 |
| 31 | 2 | 741,365 | 12,461,772 |
| 32 | 3 | 687,086 | 11,720,407 |
| 33 | 4 | 644,325 | 11,033,321 |
| 34 | 5 | 607,812 | 10,388,996 |
| 35 | 6 | 575,690 | 9,781,184 |
| 36 | 7 | 546,646 | 9,205,494 |
| 37 | 8 | 519,786 | 8,658,848 |
| 38 | 9 | 494,848 | 8,139,062 |
| 39 | 10 | 471,501 | 7,644,214 |
| 40 | 11 | 449,473 | 7,172,713 |
| 41 | 12 | 428,542 | 6,723,240 |
| 42 | 13 | 408,531 | 6,294,698 |
| 43 | 14 | 389,298 | 5,886,167 |
| 44 | 15 | 370,733 | 5,496,869 |
| 45 | 16 | 352,754 | 5,126,136 |
| 46 | 17 | 335,300 | 4,773,382 |
| 47 | 18 | 318,333 | 4,438,082 |
| 48 | 19 | 301,829 | 4,119,749 |
| 49 | 20 | 285,779 | 3,817,920 |
| 50 | 21 | 270,185 | 3,532,141 |
| 51 | 22 | 255,193 | 3,261,956 |
| 52 | 23 | 240,652 | 3,006,763 |
| 53 | 24 | 226,668 | 2,766,111 |
| 54 | 25 | 213,232 | 2,539,443 |
| 55 | 26 | 200,333 | 2,326,211 |
| 56 | 27 | 187,953 | 2,125,878 |
| 57 | 28 | 176,073 | 1,937,925 |
| 58 | 29 | 164,674 | 1,761,852 |
| 59 | 30 | 153,735 | 1,597,178 |
| 60 | 31 | 143,236 | 1,443,443 |
| 61 | 32 | 133,158 | 1,300,207 |
| 62 | 33 | 123,486 | 1,167,049 |
| 63 | 34 | 114,205 | 1,043,563 |
| 64 | 35 | 105,302 | 929,358 |
| 65 | 36 | 96,770·4 | 824,056·3 |
| 66 | 37 | 88,602·4 | 727,285·9 |
| 67 | 38 | 80,795·5 | 638,683·5 |
| 68 | 39 | 73,349·1 | 557,888·0 |
| 69 | 40 | 66,265·0 | 484,538·9 |
| 70 | 41 | 59,547·3 | 418,273·9 |
| 71 | 42 | 53,201·2 | 358,726·6 |
| 72 | 43 | 47,233·1 | 305,525·4 |
| 73 | 44 | 41,649·3 | 258,292·3 |
| 74 | 45 | 36,455·8 | 216,643·0 |
| 75 | 46 | 31,657·2 | 180,187·2 |
| 76 | 47 | 27,256·1 | 148,530·0 |
| 77 | 48 | 23,252·3 | 121,273·9 |
| 78 | 49 | 19,642·6 | 98,021·6 |
| 79 | 50 | 16,419·6 | 78,379·0 |
| 80 | 51 | 13,572·4 | 61,959·4 |
| 81 | 52 | 11,079·3 | 48,387·0 |
| 82 | 53 | 8,928·83 | 37,307·69 |
| 83 | 54 | 7,098·46 | 28,378·86 |
| 84 | 55 | 5,562·48 | 21,280·40 |
| 85 | 56 | 4,292·72 | 15,717·92 |
| 86 | 57 | 3,259·58 | 11,425·20 |
| 87 | 58 | 2,432·98 | 8,165·62 |
| 88 | 59 | 1,783·31 | 5,732·64 |
| 89 | 60 | 1,282·24 | 3,949·33 |
| 90 | 61 | 903·410 | 2,667·091 |
| 91 | 62 | 622·987 | 1,763·681 |
| 92 | 63 | 419·982 | 1,140·694 |
| 93 | 64 | 276·438 | 720·712 |
| 94 | 65 | 177·428 | 444·274 |
| 95 | 66 | 110·898 | 266·846 |
| 96 | 67 | 67·4053 | 155·9480 |
| 97 | 68 | 39·7847 | 88·5427 |
| 98 | 69 | 22·7690 | 48·7580 |
| 99 | 70 | 12·6158 | 25·9890 |
| 100 | 71 | 6·7569 | 13·3732 |
| 101 | 72 | 3·4924 | 6·6163 |
| 102 | 73 | 1·7391 | 3·1239 |
| 103 | 74 | ·8330 | 1·3848 |
| 104 | 75 | ·3830 | ·5518 |
| 105 | 76 | ·1688 | ·1688 |

### Difference of Age 78 Years.

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 78 | 0 | 87,314·3 | 375,388·8 |
| 79 | 1 | 62,170·9 | 288,074·5 |
| 80 | 2 | 49,009·4 | 225,903·6 |
| 81 | 3 | 39,383·5 | 176,894·2 |
| 82 | 4 | 31,653·9 | 137,510·7 |
| 83 | 5 | 25,279·3 | 105,856·8 |
| 84 | 6 | 20,007·6 | 80,577·5 |
| 85 | 7 | 15,657·7 | 60,569·9 |
| 86 | 8 | 12,092·9 | 44,912·2 |
| 87 | 9 | 9,208·35 | 32,819·28 |
| 88 | 10 | 6,904·91 | 23,610·93 |
| 89 | 11 | 5,092·61 | 16,706·02 |
| 90 | 12 | 3,689·87 | 11,613·41 |
| 91 | 13 | 2,623·35 | 7,923·54 |
| 92 | 14 | 1,827·95 | 5,300·19 |
| 93 | 15 | 1,246·89 | 3,472·24 |
| 94 | 16 | 831·645 | 2,225·349 |
| 95 | 17 | 541·747 | 1,393·704 |
| 96 | 18 | 344·271 | 851·957 |
| 97 | 19 | 213·184 | 507·686 |
| 98 | 20 | 128·489 | 294·502 |
| 99 | 21 | 75·2904 | 166·0133 |
| 100 | 22 | 42·8670 | 90·7229 |
| 101 | 23 | 23·6873 | 47·8559 |
| 102 | 24 | 12·6884 | 24·1686 |
| 103 | 25 | 6·5808 | 11·4802 |
| 104 | 26 | 3·3006 | 4·8994 |
| 105 | 27 | 1·5988 | 1·5988 |

## JOINT LIVES:—Two Males.

### Difference of Age 30 Years.

### Difference of Age 77 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 30 Years.** | |
| 30 | 0 | 1,000,302 | 13,836,387 |
| 31 | 1 | 804,106 | 12,836,085 |
| 32 | 2 | 722,977 | 12,031,979 |
| 33 | 3 | 669,895 | 11,309,002 |
| 34 | 4 | 628,053 | 10,639,107 |
| 35 | 5 | 592,311 | 10,011,054 |
| 36 | 6 | 560,854 | 9,418,743 |
| 37 | 7 | 532,401 | 8,857,889 |
| 38 | 8 | 506,080 | 8,325,488 |
| 39 | 9 | 481,635 | 7,819,408 |
| 40 | 10 | 458,741 | 7,337,773 |
| 41 | 11 | 437,135 | 6,879,032 |
| 42 | 12 | 416,600 | 6,441,897 |
| 43 | 13 | 396,964 | 6,025,297 |
| 44 | 14 | 378,088 | 5,628,333 |
| 45 | 15 | 359,867 | 5,250,245 |
| 46 | 16 | 342,219 | 4,890,378 |
| 47 | 17 | 325,089 | 4,548,159 |
| 48 | 18 | 308,437 | 4,223,070 |
| 49 | 19 | 292,243 | 3,914,633 |
| 50 | 20 | 276,498 | 3,622,390 |
| 51 | 21 | 261,204 | 3,345,892 |
| 52 | 22 | 246,365 | 3,084,688 |
| 53 | 23 | 232,089 | 2,838,323 |
| 54 | 24 | 218,370 | 2,606,234 |
| 55 | 25 | 205,195 | 2,387,864 |
| 56 | 26 | 192,548 | 2,182,669 |
| 57 | 27 | 180,410 | 1,990,121 |
| 58 | 28 | 168,761 | 1,809,711 |
| 59 | 29 | 157,580 | 1,640,950 |
| 60 | 30 | 146,848 | 1,483,370 |
| 61 | 31 | 136,545 | 1,336,522 |
| 62 | 32 | 126,655 | 1,199,977 |
| 63 | 33 | 117,164 | 1,073,322 |
| 64 | 34 | 108,058 | 956,158 |
| 65 | 35 | 99,330·2 | 848,100·2 |
| 66 | 36 | 90,973·1 | 748,770·0 |
| 67 | 37 | 82,983·6 | 657,796·9 |
| 68 | 38 | 75,361·4 | 574,813·3 |
| 69 | 39 | 68,108·2 | 499,451·9 |
| 70 | 40 | 61,228·0 | 431,343·7 |
| 71 | 41 | 54,726·2 | 370,115·7 |
| 72 | 42 | 48,609·4 | 315,389·5 |
| 73 | 43 | 42,884·1 | 266,780·1 |
| 74 | 44 | 37,556·6 | 223,896·0 |
| 75 | 45 | 32,631·6 | 186,339·4 |
| 76 | 46 | 28,112·2 | 153,707·8 |
| 77 | 47 | 23,998·3 | 125,595·6 |
| 78 | 48 | 20,286·9 | 101,597·3 |
| 79 | 49 | 16,970·8 | 81,310·4 |
| 80 | 50 | 14,039·0 | 64,339·6 |
| 81 | 51 | 11,476·4 | 50,300·6 |
| 82 | 52 | 9,258·25 | 38,824·24 |
| 83 | 53 | 7,368·19 | 29,565·99 |
| 84 | 54 | 5,780·35 | 22,197·80 |
| 85 | 55 | 4,466·28 | 16,417·45 |
| 86 | 56 | 3,395·86 | 11,951·17 |
| 87 | 57 | 2,538·40 | 8,555·31 |
| 88 | 58 | 1,863·59 | 6,016·91 |
| 89 | 59 | 1,342·37 | 4,153·32 |
| 90 | 60 | 947·677 | 2,810·950 |
| 91 | 61 | 654·975 | 1,863·273 |
| 92 | 62 | 442·645 | 1,208·298 |
| 93 | 63 | 292·163 | 765·653 |
| 94 | 64 | 188·096 | 473·490 |
| 95 | 65 | 117·965 | 285·394 |
| 96 | 66 | 71·9693 | 167·4292 |
| 97 | 67 | 42·6535 | 95·4599 |
| 98 | 68 | 24·5211 | 52·8064 |
| 99 | 69 | 13·6537 | 28·2853 |
| 100 | 70 | 7·3521 | 14·6316 |
| 101 | 71 | 3·8223 | 7·2795 |
| 102 | 72 | 1·9155 | 3·4572 |
| 103 | 73 | ·9237 | 1·5417 |
| 104 | 74 | ·4279 | ·6180 |
| 105 | 75 | ·1901 | ·1901 |

**Difference of Age 77 Years.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 77 | 0 | 100,078 | 447,786 |
| 78 | 1 | 71,958·7 | 347,707·6 |
| 79 | 2 | 57,320·0 | 275,748·9 |
| 80 | 3 | 46,576·5 | 218,428·9 |
| 81 | 4 | 37,880·2 | 171,852·4 |
| 82 | 5 | 30,633·7 | 133,972·2 |
| 83 | 6 | 24,570·0 | 103,338·5 |
| 84 | 7 | 19,500·7 | 78,768·5 |
| 85 | 8 | 15,286·7 | 59,267·8 |
| 86 | 9 | 11,824·5 | 43,981·1 |
| 87 | 10 | 9,014·60 | 32,156·62 |
| 88 | 11 | 6,765·40 | 23,142·02 |
| 89 | 12 | 4,992·50 | 16,376·62 |
| 90 | 13 | 3,618·40 | 11,384·12 |
| 91 | 14 | 2,572·69 | 7,765·72 |
| 92 | 15 | 1,792·39 | 5,193·03 |
| 93 | 16 | 1,222·24 | 3,400·64 |
| 94 | 17 | 814·830 | 2,178·398 |
| 95 | 18 | 530·488 | 1,363·568 |
| 96 | 19 | 336·895 | 833·080 |
| 97 | 20 | 208·469 | 496·185 |
| 98 | 21 | 125·555 | 287·716 |
| 99 | 22 | 73·5576 | 162·1614 |
| 100 | 23 | 41·8729 | 88·6038 |
| 101 | 24 | 23·1340 | 46·7309 |
| 102 | 25 | 12·3899 | 23·5969 |
| 103 | 26 | 6·4248 | 11·2070 |
| 104 | 27 | 3·2218 | 4·7822 |
| 105 | 28 | 1·5604 | 1·5604 |

## JOINT LIVES:—Two Males.

### Difference of Age 31 Years.

### Difference of Age 76 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ | Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | **Difference of Age 31 Years.** | | $x$ | $y$ | **Difference of Age 31 Years.** | |
| 31 | 0 | 975,698 | 13,369,438 | 86 | 55 | 3,533·15 | 12,480·15 |
| 32 | 1 | 784,162 | 12,393,740 | 87 | 56 | 2,644·52 | 8,947·00 |
| 33 | 2 | 704,888 | 11,609,578 | 88 | 57 | 1,944·33 | 6,302·48 |
| 34 | 3 | 652,978 | 10,904,690 | 89 | 58 | 1,402·80 | 4,358·15 |
| 35 | 4 | 612,036 | 10,251,712 | 90 | 59 | 992·122 | 2,955·352 |
| 36 | 5 | 577,047 | 9,639,676 | 91 | 60 | 687·068 | 1,963·230 |
| 37 | 6 | 546,239 | 9,062,629 | 92 | 61 | 465·373 | 1,276·162 |
| 38 | 7 | 518,362 | 8,516,390 | 93 | 62 | 307·929 | 810 789 |
| 39 | 8 | 492,567 | 7,998,028 | 94 | 63 | 198·796 | 502·860 |
| 40 | 9 | 468,601 | 7,505,461 | 95 | 64 | 125·057 | 304·064 |
| 41 | 10 | 446,149 | 7,036,860 | 96 | 65 | 76·5556 | 179·0071 |
| 42 | 11 | 424,954 | 6,590,711 | 97 | 66 | 45·5415 | 102·4515 |
| 43 | 12 | 404,805 | 6,165,757 | 98 | 67 | 26·2892 | 56·9100 |
| 44 | 13 | 385,534 | 5,760,952 | 99 | 68 | 14·7043 | 30·6208 |
| 45 | 14 | 367,006 | 5,375,418 | 100 | 69 | 7·9569 | 15·9165 |
| 46 | 15 | 349,120 | 5,008,412 | 101 | 70 | 4·1590 | 7·9596 |
| 47 | 16 | 331,797 | 4,659,292 | 102 | 71 | 2·0964 | 3·8006 |
| 48 | 17 | 314,983 | 4,327,495 | 103 | 72 | 1·0174 | 1·7042 |
| 49 | 18 | 298,642 | 4,012,512 | 104 | 73 | ·4745 | ·6868 |
| 50 | 19 | 282,752 | 3,713,870 | 105 | 74 | ·2123 | ·2123 |
| 51 | 20 | 267,308 | 3,431,118 | | | | |
| 52 | 21 | 252,168 | 3,163,810 | | | | |
| 53 | 22 | 237,599 | 2,911,642 | | | **Difference of Age 76 Years.** | |
| 54 | 23 | 223,593 | 2,674,043 | | | | |
| 55 | 24 | 210,139 | 2,450,450 | | | | |
| 56 | 25 | 197,222 | 2,240,311 | 76 | 0 | 113,663 | 529,218 |
| 57 | 26 | 184,821 | 2,043,089 | 77 | 1 | 82,477·3 | 415,554·8 |
| 58 | 27 | 172,918 | 1,858,268 | 78 | 2 | 66,344·1 | 333,077·5 |
| 59 | 28 | 161,491 | 1,685,350 | 79 | 3 | 54,474·5 | 266,733·4 |
| 60 | 29 | 150,521 | 1,523,859 | 80 | 4 | 44,798·6 | 212,258·9 |
| 61 | 30 | 139,988 | 1,373,338 | 81 | 5 | 36,659·4 | 167,460·3 |
| 62 | 31 | 129,877 | 1,233,350 | 82 | 6 | 29,774·1 | 130,800·9 |
| 63 | 32 | 120,170 | 1,103,473 | 83 | 7 | 23,947·5 | 101,026·8 |
| 64 | 33 | 110,858 | 983,303 | 84 | 8 | 19,038·7 | 77,079·3 |
| 65 | 34 | 101,930 | 872,445 | 85 | 9 | 14,947·4 | 58,040·6 |
| 66 | 35 | 93,379·5 | 770,515·3 | 86 | 10 | 11,575·7 | 43,093·2 |
| 67 | 36 | 85,203·9 | 677,135·8 | 87 | 11 | 8,832·47 | 31,517·54 |
| 68 | 37 | 77,402·4 | 591,931·9 | 88 | 12 | 6,632·41 | 22,685·07 |
| 69 | 38 | 69,976·7 | 514,529·5 | 89 | 13 | 4,895·80 | 16,052·66 |
| 70 | 39 | 62,931·0 | 444,552·8 | 90 | 14 | 3,548·52 | 11,156·86 |
| 71 | 40 | 56,270·8 | 381,621·8 | 91 | 15 | 2,522·64 | 7,608·34 |
| 72 | 41 | 50,002·8 | 325,351·0 | 92 | 16 | 1,756·96 | 5,085·70 |
| 73 | 42 | 44,133·7 | 275,348·2 | 93 | 17 | 1,197·53 | 3,328·74 |
| 74 | 43 | 38,670·1 | 231,214·5 | 94 | 18 | 797·897 | 2,131·208 |
| 75 | 44 | 33,617·0 | 192,544·4 | 95 | 19 | 519·122 | 1,333·311 |
| 76 | 45 | 28,977·5 | 158,927·4 | 96 | 20 | 329·444 | 814·189 |
| 77 | 46 | 24,752·1 | 129,949·9 | 97 | 21 | 203·709 | 484·745 |
| 78 | 47 | 20,937·7 | 105,197·8 | 98 | 22 | 122·665 | 281·036 |
| 79 | 48 | 17,527·5 | 84,260·1 | 99 | 23 | 71·8519 | 158·3711 |
| 80 | 49 | 14,510·3 | 66,732·6 | 100 | 24 | 40·8948 | 86·5192 |
| 81 | 50 | 11,870·9 | 52,222·3 | 101 | 25 | 22·5897 | 45·6244 |
| 82 | 51 | 9,590·00 | 40,351·38 | 102 | 26 | 12·0963 | 23·0347 |
| 83 | 52 | 7,640·03 | 30,761·38 | 103 | 27 | 6·2715 | 10·9384 |
| 84 | 53 | 5,999·99 | 23,121·35 | 104 | 28 | 3·1443 | 4·6669 |
| 85 | 54 | 4,641·21 | 17,121·36 | 105 | 29 | 1·5226 | 1·5226 |

## JOINT LIVES:—Two Males.

### Difference of Age 32 Years.

### Difference of Age 75 Years.

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Difference of Age 32 Years.** | |
| 32 | 0 | 951,498 | 12,910,523 |
| 33 | 1 | 764,541 | 11,959,025 |
| 34 | 2 | 687,087 | 11,194,484 |
| 35 | 3 | 636,325 | 10,507,397 |
| 36 | 4 | 596,264 | 9,871,072 |
| 37 | 5 | 562,010 | 9,274,808 |
| 38 | 6 | 531,835 | 8,712,798 |
| 39 | 7 | 504,521 | 8,180,963 |
| 40 | 8 | 479,237 | 7,676,442 |
| 41 | 9 | 455,738 | 7,197,205 |
| 42 | 10 | 433,717 | 6,741,467 |
| 43 | 11 | 412,922 | 6,307,750 |
| 44 | 12 | 393,149 | 5,894,828 |
| 45 | 13 | 374,233 | 5,501,679 |
| 46 | 14 | 356,046 | 5,127,446 |
| 47 | 15 | 338,488 | 4,771,400 |
| 48 | 16 | 321,483 | 4,432,912 |
| 49 | 17 | 304,980 | 4,111,429 |
| 50 | 18 | 288,943 | 3,806,449 |
| 51 | 19 | 273,354 | 3,517,506 |
| 52 | 20 | 258,061 | 3,244,152 |
| 53 | 21 | 243,196 | 2,986,091 |
| 54 | 22 | 228,901 | 2,742,895 |
| 55 | 23 | 215,165 | 2,513,994 |
| 56 | 24 | 201,973 | 2,298,829 |
| 57 | 25 | 189,307 | 2,096,856 |
| 58 | 26 | 177,145 | 1,907,549 |
| 59 | 27 | 165,469 | 1,730,404 |
| 60 | 28 | 154,257 | 1,564,935 |
| 61 | 29 | 143,490 | 1,410,678 |
| 62 | 30 | 133,152 | 1,267,188 |
| 63 | 31 | 123,227 | 1,134,036 |
| 64 | 32 | 113,703 | 1,010,809 |
| 65 | 33 | 104,570 | 897,106 |
| 66 | 34 | 95,823·3 | 792,535·7 |
| 67 | 35 | 87,457·8 | 696,712·4 |
| 68 | 36 | 79,473·4 | 609,254·6 |
| 69 | 37 | 71,871·9 | 529,781·2 |
| 70 | 38 | 64,657·5 | 457,909·3 |
| 71 | 39 | 57,836·0 | 393,251·8 |
| 72 | 40 | 51,414·0 | 335,415·8 |
| 73 | 41 | 45,398·8 | 284,001·8 |
| 74 | 42 | 39,796·9 | 238,603·0 |
| 75 | 43 | 34,613·7 | 198,806·1 |
| 76 | 44 | 29,852·5 | 164,192·4 |
| 77 | 45 | 25,514·1 | 134,339·9 |
| 78 | 46 | 21,595·4 | 108,825·8 |
| 79 | 47 | 18,089·8 | 87,230·4 |
| 80 | 48 | 14,986·2 | 69,140·6 |
| 81 | 49 | 12,269·4 | 54,154·4 |
| 82 | 50 | 9,919·73 | 41,885·00 |
| 83 | 51 | 7,913·80 | 31,965·27 |
| 84 | 52 | 6,221·36 | 24,051·47 |
| 85 | 53 | 4,817·57 | 17,830·11 |
| 86 | 54 | 3,671·54 | 13,012·54 |
| 87 | 55 | 2,751·44 | 9,341·00 |
| 88 | 56 | 2,025·63 | 6,589·56 |
| 89 | 57 | 1,463·58 | 4,563·93 |
| 90 | 58 | 1,036·79 | 3,100·35 |
| 91 | 59 | 719·291 | 2,063·560 |
| 92 | 60 | 488·176 | 1,344·269 |
| 93 | 61 | 323·740 | 856·093 |
| 94 | 62 | 209·523 | 532·353 |
| 95 | 63 | 132·171 | 322·830 |
| 96 | 64 | 81·1586 | 190·6594 |
| 97 | 65 | 48·4437 | 109·5008 |
| 98 | 66 | 28·0693 | 61·0571 |
| 99 | 67 | 15·7646 | 32·9878 |
| 100 | 68 | 8·5692 | 17·2232 |
| 101 | 69 | 4·5012 | 8·6540 |
| 102 | 70 | 2·2811 | 4·1528 |
| 103 | 71 | 1·1135 | 1·8717 |
| 104 | 72 | ·5227 | 7582 |
| 105 | 73 | ·2355 | ·2355 |

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Difference of Age 75 Years.** | |
| 75 | 0 | 127,996 | 620,028 |
| 76 | 1 | 93,673·4 | 492,031·6 |
| 77 | 2 | 76,042·0 | 398,358·2 |
| 78 | 3 | 63,050·6 | 322,316·2 |
| 79 | 4 | 52,395·2 | 259,265·6 |
| 80 | 5 | 43,354·8 | 206,870·4 |
| 81 | 6 | 35,630·6 | 163,515·6 |
| 82 | 7 | 29,019·8 | 127,885·0 |
| 83 | 8 | 23,380·1 | 98,865·2 |
| 84 | 9 | 18,616·1 | 75,485·1 |
| 85 | 10 | 14,632·9 | 56,869·0 |
| 86 | 11 | 11,341·8 | 42,236·1 |
| 87 | 12 | 8,658·85 | 30,894·26 |
| 88 | 13 | 6,503·95 | 22,235·41 |
| 89 | 14 | 4,801·26 | 15,731·46 |
| 90 | 15 | 3,479·49 | 10,930·20 |
| 91 | 16 | 2,472·78 | 7,450·71 |
| 92 | 17 | 1,721·44 | 4,977·93 |
| 93 | 18 | 1,172·64 | 3,256·49 |
| 94 | 19 | 780·802 | 2,083·848 |
| 95 | 20 | 507·640 | 1,303·046 |
| 96 | 21 | 321·921 | 795·406 |
| 97 | 22 | 199·021 | 473·485 |
| 98 | 23 | 119·821 | 274·464 |
| 99 | 24 | 70·1735 | 154·6425 |
| 100 | 25 | 39·9327 | 84·4690 |
| 101 | 26 | 22·0544 | 44·5363 |
| 102 | 27 | 11·8076 | 22·4819 |
| 103 | 28 | 6·1207 | 10·6743 |
| 104 | 29 | 3·0682 | 4·5536 |
| 105 | 30 | 1·4854 | 1·4854 |

## JOINT LIVES:—Two Males.

### Difference of Age 33 Years.

### Difference of Age 74 Years.

**Difference of Age 33 Years.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 33 | 0 | 927,690 | 12,459,548 |
| 34 | 1 | 745,234 | 11,531,858 |
| 35 | 2 | 669,564 | 10,786,624 |
| 36 | 3 | 619,926 | 10,117,060 |
| 37 | 4 | 580,726 | 9,497,134 |
| 38 | 5 | 547,190 | 8,916,408 |
| 39 | 6 | 517,634 | 8,369,218 |
| 40 | 7 | 490,868 | 7,851,584 |
| 41 | 8 | 466,082 | 7,360,716 |
| 42 | 9 | 443,038 | 6,894,634 |
| 43 | 10 | 421,436 | 6,451,596 |
| 44 | 11 | 401,032 | 6,030,160 |
| 45 | 12 | 381,625 | 5,629,128 |
| 46 | 13 | 363,058 | 5,247,503 |
| 47 | 14 | 345,203 | 4,884,445 |
| 48 | 15 | 327,966 | 4,539,242 |
| 49 | 16 | 311,273 | 4,211,276 |
| 50 | 17 | 295,075 | 3,900,003 |
| 51 | 18 | 279,339 | 3,604,928 |
| 52 | 19 | 263,898 | 3,325,589 |
| 53 | 20 | 248,878 | 3,061,691 |
| 54 | 21 | 234,293 | 2,812,813 |
| 55 | 22 | 220,273 | 2,578,520 |
| 56 | 23 | 206,804 | 2,358,247 |
| 57 | 24 | 193,868 | 2,151,443 |
| 58 | 25 | 181,445 | 1,957,575 |
| 59 | 26 | 169,514 | 1,776,130 |
| 60 | 27 | 158,056 | 1,606,616 |
| 61 | 28 | 147,051 | 1,448,560 |
| 62 | 29 | 136,482 | 1,301,509 |
| 63 | 30 | 126,334 | 1,165,027 |
| 64 | 31 | 116,595 | 1,038,693 |
| 65 | 32 | 107,254 | 922,098 |
| 66 | 33 | 98,305·9 | 814,844·3 |
| 67 | 34 | 89,746·6 | 716,538·4 |
| 68 | 35 | 81,575·6 | 626,791·8 |
| 69 | 36 | 73,794·9 | 545,216·2 |
| 70 | 37 | 66,408·6 | 471,421·3 |
| 71 | 38 | 59,422·7 | 405,012·7 |
| 72 | 39 | 52,844·1 | 345,590·0 |
| 73 | 40 | 46,680·1 | 292,745·9 |
| 74 | 41 | 40,937·6 | 246,065·8 |
| 75 | 42 | 35,622·3 | 205,128·2 |
| 76 | 43 | 30,737·6 | 169,505·9 |
| 77 | 44 | 26,284·5 | 138,768·3 |
| 78 | 45 | 22,260·2 | 112,483·8 |
| 79 | 46 | 18,658·0 | 90,223·6 |
| 80 | 47 | 15,467·0 | 71,565·6 |
| 81 | 48 | 12,671·8 | 56,098·6 |
| 82 | 49 | 10,252·7 | 43,426·8 |
| 83 | 50 | 8,185·89 | 33,174·05 |
| 84 | 51 | 6,444·29 | 24,988·16 |
| 85 | 52 | 4,995·31 | 18,543·87 |
| 86 | 53 | 3,811·05 | 13,548·56 |
| 87 | 54 | 2,859·21 | 9,737·51 |
| 88 | 55 | 2,107·52 | 6,878·30 |
| 89 | 56 | 1,524·77 | 4,770·78 |
| 90 | 57 | 1,081·71 | 3,246·01 |
| 91 | 58 | 751·672 | 2,164·298 |
| 92 | 59 | 511·071 | 1,412·626 |
| 93 | 60 | 339·603 | 901·555 |
| 94 | 61 | 220·281 | 561·952 |
| 95 | 62 | 139·303 | 341·671 |
| 96 | 63 | 85·7750 | 202·3679 |
| 97 | 64 | 51·3564 | 116·5929 |
| 98 | 65 | 29·8580 | 65·2365 |
| 99 | 66 | 16·8320 | 35·3785 |
| 100 | 67 | 9·1871 | 18·5465 |
| 101 | 68 | 4·8476 | 9·3594 |
| 102 | 69 | 2·4688 | 4·5118 |
| 103 | 70 | 1·2116 | 2·0430 |
| 104 | 71 | ·5720 | ·8314 |
| 105 | 72 | ·2594 | ·2594 |

**Difference of Age 74 Years.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 74 | 0 | 142,996 | 720,485 |
| 75 | 1 | 105,486 | 577,489 |
| 76 | 2 | 86,364·6 | 472,002·9 |
| 77 | 3 | 72,267·1 | 385,638·3 |
| 78 | 4 | 60,643·9 | 313,371·2 |
| 79 | 5 | 50,706·5 | 252,727·3 |
| 80 | 6 | 42,138·2 | 202,020·8 |
| 81 | 7 | 34,728·0 | 159,882·6 |
| 82 | 8 | 28,332·2 | 125,154·6 |
| 83 | 9 | 22,861·2 | 96,822·4 |
| 84 | 10 | 18,224·5 | 73,961·2 |
| 85 | 11 | 14,337·3 | 55,736·7 |
| 86 | 12 | 11,118·9 | 41,399·4 |
| 87 | 13 | 8,491·13 | 30,280·50 |
| 88 | 14 | 6,378·35 | 21,789·37 |
| 89 | 15 | 4,707·85 | 15,411·02 |
| 90 | 16 | 3,410·71 | 10,703·17 |
| 91 | 17 | 2,422·78 | 7,292·46 |
| 92 | 18 | 1,685·66 | 4,869·68 |
| 93 | 19 | 1,147·52 | 3,184·02 |
| 94 | 20 | 763·532 | 2,036·498 |
| 95 | 21 | 496·049 | 1,272·966 |
| 96 | 22 | 314·513 | 776·917 |
| 97 | 23 | 194·406 | 462·404 |
| 98 | 24 | 117·022 | 267·998 |
| 99 | 25 | 68·5225 | 150·9755 |
| 100 | 26 | 38·9864 | 82·4530 |
| 101 | 27 | 21·5281 | 43·4666 |
| 102 | 28 | 11·5238 | 21·9385 |
| 103 | 29 | 5·9725 | 10·4147 |
| 104 | 30 | 2·9933 | 4·4422 |
| 105 | 31 | 1·4489 | 1·4489 |

## JOINT LIVES:—Two Males.

### Difference of Age 34 Years.

### Difference of Age 73 Years.

| Ages x | Ages y | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| | | **Difference of Age 34 Years.** | |
| 34 | 0 | 904,263 | 12,016,440 |
| 35 | 1 | 726,228 | 11,112,177 |
| 36 | 2 | 652,309 | 10,385,949 |
| 37 | 3 | 603,772 | 9,733,640 |
| 38 | 4 | 565,413 | 9,129,868 |
| 39 | 5 | 532,579 | 8,564,455 |
| 40 | 6 | 503,626 | 8,031,876 |
| 41 | 7 | 477,394 | 7,528,250 |
| 42 | 8 | 453,094 | 7,050,856 |
| 43 | 9 | 430,494 | 6,597,762 |
| 44 | 10 | 409,301 | 6,167,268 |
| 45 | 11 | 389,277 | 5,757,967 |
| 46 | 12 | 370,229 | 5,368,690 |
| 47 | 13 | 352,001 | 4,998,461 |
| 48 | 14 | 334,472 | 4,646,460 |
| 49 | 15 | 317,550 | 4,311,988 |
| 50 | 16 | 301,164 | 3,994,438 |
| 51 | 17 | 285,267 | 3,693,274 |
| 52 | 18 | 269,675 | 3,408,007 |
| 53 | 19 | 254,508 | 3,138,332 |
| 54 | 20 | 239,768 | 2,883,824 |
| 55 | 21 | 225,462 | 2,644,056 |
| 56 | 22 | 211,714 | 2,418,594 |
| 57 | 23 | 198,505 | 2,206,880 |
| 58 | 24 | 185,817 | 2,008,375 |
| 59 | 25 | 173,629 | 1,822,558 |
| 60 | 26 | 161,920 | 1,648,929 |
| 61 | 27 | 150,673 | 1,487,009 |
| 62 | 28 | 139,869 | 1,336,336 |
| 63 | 29 | 129,494 | 1,196,467 |
| 64 | 30 | 119,535 | 1,066,973 |
| 65 | 31 | 109,982 | 947,438 |
| 66 | 32 | 100,829 | 837,456 |
| 67 | 33 | 92,071·7 | 736,626·7 |
| 68 | 34 | 83,710·5 | 644,555·0 |
| 69 | 35 | 75,747·0 | 560,844·5 |
| 70 | 36 | 68,185·4 | 485,097·5 |
| 71 | 37 | 61,032·0 | 416,912·1 |
| 72 | 38 | 54,293·9 | 355,880·1 |
| 73 | 39 | 47,978·5 | 301,586·2 |
| 74 | 40 | 42,093·0 | 253,607·7 |
| 75 | 41 | 36,643·4 | 211,514·7 |
| 76 | 42 | 31,633·3 | 174,871·3 |
| 77 | 43 | 27,063·8 | 143,238·0 |
| 78 | 44 | 22,932·3 | 116,174·2 |
| 79 | 45 | 19,232·3 | 93,241·9 |
| 80 | 46 | 15,952·9 | 74,009·6 |
| 81 | 47 | 13,078·4 | 58,056·7 |
| 82 | 48 | 10,589·0 | 44,978·3 |
| 83 | 49 | 8,460·66 | 34,389·27 |
| 84 | 50 | 6,665·86 | 25,928·61 |
| 85 | 51 | 5,174·31 | 19,262·75 |
| 86 | 52 | 3,951·66 | 14,088·44 |
| 87 | 53 | 2,967·86 | 10,136·78 |
| 88 | 54 | 2,190·07 | 7,168·92 |
| 89 | 55 | 1,586·42 | 4,978·85 |
| 90 | 56 | 1,126·93 | 3,392·43 |
| 91 | 57 | 784·241 | 2,265·502 |
| 92 | 58 | 534·078 | 1,481·261 |
| 93 | 59 | 355·530 | 947·183 |
| 94 | 60 | 231·075 | 591·653 |
| 95 | 61 | 146·456 | 360·578 |
| 96 | 62 | 90·4037 | 214·1219 |
| 97 | 63 | 54·2776 | 123·7182 |
| 98 | 64 | 31·6532 | 69·4406 |
| 99 | 65 | 17·9047 | 37·7874 |
| 100 | 66 | 9·8092 | 19·8827 |
| 101 | 67 | 5·1971 | 10·0735 |
| 102 | 68 | 2·6588 | 4·8764 |
| 103 | 69 | 1·3113 | 2·2176 |
| 104 | 70 | ·6224 | ·9063 |
| 105 | 71 | ·2839 | ·2839 |

**Difference of Age 73 Years.**

| Ages x | Ages y | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| 73 | 0 | 158,579 | 830,787 |
| 74 | 1 | 117,848 | 672,208 |
| 75 | 2 | 97,255·2 | 554,360·4 |
| 76 | 3 | 82,077·2 | 457,105·2 |
| 77 | 4 | 69,508·6 | 375,028·0 |
| 78 | 5 | 58,689·4 | 305,519·4 |
| 79 | 6 | 49,283·6 | 246,830·0 |
| 80 | 7 | 41,070·8 | 197,546·4 |
| 81 | 8 | 33,905·2 | 156,475·6 |
| 82 | 9 | 27,703·4 | 122,570·4 |
| 83 | 10 | 22,380·2 | 94,867·0 |
| 84 | 11 | 17,856·2 | 72,486·8 |
| 85 | 12 | 14,055·5 | 54,630·6 |
| 86 | 13 | 10,903·5 | 40,575·1 |
| 87 | 14 | 8,327·15 | 29,671·55 |
| 88 | 15 | 6,254·27 | 21,344·40 |
| 89 | 16 | 4,614·80 | 15,090·13 |
| 90 | 17 | 3,341·75 | 10,475·33 |
| 91 | 18 | 2,372·43 | 7,133·58 |
| 92 | 19 | 1,649·55 | 4,761·15 |
| 93 | 20 | 1,122·14 | 3,111·60 |
| 94 | 21 | 746·098 | 1,989·455 |
| 95 | 22 | 484·633 | 1,243·357 |
| 96 | 23 | 307·220 | 758·724 |
| 97 | 24 | 189·865 | 451·504 |
| 98 | 25 | 114·269 | 261·639 |
| 99 | 26 | 66·8988 | 147·3696 |
| 100 | 27 | 38·0560 | 80·4708 |
| 101 | 28 | 21·0106 | 42·4148 |
| 102 | 29 | 11·2447 | 21·4042 |
| 103 | 30 | 5·8268 | 10·1595 |
| 104 | 31 | 2·9197 | 4·3327 |
| 105 | 32 | 1·4130 | 1·4130 |

## JOINT LIVES:—Two Males.

**Difference of Age 35 Years.**

**Difference of Age 72 Years.**

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| | | **Difference of Age 35 Years.** | |
| 35 | 0 | 881,201 | 11,581,108 |
| 36 | 1 | 707,513 | 10,699,907 |
| 37 | 2 | 635,311 | 9,992,394 |
| 38 | 3 | 587,851 | 9,357,083 |
| 39 | 4 | 550,315 | 8,769,232 |
| 40 | 5 | 518,166 | 8,218,917 |
| 41 | 6 | 489,802 | 7,700,751 |
| 42 | 7 | 464,091 | 7,210,949 |
| 43 | 8 | 440,266 | 6,746,858 |
| 44 | 9 | 418,098 | 6,306,592 |
| 45 | 10 | 397,304 | 5,888,494 |
| 46 | 11 | 377,652 | 5,491,190 |
| 47 | 12 | 358,954 | 5,113,538 |
| 48 | 13 | 341,059 | 4,754,584 |
| 49 | 14 | 323,850 | 4,413,525 |
| 50 | 15 | 307,237 | 4,089,675 |
| 51 | 16 | 291,154 | 3,782,438 |
| 52 | 17 | 275,399 | 3,491,284 |
| 53 | 18 | 260,080 | 3,215,885 |
| 54 | 19 | 245,191 | 2,955,805 |
| 55 | 20 | 230,730 | 2,710,614 |
| 56 | 21 | 216,701 | 2,479,884 |
| 57 | 22 | 203,217 | 2,263,183 |
| 58 | 23 | 190,261 | 2,059,966 |
| 59 | 24 | 177,812 | 1,869,705 |
| 60 | 25 | 165,850 | 1,691,893 |
| 61 | 26 | 154,357 | 1,526,043 |
| 62 | 27 | 143,315 | 1,371,686 |
| 63 | 28 | 132,708 | 1,228,371 |
| 64 | 29 | 122,525 | 1,095,663 |
| 65 | 30 | 112,755 | 973,138 |
| 66 | 31 | 103,393 | 860,383 |
| 67 | 32 | 94,434·6 | 756,989·5 |
| 68 | 33 | 85,879·3 | 662,554·9 |
| 69 | 34 | 77,729·3 | 576,675·6 |
| 70 | 35 | 69,989·1 | 498,946·3 |
| 71 | 36 | 62,665·0 | 428,957·2 |
| 72 | 37 | 55,764·3 | 366,292·2 |
| 73 | 38 | 49,294·8 | 310,527·9 |
| 74 | 39 | 43,263·8 | 261,233·1 |
| 75 | 40 | 37,677·6 | 217,969·3 |
| 76 | 41 | 32,540·0 | 180,291·7 |
| 77 | 42 | 27,852·4 | 147,751·7 |
| 78 | 43 | 23,612·2 | 119,899·3 |
| 79 | 44 | 19,813·1 | 96,287·1 |
| 80 | 45 | 16,443·9 | 76,474·0 |
| 81 | 46 | 13,489·2 | 60,030·1 |
| 82 | 47 | 10,928·7 | 46,540·9 |
| 83 | 48 | 8,738·18 | 35,612·20 |
| 84 | 49 | 6,889·61 | 26,874·02 |
| 85 | 50 | 5,352·21 | 19,984·41 |
| 86 | 51 | 4,093·26 | 14,632·20 |
| 87 | 52 | 3,077·35 | 10,538·94 |
| 88 | 53 | 2,273·29 | 7,461·59 |
| 89 | 54 | 1,648·56 | 5,188·30 |
| 90 | 55 | 1,172·50 | 3,539·74 |
| 91 | 56 | 817·029 | 2,367·244 |
| 92 | 57 | 557·220 | 1,550·215 |
| 93 | 58 | 371·535 | 992·995 |
| 94 | 59 | 241·912 | 621·460 |
| 95 | 60 | 153·632 | 379·548 |
| 96 | 61 | 95·0455 | 225·9155 |
| 97 | 62 | 57·2066 | 130·8700 |
| 98 | 63 | 33·4537 | 73·6634 |
| 99 | 64 | 18·9812 | 40·2097 |
| 100 | 65 | 10·4343 | 21·2285 |
| 101 | 66 | 5·5490 | 10·7942 |
| 102 | 67 | 2·8505 | 5·2452 |
| 103 | 68 | 1·4122 | 2·3947 |
| 104 | 69 | ·6736 | ·9825 |
| 105 | 70 | ·3089 | ·3089 |

**Difference of Age 72 Years.**

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 72 | 0 | 174,660 | 951,065 |
| 73 | 1 | 130,690 | 776,405 |
| 74 | 2 | 108,653 | 645,715 |
| 75 | 3 | 92,427·2 | 537,061·6 |
| 76 | 4 | 78,944·3 | 444,634·4 |
| 77 | 5 | 67,268·4 | 365,690·1 |
| 78 | 6 | 57,042·5 | 298,421·7 |
| 79 | 7 | 48,035·1 | 241,379·2 |
| 80 | 8 | 40,097·6 | 193,344·1 |
| 81 | 9 | 33,152·7 | 153,246·5 |
| 82 | 10 | 27,120·5 | 120,093·8 |
| 83 | 11 | 21,928·0 | 92,973·3 |
| 84 | 12 | 17,505·2 | 71,045·3 |
| 85 | 13 | 13,783·2 | 53,540·1 |
| 86 | 14 | 10,693·0 | 39,756·9 |
| 87 | 15 | 8,165·16 | 29,063·92 |
| 88 | 16 | 6,130·64 | 20,898·76 |
| 89 | 17 | 4,521·49 | 14,768·12 |
| 90 | 18 | 3,272·31 | 10,246·63 |
| 91 | 19 | 2,321·60 | 6,974·32 |
| 92 | 20 | 1,613·06 | 4,652·72 |
| 93 | 21 | 1,096·51 | 3,039·66 |
| 94 | 22 | 728·928 | 1,943·148 |
| 95 | 23 | 473·395 | 1,214·220 |
| 96 | 24 | 300·043 | 740·825 |
| 97 | 25 | 185·397 | 440·782 |
| 98 | 26 | 111·561 | 255·385 |
| 99 | 27 | 65·3022 | 143·8238 |
| 100 | 28 | 37·1412 | 78·5216 |
| 101 | 29 | 20·5018 | 41·3804 |
| 102 | 30 | 10·9703 | 20·8786 |
| 103 | 31 | 5·6834 | 9·9083 |
| 104 | 32 | 2·8473 | 4·2249 |
| 105 | 33 | 1·3776 | 1·3776 |

## JOINT LIVES:—Two Males.

**Difference of Age 36 Years.**

**Difference of Age 71 Years.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 36 Years.** | |
| 36 | 0 | 858,492 | 11,153,477 |
| 37 | 1 | 689,076 | 10,294,985 |
| 38 | 2 | 618,558 | 9,605,909 |
| 39 | 3 | 572,154 | 8,987,351 |
| 40 | 4 | 535,422 | 8,415,197 |
| 41 | 5 | 503,943 | 7,879,775 |
| 42 | 6 | 476,153 | 7,375,832 |
| 43 | 7 | 450,951 | 6,899,679 |
| 44 | 8 | 427,588 | 6,448,728 |
| 45 | 9 | 405,844 | 6,021,140 |
| 46 | 10 | 385,440 | 5,615,296 |
| 47 | 11 | 366,151 | 5,229,856 |
| 48 | 12 | 347,795 | 4,863,705 |
| 49 | 13 | 330,227 | 4,515,910 |
| 50 | 14 | 313,332 | 4,185,683 |
| 51 | 15 | 297,025 | 3,872,351 |
| 52 | 16 | 281,082 | 3,575,326 |
| 53 | 17 | 265,599 | 3,294,244 |
| 54 | 18 | 250,559 | 3,028,645 |
| 55 | 19 | 235,949 | 2,778,086 |
| 56 | 20 | 221,764 | 2,542,137 |
| 57 | 21 | 208,004 | 2,320,373 |
| 58 | 22 | 194,778 | 2,112,369 |
| 59 | 23 | 182,065 | 1,917,591 |
| 60 | 24 | 169,846 | 1,735,526 |
| 61 | 25 | 158,103 | 1,565,680 |
| 62 | 26 | 146,818 | 1,407,577 |
| 63 | 27 | 135,977 | 1,260,759 |
| 64 | 28 | 125,566 | 1,124,782 |
| 65 | 29 | 115,576 | 999,216 |
| 66 | 30 | 106,000 | 883,640 |
| 67 | 31 | 96,836·4 | 777,639·5 |
| 68 | 32 | 88,083·2 | 680,803·1 |
| 69 | 33 | 79,743·1 | 592,719·9 |
| 70 | 34 | 71,820·8 | 512,976·8 |
| 71 | 35 | 64,322·6 | 441,156·0 |
| 72 | 36 | 57,256·3 | 376,833·4 |
| 73 | 37 | 50,629·8 | 319,577·1 |
| 74 | 38 | 44,450·8 | 268,947·3 |
| 75 | 39 | 38,725·6 | 224,496·5 |
| 76 | 40 | 33,458·4 | 185,770·9 |
| 77 | 41 | 28,650·8 | 152,312·5 |
| 78 | 42 | 24,300·3 | 123,661·7 |
| 79 | 43 | 20,400·5 | 99,361·4 |
| 80 | 44 | 16,940·5 | 78,960·9 |
| 81 | 45 | 13,904·4 | 62,020·4 |
| 82 | 46 | 11,272·0 | 48,116·0 |
| 83 | 47 | 9,018·52 | 36,843·97 |
| 84 | 48 | 7,115·59 | 27,825·45 |
| 85 | 49 | 5,531·87 | 20,709·86 |
| 86 | 50 | 4,233·99 | 15,177·99 |
| 87 | 51 | 3,187·62 | 10,944·00 |
| 88 | 52 | 2,357·16 | 7,756·38 |
| 89 | 53 | 1,711·20 | 5,399·22 |
| 90 | 54 | 1,218·42 | 3,688·02 |
| 91 | 55 | 850·062 | 2,469·600 |
| 92 | 56 | 580·517 | 1,619·538 |
| 93 | 57 | 387·633 | 1,039·021 |
| 94 | 58 | 252·803 | 651·388 |
| 95 | 59 | 160·837 | 398·585 |
| 96 | 60 | 99·7027 | 237·7480 |
| 97 | 61 | 60·1439 | 138·0453 |
| 98 | 62 | 35·2590 | 77·9014 |
| 99 | 63 | 20·0609 | 42·6424 |
| 100 | 64 | 11·0616 | 22·5815 |
| 101 | 65 | 5·9026 | 11·5199 |
| 102 | 66 | 3·0435 | 5·6173 |
| 103 | 67 | 1·5140 | 2·5738 |
| 104 | 68 | ·7255 | 1·0598 |
| 105 | 69 | ·3343 | ·3343 |

**Difference of Age 71 Years.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | | |
| 71 | 0 | 191,160 | 1,081,387 |
| 72 | 1 | 143,944 | 890,227 |
| 73 | 2 | 120,493 | 746,283 |
| 74 | 3 | 103,259 | 625,790 |
| 75 | 4 | 88,899·2 | 522,530·6 |
| 76 | 5 | 76,400·0 | 433,631·4 |
| 77 | 6 | 65,380·8 | 357,231·4 |
| 78 | 7 | 55,597·5 | 291,850·6 |
| 79 | 8 | 46,897·0 | 236,253·1 |
| 80 | 9 | 39,207·7 | 189,356·1 |
| 81 | 10 | 32,455·1 | 150,148·4 |
| 82 | 11 | 26,572·6 | 117,693·3 |
| 83 | 12 | 21,497·0 | 91,120·7 |
| 84 | 13 | 17,166·2 | 69,623·7 |
| 85 | 14 | 13,517·0 | 52,457·5 |
| 86 | 15 | 10,485·0 | 38,940·5 |
| 87 | 16 | 8,003·77 | 28,455·54 |
| 88 | 17 | 6,006·69 | 20,451·77 |
| 89 | 18 | 4,427·53 | 14,445·08 |
| 90 | 19 | 3,202·20 | 10,017·55 |
| 91 | 20 | 2,270·25 | 6,815·35 |
| 92 | 21 | 1,576·23 | 4,545·10 |
| 93 | 22 | 1,071·28 | 2,968·87 |
| 94 | 23 | 712·025 | 1,897·586 |
| 95 | 24 | 462·337 | 1,185·561 |
| 96 | 25 | 292·984 | 723·224 |
| 97 | 26 | 181·004 | 430·240 |
| 98 | 27 | 108·899 | 249·236 |
| 99 | 28 | 63·7324 | 140·3374 |
| 100 | 29 | 36·2417 | 76·6050 |
| 101 | 30 | 20·0015 | 40·3633 |
| 102 | 31 | 10·7005 | 20·3618 |
| 103 | 32 | 5·5425 | 9·6613 |
| 104 | 33 | 2·7760 | 4·1188 |
| 105 | 34 | 1·3428 | 1·3428 |

## JOINT LIVES:—Two Males.

### Difference of Age 37 Years.

### Difference of Age 70 Years.

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Difference of Age 37 Years.** | |
| 37 | 0 | 836,121 | 10,733,487 |
| 38 | 1 | 670,906 | 9,897,366 |
| 39 | 2 | 602,041 | 9,226,460 |
| 40 | 3 | 556,671 | 8,624,419 |
| 41 | 4 | 520,725 | 8,067,748 |
| 42 | 5 | 489,900 | 7,547,023 |
| 43 | 6 | 462,671 | 7,057,123 |
| 44 | 7 | 437,966 | 6,594,452 |
| 45 | 8 | 415,055 | 6,156,486 |
| 46 | 9 | 393,724 | 5,741,431 |
| 47 | 10 | 373,701 | 5,347,707 |
| 48 | 11 | 354,769 | 4,974,006 |
| 49 | 12 | 336,750 | 4,619,237 |
| 50 | 13 | 319,502 | 4,282,487 |
| 51 | 14 | 302,917 | 3,962,985 |
| 52 | 15 | 286,750 | 3,660,068 |
| 53 | 16 | 271,080 | 3,373,318 |
| 54 | 17 | 255,877 | 3,102,238 |
| 55 | 18 | 241,115 | 2,846,361 |
| 56 | 19 | 226,780 | 2,605,246 |
| 57 | 20 | 212,865 | 2,378,466 |
| 58 | 21 | 199,366 | 2,165,601 |
| 59 | 22 | 186,387 | 1,966,235 |
| 60 | 23 | 173,909 | 1,779,848 |
| 61 | 24 | 161,913 | 1,605,939 |
| 62 | 25 | 150,382 | 1,444,026 |
| 63 | 26 | 139,301 | 1,293,644 |
| 64 | 27 | 128,658 | 1,154,343 |
| 65 | 28 | 118,444 | 1,025,685 |
| 66 | 29 | 108,652 | 907,241 |
| 67 | 30 | 99,278·4 | 798,588·7 |
| 68 | 31 | 90,323·4 | 699,310·3 |
| 69 | 32 | 81,789·5 | 608,986·9 |
| 70 | 33 | 73,681·5 | 527,197·4 |
| 71 | 34 | 66,006·0 | 453,515·9 |
| 72 | 35 | 58,770·9 | 387,509·9 |
| 73 | 36 | 51,984·5 | 328,739·0 |
| 74 | 37 | 45,654·7 | 276,754·5 |
| 75 | 38 | 39,788·0 | 231,099·8 |
| 76 | 39 | 34,389·1 | 191,311·8 |
| 77 | 40 | 29,459·4 | 156,922·7 |
| 78 | 41 | 24,996·8 | 127,463·3 |
| 79 | 42 | 20,994·9 | 102,466·5 |
| 80 | 43 | 17,442·7 | 81,471·6 |
| 81 | 44 | 14,324·3 | 64,028·9 |
| 82 | 45 | 11,619·0 | 49,704·6 |
| 83 | 46 | 9,301·80 | 38,085·64 |
| 84 | 47 | 7,343·88 | 28,783·84 |
| 85 | 48 | 5,713·32 | 21,439·96 |
| 86 | 49 | 4,376·11 | 15,726·64 |
| 87 | 50 | 3,297·22 | 11,350·53 |
| 88 | 51 | 2,441·62 | 8,053·31 |
| 89 | 52 | 1,774·33 | 5.611·69 |
| 90 | 53 | 1,264·72 | 3,837·36 |
| 91 | 54 | 883·358 | 2,572·642 |
| 92 | 55 | 603·987 | 1,689·284 |
| 93 | 56 | 403·840 | 1,085·297 |
| 94 | 57 | 263·756 | 681·457 |
| 95 | 58 | 168·078 | 417·701 |
| 96 | 59 | 104·379 | 249·623 |
| 97 | 60 | 63·0910 | 145·2438 |
| 98 | 61 | 37·0694 | 82·1528 |
| 99 | 62 | 21·1434 | 45·0834 |
| 100 | 63 | 11·6908 | 23·9400 |
| 101 | 64 | 6·2575 | 12·2492 |
| 102 | 65 | 3·2374 | 5·9917 |
| 103 | 66 | 1·6165 | 2·7543 |
| 104 | 67 | ·7778 | 1·1378 |
| 105 | 68 | ·3600 | ·3600 |
| | | **Difference of Age 70 Years.** | |
| 70 | 0 | 208,000 | 1,221,757 |
| 71 | 1 | 157,541 | 1,013,757 |
| 72 | 2 | 132,712 | 856,216 |
| 73 | 3 | 114,511 | 723,504 |
| 74 | 4 | 99,317·4 | 608,993·2 |
| 75 | 5 | 86,034·1 | 509,675·8 |
| 76 | 6 | 74,256·1 | 423,641·7 |
| 77 | 7 | 63,724·5 | 349,385·6 |
| 78 | 8 | 54,280·2 | 285,661·1 |
| 79 | 9 | 45,856·1 | 231,380·9 |
| 80 | 10 | 38,382·7 | 185,524·8 |
| 81 | 11 | 31,799·4 | 147,142·1 |
| 82 | 12 | 26,050·2 | 115,342·7 |
| 83 | 13 | 21,080·6 | 89,292·5 |
| 84 | 14 | 16,834·7 | 68,211·9 |
| 85 | 15 | 13,254·1 | 51,377·2 |
| 86 | 16 | 10,277·7 | 38,123·1 |
| 87 | 17 | 7,841·94 | 27,845·41 |
| 88 | 18 | 5,881·86 | 20,003·47 |
| 89 | 19 | 4,332·67 | 14,121·61 |
| 90 | 20 | 3,131·37 | 9,788·94 |
| 91 | 21 | 2,218·41 | 6,657·57 |
| 92 | 22 | 1,539·95 | 4,439·16 |
| 93 | 23 | 1,046·44 | 2,899·21 |
| 94 | 24 | 695·392 | 1,852·767 |
| 95 | 25 | 451·459 | 1,157·375 |
| 96 | 26 | 286·041 | 705·916 |
| 97 | 27 | 176·685 | 419·875 |
| 98 | 28 | 106·281 | 243·190 |
| 99 | 29 | 62·1890 | 136·9092 |
| 100 | 30 | 35·3573 | 74·7202 |
| 101 | 31 | 19·5095 | 39·3629 |
| 102 | 32 | 10·4351 | 19·8534 |
| 103 | 33 | 5·4038 | 9·4183 |
| 104 | 34 | 2·7059 | 4·0145 |
| 105 | 35 | 1·3086 | 1·3086 |

## JOINT LIVES:—TWO MALES.

### Difference of Age 38 Years.

### Difference of Age 69 Years.

#### Difference of Age 38 Years.

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 38 | 0 | 814,074 | 10,321,077 |
| 39 | 1 | 652,991 | 9,507,003 |
| 40 | 2 | 585,749 | 8,854,012 |
| 41 | 3 | 541,390 | 8,268,263 |
| 42 | 4 | 506,215 | 7,726,873 |
| 43 | 5 | 476,029 | 7,220,658 |
| 44 | 6 | 449,349 | 6,744,629 |
| 45 | 7 | 425,129 | 6,295,280 |
| 46 | 8 | 402,661 | 5,870,151 |
| 47 | 9 | 381,733 | 5,467,490 |
| 48 | 10 | 362,085 | 5,085,757 |
| 49 | 11 | 343,502 | 4,723,672 |
| 50 | 12 | 325,813 | 4,380,170 |
| 51 | 13 | 308,882 | 4,054,357 |
| 52 | 14 | 292,439 | 3,745,475 |
| 53 | 15 | 276,547 | 3,453,036 |
| 54 | 16 | 261,157 | 3,176,489 |
| 55 | 17 | 246,232 | 2,915,332 |
| 56 | 18 | 231,745 | 2,669,100 |
| 57 | 19 | 217,680 | 2,437,355 |
| 58 | 20 | 204,024 | 2,219,675 |
| 59 | 21 | 190,778 | 2,015,651 |
| 60 | 22 | 178,037 | 1,824,873 |
| 61 | 23 | 165,785 | 1,646,836 |
| 62 | 24 | 154,005 | 1,481,051 |
| 63 | 25 | 142,682 | 1,327,046 |
| 64 | 26 | 131,804 | 1,184,364 |
| 65 | 27 | 121,362 | 1,052,560 |
| 66 | 28 | 111,348 | 931,198 |
| 67 | 29 | 101,762 | 819,850 |
| 68 | 30 | 92,601·2 | 718,088·2 |
| 69 | 31 | 83,869·7 | 625,487·0 |
| 70 | 32 | 75,572·4 | 541,617·3 |
| 71 | 33 | 67,716·1 | 466,044·9 |
| 72 | 34 | 60,309·0 | 398,328·8 |
| 73 | 35 | 53,359·6 | 338,019·8 |
| 74 | 36 | 46,876·2 | 284,660·2 |
| 75 | 37 | 40,865·6 | 237,784·0 |
| 76 | 38 | 35,332·5 | 196,918·4 |
| 77 | 39 | 30,278·8 | 161,585·9 |
| 78 | 40 | 25,702·3 | 131,307·1 |
| 79 | 41 | 21,596·8 | 105,604·8 |
| 80 | 42 | 17,951·0 | 84,008·0 |
| 81 | 43 | 14,749·0 | 66,057·0 |
| 82 | 44 | 11,969·8 | 51,308·0 |
| 83 | 45 | 9,588·13 | 39,338·15 |
| 84 | 46 | 7,574·56 | 29,750·02 |
| 85 | 47 | 5,896·62 | 22,175·46 |
| 86 | 48 | 4,519·65 | 16,278·84 |
| 87 | 49 | 3,407·90 | 11,759·19 |
| 88 | 50 | 2,525·57 | 8,351·29 |
| 89 | 51 | 1,837·91 | 5,825·72 |
| 90 | 52 | 1,311·38 | 3,987·81 |
| 91 | 53 | 916·924 | 2,676·426 |
| 92 | 54 | 627·644 | 1,759·502 |
| 93 | 55 | 420·167 | 1,131·858 |
| 94 | 56 | 274·784 | 711·691 |
| 95 | 57 | 175·361 | 436·907 |
| 96 | 58 | 109·078 | 261·546 |
| 97 | 59 | 66·0499 | 152·4679 |
| 98 | 60 | 38·8858 | 86·4180 |
| 99 | 61 | 22·2291 | 47·5322 |
| 100 | 62 | 12·3217 | 25·3031 |
| 101 | 63 | 6·6134 | 12·9814 |
| 102 | 64 | 3·4321 | 6·3680 |
| 103 | 65 | 1·7195 | 2·9359 |
| 104 | 66 | ·8304 | 1·2164 |
| 105 | 67 | ·3860 | ·3860 |

#### Difference of Age 69 Years.

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 69 | 0 | 225,111 | 1,372,140 |
| 70 | 1 | 171,420 | 1,147,029 |
| 71 | 2 | 145,249 | 975,609 |
| 72 | 3 | 126,124 | 830,360 |
| 73 | 4 | 110,140 | 704,236 |
| 74 | 5 | 96,116·5 | 594,096·3 |
| 75 | 6 | 83,619·8 | 497,979·8 |
| 76 | 7 | 72,375·0 | 414,360·0 |
| 77 | 8 | 62,214·6 | 341,985·0 |
| 78 | 9 | 53,075·4 | 279,770·4 |
| 79 | 10 | 44,891·3 | 226,695·0 |
| 80 | 11 | 37,607·2 | 181,803·7 |
| 81 | 12 | 31,174·3 | 144,196·5 |
| 82 | 13 | 25,545·7 | 113,022·2 |
| 83 | 14 | 20,673·5 | 87,476·5 |
| 84 | 15 | 16,507·2 | 66,803·0 |
| 85 | 16 | 12,992·1 | 50,295·8 |
| 86 | 17 | 10,069·9 | 37,303·7 |
| 87 | 18 | 7,678·97 | 27,233·80 |
| 88 | 19 | 5,755·84 | 19,554·83 |
| 89 | 20 | 4,236·84 | 13,798·99 |
| 90 | 21 | 3,059·87 | 9,562·15 |
| 91 | 22 | 2,167·36 | 6,502·28 |
| 92 | 23 | 1,504·24 | 4,334·92 |
| 93 | 24 | 1,021·99 | 2,830·68 |
| 94 | 25 | 679·031 | 1,808·690 |
| 95 | 26 | 440·762 | 1,129·659 |
| 96 | 27 | 279·215 | 688·897 |
| 97 | 28 | 172·437 | 409·682 |
| 98 | 29 | 103·707 | 237·245 |
| 99 | 30 | 60·6714 | 133·5377 |
| 100 | 31 | 34·4876 | 72·8663 |
| 101 | 32 | 19·0256 | 38·3787 |
| 102 | 33 | 10·1740 | 19·3531 |
| 103 | 34 | 5·2673 | 9·1791 |
| 104 | 35 | 2·6369 | 3·9118 |
| 105 | 36 | 1·2749 | 1·2749 |

## JOINT LIVES:—Two Males.

### Difference of Age 39 Years.

### Difference of Age 68 Years.

**Difference of Age 39 Years.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 39 | 0 | 792,336 | 9,916,192 |
| 40 | 1 | 635,320 | 9,123,856 |
| 41 | 2 | 569,671 | 8,488,536 |
| 42 | 3 | 526,304 | 7,918,865 |
| 43 | 4 | 491,882 | 7,392,561 |
| 44 | 5 | 462,322 | 6,900,679 |
| 45 | 6 | 436,178 | 6,438,357 |
| 46 | 7 | 412,433 | 6,002,179 |
| 47 | 8 | 390,398 | 5,589,746 |
| 48 | 9 | 369,867 | 5,199,348 |
| 49 | 10 | 350,585 | 4,829,481 |
| 50 | 11 | 332,346 | 4,478,896 |
| 51 | 12 | 314,983 | 4,146,550 |
| 52 | 13 | 298,197 | 3,831,567 |
| 53 | 14 | 282,033 | 3,533,370 |
| 54 | 15 | 266,423 | 3,251,337 |
| 55 | 16 | 251,313 | 2,984,914 |
| 56 | 17 | 236,664 | 2,733,601 |
| 57 | 18 | 222,445 | 2,496,937 |
| 58 | 19 | 208,639 | 2,274,492 |
| 59 | 20 | 195,235 | 2,065,853 |
| 60 | 21 | 182,231 | 1,870,618 |
| 61 | 22 | 169,721 | 1,688,387 |
| 62 | 23 | 157,689 | 1,518,666 |
| 63 | 24 | 146,120 | 1,360,977 |
| 64 | 25 | 135,003 | 1,214,857 |
| 65 | 26 | 124,329 | 1,079,854 |
| 66 | 27 | 114,091 | 955,525 |
| 67 | 28 | 104,287 | 841,434 |
| 68 | 29 | 94,917·4 | 737,146·9 |
| 69 | 30 | 85,984·7 | 642,229·5 |
| 70 | 31 | 77,494·5 | 556,244·8 |
| 71 | 32 | 69,453·9 | 478,750·3 |
| 72 | 33 | 61,871·4 | 409,296·4 |
| 73 | 34 | 54,756·1 | 347,425·0 |
| 74 | 35 | 48,116·2 | 292,668·9 |
| 75 | 36 | 41,959·0 | 244,552·7 |
| 76 | 37 | 36,289·4 | 202,593·7 |
| 77 | 38 | 31,109·5 | 166,304·3 |
| 78 | 39 | 26,417·2 | 135,194·8 |
| 79 | 40 | 22,206·3 | 108,777·6 |
| 80 | 41 | 18,465·5 | 86,571·3 |
| 81 | 42 | 15,178·7 | 68,105·8 |
| 82 | 43 | 12,324·7 | 52,927·1 |
| 83 | 44 | 9,877·66 | 40,602·35 |
| 84 | 45 | 7,807·72 | 30,724·69 |
| 85 | 46 | 6,081·83 | 22,916·97 |
| 86 | 47 | 4,664·65 | 16,835·14 |
| 87 | 48 | 3,519·68 | 12,170·49 |
| 88 | 49 | 2,610·35 | 8,650·81 |
| 89 | 50 | 1,901·11 | 6,040·46 |
| 90 | 51 | 1,358·37 | 4,139·35 |
| 91 | 52 | 950·753 | 2,780·981 |
| 92 | 53 | 651·493 | 1,830·228 |
| 93 | 54 | 436·624 | 1,178·735 |
| 94 | 55 | 285·893 | 742·111 |
| 95 | 56 | 182·692 | 456·218 |
| 96 | 57 | 113·804 | 273·526 |
| 97 | 58 | 69·0233 | 159·7215 |
| 98 | 59 | 40·7095 | 90·6982 |
| 99 | 60 | 23·3183 | 49·9887 |
| 100 | 61 | 12·9544 | 26·6704 |
| 101 | 62 | 6·9703 | 13·7160 |
| 102 | 63 | 3·6273 | 6·7457 |
| 103 | 64 | 1·8229 | 3·1184 |
| 104 | 65 | ·8834 | 1·2955 |
| 105 | 66 | ·4121 | ·4121 |

**Difference of Age 68 Years.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 68 | 0 | 242,434 | 1,532,453 |
| 69 | 1 | 185,522 | 1,290,019 |
| 70 | 2 | 158,045 | 1,104,497 |
| 71 | 3 | 138,038 | 946,452 |
| 72 | 4 | 121,310 | 808,414 |
| 73 | 5 | 106,591 | 687,104 |
| 74 | 6 | 93,419·3 | 580,512·9 |
| 75 | 7 | 81,501·6 | 487,093·6 |
| 76 | 8 | 70,660·1 | 405,592·0 |
| 77 | 9 | 60,833·8 | 334,931·9 |
| 78 | 10 | 51,958·7 | 274,098·1 |
| 79 | 11 | 43,984·3 | 222,139·4 |
| 80 | 12 | 36,868·0 | 178,155·1 |
| 81 | 13 | 30,570·5 | 141,287·1 |
| 82 | 14 | 25,052·3 | 110,716·6 |
| 83 | 15 | 20,271·3 | 85,664·3 |
| 84 | 16 | 16,180·9 | 65,393·0 |
| 85 | 17 | 12,729·4 | 49,212·1 |
| 86 | 18 | 9,860·64 | 36,482·67 |
| 87 | 19 | 7,514·45 | 26,622·03 |
| 88 | 20 | 5,628·53 | 19,107·58 |
| 89 | 21 | 4,140·10 | 13,479·05 |
| 90 | 22 | 2,989·45 | 9,338·95 |
| 91 | 23 | 2,117·10 | 6,349·50 |
| 92 | 24 | 1,469·11 | 4,232·40 |
| 93 | 25 | 997·948 | 2,763·293 |
| 94 | 26 | 662·941 | 1,765·345 |
| 95 | 27 | 430·242 | 1,102·404 |
| 96 | 28 | 272·503 | 672·162 |
| 97 | 29 | 168·261 | 399·659 |
| 98 | 30 | 101·176 | 231·398 |
| 99 | 31 | 59·1791 | 130·2215 |
| 100 | 32 | 33·6322 | 71·0424 |
| 101 | 33 | 18·5496 | 37·4102 |
| 102 | 34 | 9·9170 | 18·8606 |
| 103 | 35 | 5·1330 | 8·9436 |
| 104 | 36 | 2·5690 | 3·8106 |
| 105 | 37 | 1·2416 | 1·2416 |

## JOINT LIVES:—Two Males.

### Difference of Age 40 Years.

### Difference of Age 67 Years.

**Difference of Age 40 Years.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 40 | 0 | 770,894 | 9,518,796 |
| 41 | 1 | 617,881 | 8,747,902 |
| 42 | 2 | 553,796 | 8,130,021 |
| 43 | 3 | 511,402 | 7,576,225 |
| 44 | 4 | 477,719 | 7,064,823 |
| 45 | 5 | 448,771 | 6,587,104 |
| 46 | 6 | 423,152 | 6,138,333 |
| 47 | 7 | 399,873 | 5,715,181 |
| 48 | 8 | 378,262 | 5,315,308 |
| 49 | 9 | 358,120 | 4,937,046 |
| 50 | 10 | 339,200 | 4,578,926 |
| 51 | 11 | 321,299 | 4,239,726 |
| 52 | 12 | 304,087 | 3,918,427 |
| 53 | 13 | 287,587 | 3,614,340 |
| 54 | 14 | 271,709 | 3,326,753 |
| 55 | 15 | 256,381 | 3,055,044 |
| 56 | 16 | 241,548 | 2,798,663 |
| 57 | 17 | 227,166 | 2,557,115 |
| 58 | 18 | 213,207 | 2,329,949 |
| 59 | 19 | 199,651 | 2,116,742 |
| 60 | 20 | 186,489 | 1,917,091 |
| 61 | 21 | 173,719 | 1,730,602 |
| 62 | 22 | 161,432 | 1,556,883 |
| 63 | 23 | 149,615 | 1,395,451 |
| 64 | 24 | 138,256 | 1,245,836 |
| 65 | 25 | 127,346 | 1,107,580 |
| 66 | 26 | 116,880 | 980,234 |
| 67 | 27 | 106,856 | 863,354 |
| 68 | 28 | 97,273·1 | 756,497·5 |
| 69 | 29 | 88,135·4 | 659,224·4 |
| 70 | 30 | 79,448·7 | 571,089·0 |
| 71 | 31 | 71,220·3 | 491,640·3 |
| 72 | 32 | 63,459·2 | 420,420·0 |
| 73 | 33 | 56,174·7 | 356,960·8 |
| 74 | 34 | 49,375·4 | 300,786·1 |
| 75 | 35 | 43,068·9 | 251,410·7 |
| 76 | 36 | 37,260·4 | 208,341·8 |
| 77 | 37 | 31,952·0 | 171,081·4 |
| 78 | 38 | 27,142·0 | 139,129·4 |
| 79 | 39 | 22,824·0 | 111,987·4 |
| 80 | 40 | 18,986·7 | 89,163·4 |
| 81 | 41 | 15,613·8 | 70,176·7 |
| 82 | 42 | 12,683·8 | 54,562·9 |
| 83 | 43 | 10,170·5 | 41,879·1 |
| 84 | 44 | 8,043·48 | 31,708·58 |
| 85 | 45 | 6,269·05 | 23,665·10 |
| 86 | 46 | 4,811·18 | 17,396·05 |
| 87 | 47 | 3,632·60 | 12,584·87 |
| 88 | 48 | 2,695·97 | 8,952·27 |
| 89 | 49 | 1,964·92 | 6,256·30 |
| 90 | 50 | 1,405·07 | 4,291·38 |
| 91 | 51 | 984·821 | 2,886·307 |
| 92 | 52 | 675·530 | 1,901·486 |
| 93 | 53 | 453·215 | 1,225·956 |
| 94 | 54 | 297·091 | 772·741 |
| 95 | 55 | 190·078 | 475·650 |
| 96 | 56 | 118·562 | 285·572 |
| 97 | 57 | 72·0140 | 167·0099 |
| 98 | 58 | 42·5421 | 94·9959 |
| 99 | 59 | 24·4119 | 52·4538 |
| 100 | 60 | 13·5891 | 28·0419 |
| 101 | 61 | 7·3282 | 14·4528 |
| 102 | 62 | 3·8231 | 7·1246 |
| 103 | 63 | 1·9266 | 3·3015 |
| 104 | 64 | ·9365 | 1·3749 |
| 105 | 65 | ·4384 | ·4384 |

**Difference of Age 67 Years.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 67 | 0 | 259,915 | 1,702,576 |
| 68 | 1 | 199,798 | 1,442,661 |
| 69 | 2 | 171,047 | 1,242,863 |
| 70 | 3 | 150,199 | 1,071,816 |
| 71 | 4 | 132,769 | 921,617 |
| 72 | 5 | 117,400 | 788,848 |
| 73 | 6 | 103,600 | 671,448 |
| 74 | 7 | 91,052·8 | 567,847·7 |
| 75 | 8 | 79,570·4 | 476,794·9 |
| 76 | 9 | 69,091·9 | 397,224·5 |
| 77 | 10 | 59,553·9 | 328,132·6 |
| 78 | 11 | 50,908·9 | 268,578·7 |
| 79 | 12 | 43,119·7 | 217,669·8 |
| 80 | 13 | 36,153·9 | 174,550·1 |
| 81 | 14 | 29,980·1 | 138,396·2 |
| 82 | 15 | 24,565·0 | 108,416·1 |
| 83 | 16 | 19,870·7 | 83,851·1 |
| 84 | 17 | 15,853·7 | 63,980·4 |
| 85 | 18 | 12,464·9 | 48,126·7 |
| 86 | 19 | 9,649·37 | 35,661·79 |
| 87 | 20 | 7,348·24 | 26,012·42 |
| 88 | 21 | 5,500·02 | 18,664·18 |
| 89 | 22 | 4,044·82 | 13,164·16 |
| 90 | 23 | 2,920·13 | 9,119·34 |
| 91 | 24 | 2,067·65 | 6,199·21 |
| 92 | 25 | 1,434·54 | 4,131·56 |
| 93 | 26 | 974·300 | 2,697·024 |
| 94 | 27 | 647·119 | 1,722·724 |
| 95 | 28 | 419·900 | 1,075·605 |
| 96 | 29 | 265·904 | 655·705 |
| 97 | 30 | 164·155 | 389·801 |
| 98 | 31 | 98·6876 | 225·6464 |
| 99 | 32 | 57·7113 | 126·9588 |
| 100 | 33 | 32·7907 | 69·2475 |
| 101 | 34 | 18·0811 | 36·4568 |
| 102 | 35 | 9·6641 | 18·3757 |
| 103 | 36 | 5·0007 | 8·7116 |
| 104 | 37 | 2·5020 | 3·7109 |
| 105 | 38 | 1·2089 | 1·2089 |

## JOINT LIVES:—Two Males.

### Difference of Age 41 Years.

### Difference of Age 66 Years.

| Ages x | Ages y | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| | | **Difference of Age 41 Years.** | |
| 41 | 0 | 749,734 | 9,128,852 |
| 42 | 1 | 600,663 | 8,379,118 |
| 43 | 2 | 538,116 | 7,778,455 |
| 44 | 3 | 496,677 | 7,240,339 |
| 45 | 4 | 463,716 | 6,743,662 |
| 46 | 5 | 435,370 | 6,279,946 |
| 47 | 6 | 410,266 | 5,844,576 |
| 48 | 7 | 387,442 | 5,434,310 |
| 49 | 8 | 366,249 | 5,046,868 |
| 50 | 9 | 346,490 | 4,680,619 |
| 51 | 10 | 327,925 | 4,334,129 |
| 52 | 11 | 310,184 | 4,006,204 |
| 53 | 12 | 293,267 | 3.696,020 |
| 54 | 13 | 277,059 | 3,402,753 |
| 55 | 14 | 261,467 | 3,125,694 |
| 56 | 15 | 246,418 | 2,864,227 |
| 57 | 16 | 231,854 | 2,617,809 |
| 58 | 17 | 217,732 | 2,385,955 |
| 59 | 18 | 204,023 | 2,168,223 |
| 60 | 19 | 190,707 | 1,964,200 |
| 61 | 20 | 177,778 | 1,773,493 |
| 62 | 21 | 165,235 | 1,595,715 |
| 63 | 22 | 153,167 | 1,430,480 |
| 64 | 23 | 141,563 | 1,277,313 |
| 65 | 24 | 130,415 | 1,135,750 |
| 66 | 25 | 119,717 | 1,005,335 |
| 67 | 26 | 109,468 | 885,618 |
| 68 | 27 | 99,669·0 | 776,150·1 |
| 69 | 28 | 90,322·8 | 676,481·1 |
| 70 | 29 | 81,435·9 | 586,158·3 |
| 71 | 30 | 73,016·3 | 504,722·4 |
| 72 | 31 | 65,073·2 | 431,706·1 |
| 73 | 32 | 57,616·3 | 366,632·9 |
| 74 | 33 | 50,654·6 | 309,016·6 |
| 75 | 34 | 44,196·0 | 258,362·0 |
| 76 | 35 | 38,246·0 | 214,166·0 |
| 77 | 36 | 32,806·9 | 175,920·0 |
| 78 | 37 | 27,877·1 | 143,113·1 |
| 79 | 38 | 23,450·1 | 115,236·0 |
| 80 | 39 | 19,514·8 | 91,785·9 |
| 81 | 40 | 16,054·5 | 72,271·1 |
| 82 | 41 | 13,047·4 | 56,216·6 |
| 83 | 42 | 10,466·9 | 43,169·2 |
| 84 | 43 | 8,281·96 | 32,702·30 |
| 85 | 44 | 6,458·35 | 24,420·34 |
| 86 | 45 | 4,959·27 | 17,961·99 |
| 87 | 46 | 3,746·70 | 13,002·72 |
| 88 | 47 | 2,782·46 | 9,256·02 |
| 89 | 48 | 2,029·37 | 6,473·56 |
| 90 | 49 | 1,452·24 | 4,444·19 |
| 91 | 50 | 1,018·68 | 2,991·95 |
| 92 | 51 | 699·736 | 1,973·269 |
| 93 | 52 | 469·936 | 1,273·533 |
| 94 | 53 | 308·380 | 803·597 |
| 95 | 54 | 197·523 | 495·217 |
| 96 | 55 | 123·355 | 297·694 |
| 97 | 56 | 75·0249 | 174·3393 |
| 98 | 57 | 44·3855 | 99·3144 |
| 99 | 58 | 25·5108 | 54·9289 |
| 100 | 59 | 14·2264 | 29·4181 |
| 101 | 60 | 7·6873 | 15·1917 |
| 102 | 61 | 4·0194 | 7·5044 |
| 103 | 62 | 2·0306 | 3·4850 |
| 104 | 63 | ·9897 | 1·4544 |
| 105 | 64 | ·4647 | ·4647 |

**Difference of Age 66 Years.**

| Ages x | Ages y | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| 66 | 0 | 277,513 | 1,882,367 |
| 67 | 1 | 214,205 | 1,604,854 |
| 68 | 2 | 184,209 | 1,390,649 |
| 69 | 3 | 162,555 | 1,206,440 |
| 70 | 4 | 144,466 | 1,043,885 |
| 71 | 5 | 128,490 | 899,419 |
| 72 | 6 | 114,106 | 770,929 |
| 73 | 7 | 100,975 | 656,823 |
| 74 | 8 | 88,895·3 | 555,848·3 |
| 75 | 9 | 77,804·4 | 466,953·0 |
| 76 | 10 | 67,638·1 | 389,148·6 |
| 77 | 11 | 58,350·6 | 321,510·5 |
| 78 | 12 | 49,908·2 | 263,159·9 |
| 79 | 13 | 42,284·5 | 213,251·7 |
| 80 | 14 | 35,455·7 | 170,967·2 |
| 81 | 15 | 29,396·9 | 135,511·5 |
| 82 | 16 | 24,079·4 | 106,114·6 |
| 83 | 17 | 19,468·9 | 82,035·2 |
| 84 | 18 | 15,524·3 | 62,566·3 |
| 85 | 19 | 12,197·8 | 47,042·0 |
| 86 | 20 | 9,435·95 | 34,844·20 |
| 87 | 21 | 7,180·46 | 25,408·25 |
| 88 | 22 | 5,373·44 | 18,227·79 |
| 89 | 23 | 3,951·02 | 12,854·35 |
| 90 | 24 | 2,851·92 | 8,903·33 |
| 91 | 25 | 2,019·00 | 6,051·41 |
| 92 | 26 | 1,400·55 | 4,032·41 |
| 93 | 27 | 951·048 | 2,631·862 |
| 94 | 28 | 631·563 | 1,680·814 |
| 95 | 29 | 409·731 | 1,049·251 |
| 96 | 30 | 259·415 | 639·520 |
| 97 | 31 | 160·117 | 380·105 |
| 98 | 32 | 96·2399 | 219·9879 |
| 99 | 33 | 56·2673 | 123·7480 |
| 100 | 34 | 31·9626 | 67·4807 |
| 101 | 35 | 17·6200 | 35·5181 |
| 102 | 36 | 9·4151 | 17·8981 |
| 103 | 37 | 4·8704 | 8·4830 |
| 104 | 38 | 2·4360 | 3·6126 |
| 105 | 39 | 1·1766 | 1·1766 |

## JOINT LIVES:—Two Males.

### Difference of Age 42 Years.
### Difference of Age 65 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 42 Years.** | |
| 42 | 0 | 728,842 | 8,746,335 |
| 43 | 1 | 583,656 | 8,017,493 |
| 44 | 2 | 522,621 | 7,433,837 |
| 45 | 3 | 482,119 | 6,911,216 |
| 46 | 4 | 449,868 | 6,429,097 |
| 47 | 5 | 422,111 | 5,979,229 |
| 48 | 6 | 397,512 | 5,557,118 |
| 49 | 7 | 375,137 | 5,159,606 |
| 50 | 8 | 354,354 | 4,784,469 |
| 51 | 9 | 334,973 | 4,430,115 |
| 52 | 10 | 316,581 | 4,095,142 |
| 53 | 11 | 299,148 | 3,778,561 |
| 54 | 12 | 282,532 | 3,479,413 |
| 55 | 13 | 266,616 | 3,196,881 |
| 56 | 14 | 251,307 | 2,930,265 |
| 57 | 15 | 236,529 | 2,678,958 |
| 58 | 16 | 222,225 | 2,442,429 |
| 59 | 17 | 208,352 | 2,220,204 |
| 60 | 18 | 194,883 | 2,011,852 |
| 61 | 19 | 181,799 | 1,816,969 |
| 62 | 20 | 169,096 | 1,635,170 |
| 63 | 21 | 156,775 | 1,466,074 |
| 64 | 22 | 144,923 | 1,309,299 |
| 65 | 23 | 133,534 | 1,164,376 |
| 66 | 24 | 122,602 | 1,030,842 |
| 67 | 25 | 112,125 | 908,240 |
| 68 | 26 | 102,106 | 796,115 |
| 69 | 27 | 92,547·5 | 694,008·9 |
| 70 | 28 | 83,457·0 | 601,461·4 |
| 71 | 29 | 74,842·7 | 518,004·4 |
| 72 | 30 | 66,714·2 | 443,161·7 |
| 73 | 31 | 59,081·7 | 376,447·5 |
| 74 | 32 | 51,954·5 | 317,365·8 |
| 75 | 33 | 45,341·1 | 265,411·3 |
| 76 | 34 | 39,246·9 | 220,070·2 |
| 77 | 35 | 33,674·8 | 180,823·3 |
| 78 | 36 | 28,622·9 | 147,148·5 |
| 79 | 37 | 24,085·2 | 118,525·6 |
| 80 | 38 | 20,050·2 | 94,440·4 |
| 81 | 39 | 16,501·1 | 74,390·2 |
| 82 | 40 | 13,415·7 | 57,889·1 |
| 83 | 41 | 10,766·9 | 44,473·4 |
| 84 | 42 | 8,523·28 | 33,706·50 |
| 85 | 43 | 6,649·82 | 25,183·22 |
| 86 | 44 | 5,109·02 | 18,533·40 |
| 87 | 45 | 3,862·04 | 13,424·38 |
| 88 | 46 | 2,869·86 | 9,562·34 |
| 89 | 47 | 2,094·48 | 6,692·48 |
| 90 | 48 | 1,499·87 | 4,598·00 |
| 91 | 49 | 1,052·87 | 3,098·13 |
| 92 | 50 | 723·794 | 2,045·259 |
| 93 | 51 | 486·775 | 1,321·465 |
| 94 | 52 | 319·758 | 834·690 |
| 95 | 53 | 205·029 | 514·932 |
| 96 | 54 | 128·187 | 309·903 |
| 97 | 55 | 78·0581 | 181·7156 |
| 98 | 56 | 46·2412 | 103·6575 |
| 99 | 57 | 26·6162 | 57·4163 |
| 100 | 58 | 14·8669 | 30·8001 |
| 101 | 59 | 8·0478 | 15·9332 |
| 102 | 60 | 4·2163 | 7·8854 |
| 103 | 61 | 2·1348 | 3·6691 |
| 104 | 62 | 1·0431 | 1·5343 |
| 105 | 63 | ·4912 | ·4912 |

**Difference of Age 65 Years.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 65 | 0 | 295,198 | 2,071,672 |
| 66 | 1 | 228,708 | 1,776,474 |
| 67 | 2 | 197,491 | 1,547,766 |
| 68 | 3 | 175,064 | 1,350,275 |
| 69 | 4 | 156,351 | 1,175,211 |
| 70 | 5 | 139,810 | 1,018,860 |
| 71 | 6 | 124,885 | 879,050 |
| 72 | 7 | 111,215 | 754,165 |
| 73 | 8 | 98,582·7 | 642,949·7 |
| 74 | 9 | 86,922·4 | 544,367·0 |
| 75 | 10 | 76,167·4 | 457,444·6 |
| 76 | 11 | 66,271·6 | 381,277·2 |
| 77 | 12 | 57,203·6 | 315,005·6 |
| 78 | 13 | 48,941·5 | 257,802·0 |
| 79 | 14 | 41,467·9 | 208,860·5 |
| 80 | 15 | 34,766·0 | 167,392·6 |
| 81 | 16 | 28,815·8 | 132,626·6 |
| 82 | 17 | 23,592·6 | 103,810·8 |
| 83 | 18 | 19,064·3 | 80,218·2 |
| 84 | 19 | 15,191·7 | 61,153·9 |
| 85 | 20 | 11,928·0 | 45,962·2 |
| 86 | 21 | 9,220·49 | 34,034·16 |
| 87 | 22 | 7,015·21 | 24,813·67 |
| 88 | 23 | 5,248·84 | 17,798·46 |
| 89 | 24 | 3,858·73 | 12,549·62 |
| 90 | 25 | 2,784·82 | 8,690·89 |
| 91 | 26 | 1,971·16 | 5,906·07 |
| 92 | 27 | 1,367·12 | 3,934·91 |
| 93 | 28 | 928·186 | 2,567·787 |
| 94 | 29 | 616·269 | 1,639·601 |
| 95 | 30 | 399·733 | 1,023·332 |
| 96 | 31 | 253·034 | 623·599 |
| 97 | 32 | 156·146 | 370·565 |
| 98 | 33 | 93·8318 | 214·4190 |
| 99 | 34 | 54·8463 | 120·5872 |
| 100 | 35 | 31·1475 | 65·7409 |
| 101 | 36 | 17·1659 | 34·5934 |
| 102 | 37 | 9·1697 | 17·4275 |
| 103 | 38 | 4·7420 | 8·2578 |
| 104 | 39 | 2·3710 | 3·5158 |
| 105 | 40 | 1·1448 | 1·1448 |

## JOINT LIVES:—Two Males.

### Difference of Age 43 Years.

### Difference of Age 64 Years.

**Difference of Age 43 Years.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 43 | 0 | 708,205 | 8,371,230 |
| 44 | 1 | 566,850 | 7,663,025 |
| 45 | 2 | 507,303 | 7,096,175 |
| 46 | 3 | 467,721 | 6,588,872 |
| 47 | 4 | 436,168 | 6,121,151 |
| 48 | 5 | 408,989 | 5,684,983 |
| 49 | 6 | 384,888 | 5,275,994 |
| 50 | 7 | 362,954 | 4,891,106 |
| 51 | 8 | 342,576 | 4,528,152 |
| 52 | 9 | 323,385 | 4,185,576 |
| 53 | 10 | 305,316 | 3,862,191 |
| 54 | 11 | 288,197 | 3,556,875 |
| 55 | 12 | 271,882 | 3,268,678 |
| 56 | 13 | 256,256 | 2,996,796 |
| 57 | 14 | 241,222 | 2,740,540 |
| 58 | 15 | 226,706 | 2,499,318 |
| 59 | 16 | 212,652 | 2,272,612 |
| 60 | 17 | 199,019 | 2,059,960 |
| 61 | 18 | 185,780 | 1,860,941 |
| 62 | 19 | 172,921 | 1,675,161 |
| 63 | 20 | 160,438 | 1,502,240 |
| 64 | 21 | 148,337 | 1,341,802 |
| 65 | 22 | 136,704 | 1,193,465 |
| 66 | 23 | 125,534 | 1,056,761 |
| 67 | 24 | 114,827 | 931,227 |
| 68 | 25 | 104,584 | 816,400 |
| 69 | 26 | 94,810·3 | 711,815·9 |
| 70 | 27 | 85,512·6 | 617,005·6 |
| 71 | 28 | 76,700·1 | 531,493·0 |
| 72 | 29 | 68,382·9 | 454,792·9 |
| 73 | 30 | 60,571·6 | 386,410·0 |
| 74 | 31 | 53,275·9 | 325,838·4 |
| 75 | 32 | 46,504·6 | 272,562·5 |
| 76 | 33 | 40,263·7 | 226,057·9 |
| 77 | 34 | 34,556·0 | 185,794·2 |
| 78 | 35 | 29,380·1 | 151,238·2 |
| 79 | 36 | 24,729·7 | 121,858·1 |
| 80 | 37 | 20,593·2 | 97,128·4 |
| 81 | 38 | 16,953·8 | 76,535·2 |
| 82 | 39 | 13,788·8 | 59,581·4 |
| 83 | 40 | 11,070·8 | 45,792·6 |
| 84 | 41 | 8,767·60 | 34,721·82 |
| 85 | 42 | 6,843·59 | 25,954·22 |
| 86 | 43 | 5,260·50 | 19,110·63 |
| 87 | 44 | 3,978·65 | 13,850·13 |
| 88 | 45 | 2,958·20 | 9,871·48 |
| 89 | 46 | 2,160·27 | 6,913·28 |
| 90 | 47 | 1,547·99 | 4,753·01 |
| 91 | 48 | 1,087·41 | 3,205·02 |
| 92 | 49 | 748·090 | 2,117·612 |
| 93 | 50 | 503·512 | 1,369·522 |
| 94 | 51 | 331·215 | 866·010 |
| 95 | 52 | 212·593 | 534·795 |
| 96 | 53 | 133·058 | 322·202 |
| 97 | 54 | 81·1155 | 189·1442 |
| 98 | 55 | 48·1107 | 108·0287 |
| 99 | 56 | 27·7290 | 59·9180 |
| 100 | 57 | 15·5111 | 32·1890 |
| 101 | 58 | 8·4101 | 16·6779 |
| 102 | 59 | 4·4140 | 8·2678 |
| 103 | 60 | 2·2394 | 3·8538 |
| 104 | 61 | 1·0967 | 1·6144 |
| 105 | 62 | ·5177 | ·5177 |

**Difference of Age 64 Years.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 64 | 0 | 312,947 | 2,270,318 |
| 65 | 1 | 243,283 | 1,957,371 |
| 66 | 2 | 210,863 | 1,714,088 |
| 67 | 3 | 187,687 | 1,503,225 |
| 68 | 4 | 168,382 | 1,315,538 |
| 69 | 5 | 151,312 | 1,147,156 |
| 70 | 6 | 135,886 | 995,844 |
| 71 | 7 | 121,721 | 859,958 |
| 72 | 8 | 108,580 | 738,237 |
| 73 | 9 | 96,394·7 | 629,657·2 |
| 74 | 10 | 85,093·5 | 533,262·5 |
| 75 | 11 | 74,628·5 | 448,169·0 |
| 76 | 12 | 64,968·8 | 373,540·5 |
| 77 | 13 | 56,095·6 | 308,571·7 |
| 78 | 14 | 47,996·4 | 252,476·1 |
| 79 | 15 | 40,661·2 | 204,479·7 |
| 80 | 16 | 34,078·8 | 163,818·5 |
| 81 | 17 | 28,233·2 | 129,739·7 |
| 82 | 18 | 23,102·3 | 101,506·5 |
| 83 | 19 | 18,655·9 | 78,404·2 |
| 84 | 20 | 14,855·6 | 59,748·3 |
| 85 | 21 | 11,655·7 | 44,892·7 |
| 86 | 22 | 9,008·30 | 33,236·99 |
| 87 | 23 | 6,852·54 | 24,228·69 |
| 88 | 24 | 5,126·23 | 17,376·15 |
| 89 | 25 | 3,767·94 | 12,249·92 |
| 90 | 26 | 2,718·83 | 8,481·98 |
| 91 | 27 | 1,924·12 | 5,763·15 |
| 92 | 28 | 1,334·26 | 3,839·03 |
| 93 | 29 | 905·708 | 2,504·772 |
| 94 | 30 | 601·230 | 1,599·064 |
| 95 | 31 | 389·900 | 997·834 |
| 96 | 32 | 246·758 | 607·934 |
| 97 | 33 | 152·239 | 361·176 |
| 98 | 34 | 91·4623 | 208·9367 |
| 99 | 35 | 53·4476 | 117·4744 |
| 100 | 36 | 30·3448 | 64·0268 |
| 101 | 37 | 16·7186 | 33·6820 |
| 102 | 38 | 8·9279 | 16·9634 |
| 103 | 39 | 4·6154 | 8·0355 |
| 104 | 40 | 2·3068 | 3·4201 |
| 105 | 41 | 1·1133 | 1·1133 |

## JOINT LIVES:—Two Males.

**Difference of Age 44 Years.**

**Difference of Age 63 Years.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Difference of Age 44 Years.** | |
| 44 | 0 | 687,813 | 8,003,525 |
| 45 | 1 | 550,235 | 7,315,712 |
| 46 | 2 | 492,153 | 6,765,477 |
| 47 | 3 | 453,477 | 6,273,324 |
| 48 | 4 | 422,609 | 5,819,847 |
| 49 | 5 | 396,000 | 5,397,238 |
| 50 | 6 | 372,388 | 5,001,238 |
| 51 | 7 | 350,890 | 4,628,850 |
| 52 | 8 | 330,725 | 4,277,960 |
| 53 | 9 | 311,878 | 3,947,235 |
| 54 | 10 | 294,140 | 3,635,357 |
| 55 | 11 | 277,334 | 3,341,217 |
| 56 | 12 | 261,317 | 3,063,883 |
| 57 | 13 | 245,972 | 2,802,566 |
| 58 | 14 | 231,204 | 2,556,594 |
| 59 | 15 | 216,940 | 2,325,390 |
| 60 | 16 | 203,126 | 2,108,450 |
| 61 | 17 | 189,722 | 1,905,324 |
| 62 | 18 | 176,707 | 1,715,602 |
| 63 | 19 | 164,067 | 1,538,895 |
| 64 | 20 | 151,803 | 1,374,828 |
| 65 | 21 | 139,924 | 1,223,025 |
| 66 | 22 | 128,514 | 1,083,101 |
| 67 | 23 | 117,573 | 954,587 |
| 68 | 24 | 107,104 | 837,014 |
| 69 | 25 | 97,111·4 | 729,910·4 |
| 70 | 26 | 87,603·3 | 632,799·0 |
| 71 | 27 | 78,589·3 | 545,195·7 |
| 72 | 28 | 70,080·1 | 466,606·4 |
| 73 | 29 | 62,086·6 | 396,526·3 |
| 74 | 30 | 54,619·4 | 334,439·7 |
| 75 | 31 | 47,687·4 | 279,820·3 |
| 76 | 32 | 41,297·0 | 232,132·9 |
| 77 | 33 | 35,451·3 | 190,835·9 |
| 78 | 34 | 30,149·0 | 155,384·6 |
| 79 | 35 | 25,383·8 | 125,235·6 |
| 80 | 36 | 21,144·2 | 99,851·8 |
| 81 | 37 | 17,412·9 | 78,707·6 |
| 82 | 38 | 14,167·1 | 61,294·7 |
| 83 | 39 | 11,378·7 | 47,127·6 |
| 84 | 40 | 9,015·06 | 35,748·87 |
| 85 | 41 | 7,039·76 | 26,733·81 |
| 86 | 42 | 5,413·78 | 19,694·05 |
| 87 | 43 | 4,096·61 | 14,280·27 |
| 88 | 44 | 3,047·53 | 10,183·66 |
| 89 | 45 | 2,226·77 | 7,136·13 |
| 90 | 46 | 1,596·61 | 4,909·36 |
| 91 | 47 | 1,122·30 | 3,312·75 |
| 92 | 48 | 772·628 | 2,190·451 |
| 93 | 49 | 520·413 | 1,417·823 |
| 94 | 50 | 342·603 | 897·410 |
| 95 | 51 | 220·211 | 554·807 |
| 96 | 52 | 137·967 | 334·596 |
| 97 | 53 | 84·1978 | 196·6289 |
| 98 | 54 | 49·9951 | 112·4311 |
| 99 | 55 | 28·8501 | 62·4360 |
| 100 | 56 | 16·1596 | 33·5859 |
| 101 | 57 | 8·7745 | 17·4263 |
| 102 | 58 | 4·6127 | 8·6518 |
| 103 | 59 | 2·3445 | 4·0391 |
| 104 | 60 | 1·1504 | 1·6946 |
| 105 | 61 | ·5442 | ·5442 |
| | | **Difference of Age 63 Years.** | |
| 63 | 0 | 330,748 | 2,478,137 |
| 64 | 1 | 257,910 | 2,147,389 |
| 65 | 2 | 224,301 | 1,889,479 |
| 66 | 3 | 200,395 | 1,665,178 |
| 67 | 4 | 180,523 | 1,464,783 |
| 68 | 5 | 162,955 | 1,284,260 |
| 69 | 6 | 147,065 | 1,121,305 |
| 70 | 7 | 132,444 | 974,240 |
| 71 | 8 | 118,837 | 841,796 |
| 72 | 9 | 106,170 | 722,959 |
| 73 | 10 | 94,366·5 | 616,788·5 |
| 74 | 11 | 83,374·3 | 522,422·0 |
| 75 | 12 | 73,161·5 | 439,047·7 |
| 76 | 13 | 63,710·5 | 365,886·2 |
| 77 | 14 | 55,012·3 | 302,175·7 |
| 78 | 15 | 47,062·7 | 247,163·4 |
| 79 | 16 | 39,857·5 | 200,100·7 |
| 80 | 17 | 33,389·7 | 160,243·2 |
| 81 | 18 | 27,646·5 | 126,853·5 |
| 82 | 19 | 22,607·3 | 99,207·0 |
| 83 | 20 | 18,243·2 | 76,599·7 |
| 84 | 21 | 14,516·4 | 58,356·5 |
| 85 | 22 | 11,387·4 | 43,840·1 |
| 86 | 23 | 8,799·40 | 32,452·70 |
| 87 | 24 | 6,692·47 | 23,653·30 |
| 88 | 25 | 5,005·62 | 16,960·83 |
| 89 | 26 | 3,678·66 | 11,955·21 |
| 90 | 27 | 2,653·94 | 8,276·55 |
| 91 | 28 | 1,877·86 | 5,622·61 |
| 92 | 29 | 1,301·95 | 3,744·75 |
| 93 | 30 | 883·606 | 2,442·795 |
| 94 | 31 | 586·442 | 1,559·189 |
| 95 | 32 | 380·230 | 972·747 |
| 96 | 33 | 240·584 | 592·517 |
| 97 | 34 | 148·395 | 351·933 |
| 98 | 35 | 89·1297 | 203·5375 |
| 99 | 36 | 52·0702 | 114·4078 |
| 100 | 37 | 29·5541 | 62·3376 |
| 101 | 38 | 16·2777 | 32·7835 |
| 102 | 39 | 8·6895 | 16·5058 |
| 103 | 40 | 4·4905 | 7·8163 |
| 104 | 41 | 2·2435 | 3·3258 |
| 105 | 42 | 1·0823 | 1·0823 |

## JOINT LIVES:—Two Males.

### Difference of Age 45 Years.

### Difference of Age 62 Years.

**Difference of Age 45 Years.**

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 45 | 0 | 667,652 | 7,643,227 |
| 46 | 1 | 533,803 | 6,975,575 |
| 47 | 2 | 477,165 | 6,441,772 |
| 48 | 3 | 439,381 | 5,964,607 |
| 49 | 4 | 409,188 | 5,525,226 |
| 50 | 5 | 383,139 | 5,116,038 |
| 51 | 6 | 360,010 | 4,732,899 |
| 52 | 7 | 338,752 | 4,372,889 |
| 53 | 8 | 318,957 | 4,034,137 |
| 54 | 9 | 300,461 | 3,715,180 |
| 55 | 10 | 283,053 | 3,414,719 |
| 56 | 11 | 266,557 | 3,131,666 |
| 57 | 12 | 250,830 | 2,865,109 |
| 58 | 13 | 235,757 | 2,614,279 |
| 59 | 14 | 221,244 | 2,378,522 |
| 60 | 15 | 207,222 | 2,157,278 |
| 61 | 16 | 193,637 | 1,950,056 |
| 62 | 17 | 180,457 | 1,756,419 |
| 63 | 18 | 167,659 | 1,575,962 |
| 64 | 19 | 155,237 | 1,408,303 |
| 65 | 20 | 143,194 | 1,253,066 |
| 66 | 21 | 131,542 | 1,109,872 |
| 67 | 22 | 120,364 | 978,330 |
| 68 | 23 | 109,666 | 857,966 |
| 69 | 24 | 99,451·2 | 748,299·9 |
| 70 | 25 | 89,729·6 | 648,848·7 |
| 71 | 26 | 80,510·8 | 559,119·1 |
| 72 | 27 | 71,806·2 | 478,608·3 |
| 73 | 28 | 63,627·5 | 406,802·1 |
| 74 | 29 | 55,985·6 | 343,174·6 |
| 75 | 30 | 48,890·0 | 287,189·0 |
| 76 | 31 | 42,347·4 | 238,299·0 |
| 77 | 32 | 36,361·1 | 195,951·6 |
| 78 | 33 | 30,930·1 | 159,590·5 |
| 79 | 34 | 26,048·1 | 128,660·4 |
| 80 | 35 | 21,703·5 | 102,612·3 |
| 81 | 36 | 17,878·8 | 80,908·8 |
| 82 | 37 | 14,550·8 | 63,030·0 |
| 83 | 38 | 11,690·9 | 48,479·2 |
| 84 | 39 | 9,265·81 | 36,788·27 |
| 85 | 40 | 7,238·45 | 27,522·46 |
| 86 | 41 | 5,568·97 | 20,284·01 |
| 87 | 42 | 4,215·98 | 14,715·04 |
| 88 | 43 | 3,137·88 | 10,499·06 |
| 89 | 44 | 2,294·00 | 7,361·18 |
| 90 | 45 | 1,645·76 | 5,067·18 |
| 91 | 46 | 1,157·55 | 3,421·42 |
| 92 | 47 | 797·416 | 2,263·867 |
| 93 | 48 | 537·483 | 1,466·451 |
| 94 | 49 | 354·103 | 928·968 |
| 95 | 50 | 227·783 | 574·865 |
| 96 | 51 | 142·911 | 347·082 |
| 97 | 52 | 87·3042 | 204·1713 |
| 98 | 53 | 51·8948 | 116·8671 |
| 99 | 54 | 29·9801 | 64·9723 |
| 100 | 55 | 16·8129 | 34·9922 |
| 101 | 56 | 9·1414 | 18·1793 |
| 102 | 57 | 4·8126 | 9·0379 |
| 103 | 58 | 2·4500 | 4·2253 |
| 104 | 59 | 1·2044 | 1·7753 |
| 105 | 60 | ·5709 | ·5709 |

**Difference of Age 62 Years.**

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 62 | 0 | 348,596 | 2,694,962 |
| 63 | 1 | 272,581 | 2,346,366 |
| 64 | 2 | 237,787 | 2,073,785 |
| 65 | 3 | 213,166 | 1,835,998 |
| 66 | 4 | 192,746 | 1,622,832 |
| 67 | 5 | 174,705 | 1,430,086 |
| 68 | 6 | 158,382 | 1,255,381 |
| 69 | 7 | 143,340 | 1,096,999 |
| 70 | 8 | 129,306 | 953,659 |
| 71 | 9 | 116,200 | 824,353 |
| 72 | 10 | 103,936 | 708,153 |
| 73 | 11 | 92,459·9 | 604,217·1 |
| 74 | 12 | 81,735·3 | 511,757·2 |
| 75 | 13 | 71,744·4 | 430,021·9 |
| 76 | 14 | 62,480·1 | 358,277·5 |
| 77 | 15 | 53,942·1 | 295,797·4 |
| 78 | 16 | 46,132·4 | 241,855·3 |
| 79 | 17 | 39,051·7 | 195,722·9 |
| 80 | 18 | 32,695·9 | 156,671·2 |
| 81 | 19 | 27,054·2 | 123,975·3 |
| 82 | 20 | 22,107·3 | 96,921·1 |
| 83 | 21 | 17,826·7 | 74,813·8 |
| 84 | 22 | 14,182·4 | 56,987·1 |
| 85 | 23 | 11,123·4 | 42,804·7 |
| 86 | 24 | 8,593·86 | 31,681·28 |
| 87 | 25 | 6,535·01 | 23,087·42 |
| 88 | 26 | 4,887·01 | 16,552·41 |
| 89 | 27 | 3,590·86 | 11,665·40 |
| 90 | 28 | 2,590·15 | 8,074·54 |
| 91 | 29 | 1,832·39 | 5,484·39 |
| 92 | 30 | 1,270·18 | 3,652·00 |
| 93 | 31 | 861·872 | 2,381·820 |
| 94 | 32 | 571·896 | 1,519·948 |
| 95 | 33 | 370·716 | 948·052 |
| 96 | 34 | 234·508 | 577·336 |
| 97 | 35 | 144·610 | 342·828 |
| 98 | 36 | 86·8328 | 198·2183 |
| 99 | 37 | 50·7133 | 111·3855 |
| 100 | 38 | 28·7748 | 60·6722 |
| 101 | 39 | 15·8431 | 31·8974 |
| 102 | 40 | 8·4544 | 16·0543 |
| 103 | 41 | 4·3672 | 7·5999 |
| 104 | 42 | 2·1810 | 3·2327 |
| 105 | 43 | 1·0517 | 1·0517 |

## JOINT LIVES:—TWO MALES.

### Difference of Age 46 Years.

### Difference of Age 61 Years.

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Difference of Age 46 Years.** | |
| 46 | 0 | 647,714 | 7,290,338 |
| 47 | 1 | 517,547 | 6,642,624 |
| 48 | 2 | 462,332 | 6,125,077 |
| 49 | 3 | 425,426 | 5,662,745 |
| 50 | 4 | 395,899 | 5,237,319 |
| 51 | 5 | 370,404 | 4,841,420 |
| 52 | 6 | 347,556 | 4,471,016 |
| 53 | 7 | 326,698 | 4,123,460 |
| 54 | 8 | 307,281 | 3,796,762 |
| 55 | 9 | 289,136 | 3,489,481 |
| 56 | 10 | 272,054 | 3,200,345 |
| 57 | 11 | 255,860 | 2,928,291 |
| 58 | 12 | 240,413 | 2,672,431 |
| 59 | 13 | 225,601 | 2,432,018 |
| 60 | 14 | 211,333 | 2,206,417 |
| 61 | 15 | 197,542 | 1,995,084 |
| 62 | 16 | 184,181 | 1,797,542 |
| 63 | 17 | 171,217 | 1,613,361 |
| 64 | 18 | 158,636 | 1,442,144 |
| 65 | 19 | 146,433 | 1,283,508 |
| 66 | 20 | 134,615 | 1,137,075 |
| 67 | 21 | 123,200 | 1,002,460 |
| 68 | 22 | 112,269 | 879,260 |
| 69 | 23 | 101,830 | 766,991 |
| 70 | 24 | 91,891·6 | 665,160·6 |
| 71 | 25 | 82,464·9 | 573,269·0 |
| 72 | 26 | 73,561·8 | 490,804·1 |
| 73 | 27 | 65,194·7 | 417,242·3 |
| 74 | 28 | 57,375·1 | 352,047·6 |
| 75 | 29 | 50,112·9 | 294,672·5 |
| 76 | 30 | 43,415·3 | 244,559·6 |
| 77 | 31 | 37,285·9 | 201,144·3 |
| 78 | 32 | 31,723·8 | 163,858·4 |
| 79 | 33 | 26,723·0 | 132,134·6 |
| 80 | 34 | 22,271·5 | 105,411·6 |
| 81 | 35 | 18,351·8 | 83,140·1 |
| 82 | 36 | 14,940·1 | 64,788·3 |
| 83 | 37 | 12,007·5 | 49,848·2 |
| 84 | 38 | 9,520·02 | 37,840·70 |
| 85 | 39 | 7,439·79 | 28,320·68 |
| 86 | 40 | 5,726·15 | 20,880·89 |
| 87 | 41 | 4,336·83 | 15,154·74 |
| 88 | 42 | 3,229·32 | 10,817·91 |
| 89 | 43 | 2,362·02 | 7,588·59 |
| 90 | 44 | 1,695·46 | 5,226·57 |
| 91 | 45 | 1,193·18 | 3,531·11 |
| 92 | 46 | 822·463 | 2,337·930 |
| 93 | 47 | 554·727 | 1,515·467 |
| 94 | 48 | 365·718 | 960·740 |
| 95 | 49 | 235·428 | 595·022 |
| 96 | 50 | 147·824 | 359·594 |
| 97 | 51 | 90·4325 | 211·7700 |
| 98 | 52 | 53·8095 | 121·3375 |
| 99 | 53 | 31·1193 | 67·5280 |
| 100 | 54 | 17·4714 | 36·4087 |
| 101 | 55 | 9·5110 | 18·9373 |
| 102 | 56 | 5·0138 | 9·4263 |
| 103 | 57 | 2·5562 | 4·4125 |
| 104 | 58 | 1·2586 | 1·8563 |
| 105 | 59 | ·5977 | ·5977 |

**Difference of Age 61 Years.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 61 | 0 | 366,495 | 2,920,630 |
| 62 | 1 | 287,290 | 2,554,135 |
| 63 | 2 | 251,312 | 2,266,845 |
| 64 | 3 | 225,982 | 2,015,533 |
| 65 | 4 | 205,029 | 1,789,551 |
| 66 | 5 | 186,534 | 1,584,522 |
| 67 | 6 | 169,803 | 1,397,988 |
| 68 | 7 | 154,370 | 1,228,185 |
| 69 | 8 | 139,944 | 1,073,815 |
| 70 | 9 | 126,436 | 933,871 |
| 71 | 10 | 113,755 | 807,435 |
| 72 | 11 | 101,836 | 693,680 |
| 73 | 12 | 90,642·4 | 591,843·5 |
| 74 | 13 | 80,152·2 | 501,201·1 |
| 75 | 14 | 70,358·9 | 421,048·9 |
| 76 | 15 | 61,264·7 | 350,690·0 |
| 77 | 16 | 52,875·9 | 289,425·3 |
| 78 | 17 | 45,199·7 | 236,549·4 |
| 79 | 18 | 38,240·1 | 191,349·7 |
| 80 | 19 | 31,995·3 | 153,109·6 |
| 81 | 20 | 26,455·8 | 121,114·3 |
| 82 | 21 | 21,602·5 | 94,658·5 |
| 83 | 22 | 17,416·4 | 73,056·0 |
| 84 | 23 | 13,853·5 | 55,639·6 |
| 85 | 24 | 10,863·5 | 41,786·1 |
| 86 | 25 | 8,391·66 | 30,922·57 |
| 87 | 26 | 6,380·16 | 22,530·91 |
| 88 | 27 | 4,770·37 | 16,150·75 |
| 89 | 28 | 3,504·54 | 11,380·38 |
| 90 | 29 | 2,527·42 | 7,875·84 |
| 91 | 30 | 1,787·67 | 5,348·42 |
| 92 | 31 | 1,238·93 | 3,560·75 |
| 93 | 32 | 840·495 | 2,321·822 |
| 94 | 33 | 557·587 | 1,481·327 |
| 95 | 34 | 361·354 | 923·740 |
| 96 | 35 | 228·528 | 562·386 |
| 97 | 36 | 140·883 | 333·858 |
| 98 | 37 | 84·5700 | 192·9752 |
| 99 | 38 | 49·3761 | 108·4052 |
| 100 | 39 | 28·0064 | 59·0291 |
| 101 | 40 | 15·4143 | 31·0227 |
| 102 | 41 | 8·2223 | 15·6084 |
| 103 | 42 | 4·2455 | 7·3861 |
| 104 | 43 | 2·1192 | 3·1406 |
| 105 | 44 | 1·0214 | 1·0214 |

## JOINT LIVES:—TWO MALES.

### Difference of Age 47 Years.

### Difference of Age 60 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 47 Years.** | |
| 47 | 0 | 627,989 | 6,944,869 |
| 48 | 1 | 501,458 | 6,316,880 |
| 49 | 2 | 447,649 | 5,815,422 |
| 50 | 3 | 411,610 | 5,367,773 |
| 51 | 4 | 382,739 | 4,956,163 |
| 52 | 5 | 357,590 | 4,573,424 |
| 53 | 6 | 335,189 | 4,215,834 |
| 54 | 7 | 314,739 | 3,880,645 |
| 55 | 8 | 295,699 | 3,565,906 |
| 56 | 9 | 277,901 | 3,270,207 |
| 57 | 10 | 261,136 | 2,992,306 |
| 58 | 11 | 245,234 | 2,731,170 |
| 59 | 12 | 230,057 | 2,485,936 |
| 60 | 13 | 215,494 | 2,255,879 |
| 61 | 14 | 201,461 | 2,040,385 |
| 62 | 15 | 187,895 | 1,838,924 |
| 63 | 16 | 174,750 | 1,651,029 |
| 64 | 17 | 162,002 | 1,476,279 |
| 65 | 18 | 149,638 | 1,314,277 |
| 66 | 19 | 137,660 | 1,164,639 |
| 67 | 20 | 126,078 | 1,026,979 |
| 68 | 21 | 114,914 | 900,901 |
| 69 | 22 | 104,247 | 785,987 |
| 70 | 23 | 94,089·4 | 681,740·3 |
| 71 | 24 | 84,451·8 | 587,650·9 |
| 72 | 25 | 75,347·3 | 503,199·1 |
| 73 | 26 | 66,788·7 | 427,851·8 |
| 74 | 27 | 58,788·3 | 361,063·1 |
| 75 | 28 | 51,356·6 | 302,274·8 |
| 76 | 29 | 44,501·2 | 250,918·2 |
| 77 | 30 | 38,226·1 | 206,417·0 |
| 78 | 31 | 32,530·7 | 168,190·9 |
| 79 | 32 | 27,408·8 | 135,660·2 |
| 80 | 33 | 22,848·5 | 108,251·4 |
| 81 | 34 | 18,832·0 | 85,402·9 |
| 82 | 35 | 15,335·3 | 66,570·9 |
| 83 | 36 | 12,328·8 | 51,235·6 |
| 84 | 37 | 9,777·84 | 38,906·75 |
| 85 | 38 | 7,643·90 | 29,128·91 |
| 86 | 39 | 5,885·42 | 21,485·01 |
| 87 | 40 | 4,459·24 | 15,599·59 |
| 88 | 41 | 3,321·88 | 11,140·35 |
| 89 | 42 | 2,430·84 | 7,818·47 |
| 90 | 43 | 1,745·72 | 5,387·63 |
| 91 | 44 | 1,229·21 | 3,641·91 |
| 92 | 45 | 847·781 | 2,412·704 |
| 93 | 46 | 572·151 | 1,564·923 |
| 94 | 47 | 377·452 | 992·772 |
| 95 | 48 | 243·151 | 615·320 |
| 96 | 49 | 152·786 | 372·169 |
| 97 | 50 | 93·5418 | 219·3829 |
| 98 | 51 | 55·7376 | 125·8411 |
| 99 | 52 | 32·2674 | 70·1035 |
| 100 | 53 | 18·1353 | 37·8361 |
| 101 | 54 | 9·8835 | 19·7008 |
| 102 | 55 | 5·2165 | 9·8173 |
| 103 | 56 | 2·6630 | 4·6008 |
| 104 | 57 | 1·3132 | 1·9378 |
| 105 | 58 | ·6246 | ·6246 |
| | | **Difference of Age 60 Years.** | |
| 60 | 0 | 384,453 | 3,154,995 |
| 61 | 1 | 302,041 | 2,770,542 |
| 62 | 2 | 264,874 | 2,468,501 |
| 63 | 3 | 238,837 | 2,203,627 |
| 64 | 4 | 217,357 | 1,964,790 |
| 65 | 5 | 198,421 | 1,747,433 |
| 66 | 6 | 181,300 | 1,549,012 |
| 67 | 7 | 165,501 | 1,367,712 |
| 68 | 8 | 150,712 | 1,202,211 |
| 69 | 9 | 136,838 | 1,051,499 |
| 70 | 10 | 123,776 | 914,661 |
| 71 | 11 | 111,456 | 790,885 |
| 72 | 12 | 99,834·6 | 679,429·0 |
| 73 | 13 | 88,886·7 | 579,594·4 |
| 74 | 14 | 78,604·3 | 490,707·7 |
| 75 | 15 | 68,990·2 | 412,103·4 |
| 76 | 16 | 60,053·7 | 343,113·2 |
| 77 | 17 | 51,806·8 | 283,059·5 |
| 78 | 18 | 44,260·4 | 231,252·7 |
| 79 | 19 | 37,420·8 | 186,992·3 |
| 80 | 20 | 31,287·7 | 149,571·5 |
| 81 | 21 | 25,851·7 | 118,283·8 |
| 82 | 22 | 21,105·3 | 92,432·1 |
| 83 | 23 | 17,012·5 | 71,326·8 |
| 84 | 24 | 13,529·9 | 54,314·3 |
| 85 | 25 | 10,607·9 | 40,784·4 |
| 86 | 26 | 8,192·81 | 30,176·49 |
| 87 | 27 | 6,227·89 | 21,983·68 |
| 88 | 28 | 4,655·70 | 15,755·79 |
| 89 | 29 | 3,419·67 | 11,100·09 |
| 90 | 30 | 2,465·74 | 7,680·42 |
| 91 | 31 | 1,743·70 | 5,214·68 |
| 92 | 32 | 1,208·21 | 3,470·98 |
| 93 | 33 | 819·465 | 2,262·765 |
| 94 | 34 | 543·506 | 1,443·300 |
| 95 | 35 | 352·138 | 899·794 |
| 96 | 36 | 222·638 | 547·656 |
| 97 | 37 | 137·212 | 325·018 |
| 98 | 38 | 82·3400 | 187·8055 |
| 99 | 39 | 48·0576 | 105·4655 |
| 100 | 40 | 27·2485 | 57·4079 |
| 101 | 41 | 14·9912 | 30·1594 |
| 102 | 42 | 7·9932 | 15·1682 |
| 103 | 43 | 4·1253 | 7·1750 |
| 104 | 44 | 2·0582 | 3·0497 |
| 105 | 45 | ·9915 | ·9915 |

## JOINT LIVES:—TWO MALES.

### Difference of Age 48 Years.

### Difference of Age 59 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | Difference of Age 48 Years. | |
| 48 | 0 | 608,467 | 6,606,851 |
| 49 | 1 | 485,533 | 5,998,384 |
| 50 | 2 | 433,111 | 5,512,851 |
| 51 | 3 | 397,928 | 5,079,740 |
| 52 | 4 | 369,499 | 4,681,812 |
| 53 | 5 | 344,867 | 4,312,313 |
| 54 | 6 | 322,919 | 3,967,446 |
| 55 | 7 | 302,876 | 3,644,527 |
| 56 | 8 | 284,209 | 3,341,651 |
| 57 | 9 | 266,748 | 3,057,442 |
| 58 | 10 | 250,291 | 2,790,694 |
| 59 | 11 | 234,670 | 2,540,403 |
| 60 | 12 | 219,751 | 2,305,733 |
| 61 | 13 | 205,428 | 2,085,982 |
| 62 | 14 | 191,622 | 1,880,554 |
| 63 | 15 | 178,274 | 1,688,932 |
| 64 | 16 | 165,345 | 1,510,658 |
| 65 | 17 | 152,814 | 1,345,313 |
| 66 | 18 | 140,674 | 1,192,499 |
| 67 | 19 | 128,930 | 1,051,825 |
| 68 | 20 | 117,599 | 922,895 |
| 69 | 21 | 106,703 | 805,296 |
| 70 | 22 | 96,323·0 | 698,592·7 |
| 71 | 23 | 86,471·8 | 602,269·7 |
| 72 | 24 | 77,162·7 | 515,797·9 |
| 73 | 25 | 68,409·7 | 438,635·2 |
| 74 | 26 | 60,225·6 | 370,225·5 |
| 75 | 27 | 52,621·5 | 309,999·9 |
| 76 | 28 | 45,605·6 | 257,378·4 |
| 77 | 29 | 39,182·3 | 211,772·8 |
| 78 | 30 | 33,351·0 | 172,590·5 |
| 79 | 31 | 28,105·9 | 139,239·5 |
| 80 | 32 | 23,434·9 | 111,133·6 |
| 81 | 33 | 19,319·9 | 87,698·7 |
| 82 | 34 | 15,736·7 | 68,378·8 |
| 83 | 35 | 12,654·9 | 52,642·1 |
| 84 | 36 | 10,039·5 | 39,987·2 |
| 85 | 37 | 7,850·92 | 29,947·71 |
| 86 | 38 | 6,046·88 | 22,096·79 |
| 87 | 39 | 4,583·27 | 16,049·91 |
| 88 | 40 | 3,415·64 | 11,466·64 |
| 89 | 41 | 2,500·52 | 8,051·00 |
| 90 | 42 | 1,796·59 | 5,550·48 |
| 91 | 43 | 1,265·65 | 3,753·89 |
| 92 | 44 | 873·380 | 2,488·236 |
| 93 | 45 | 589·764 | 1,614·856 |
| 94 | 46 | 389·308 | 1,025·092 |
| 95 | 47 | 250·952 | 635·784 |
| 96 | 48 | 157·798 | 384·832 |
| 97 | 49 | 96·6817 | 227·0343 |
| 98 | 50 | 57·6540 | 130·3526 |
| 99 | 51 | 33·4237 | 72·6986 |
| 100 | 52 | 18·8044 | 39·2749 |
| 101 | 53 | 10·2591 | 20·4705 |
| 102 | 54 | 5·4209 | 10·2114 |
| 103 | 55 | 2·7707 | 4·7905 |
| 104 | 56 | 1·3681 | 2·0198 |
| 105 | 57 | ·6517 | ·6517 |

**Difference of Age 59 Years.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 59 | 0 | 402,484 | 3,397,921 |
| 60 | 1 | 316,841 | 2,995,437 |
| 61 | 2 | 278,474 | 2,678,596 |
| 62 | 3 | 251,725 | 2,400,122 |
| 63 | 4 | 229,720 | 2,148,397 |
| 64 | 5 | 210,351 | 1,918,677 |
| 65 | 6 | 192,853 | 1,708,326 |
| 66 | 7 | 176,707 | 1,515,473 |
| 67 | 8 | 161,580 | 1,338,766 |
| 68 | 9 | 147,367 | 1,177,186 |
| 69 | 10 | 133,959 | 1,029,819 |
| 70 | 11 | 121,275 | 895,860 |
| 71 | 12 | 109,265 | 774,585 |
| 72 | 13 | 97,900·9 | 665,319·8 |
| 73 | 14 | 87,170·2 | 567,418·9 |
| 74 | 15 | 77,075·2 | 480,248·7 |
| 75 | 16 | 67,626·5 | 403,173·5 |
| 76 | 17 | 58,839·5 | 335,547·0 |
| 77 | 18 | 50,730·2 | 276,707·5 |
| 78 | 19 | 43,312·1 | 225,977·3 |
| 79 | 20 | 36,593·1 | 182,665·2 |
| 80 | 21 | 30,573·3 | 146,072·1 |
| 81 | 22 | 25,256·8 | 115,498·8 |
| 82 | 23 | 20,615·9 | 90,242·0 |
| 83 | 24 | 16,615·1 | 69,626·1 |
| 84 | 25 | 13,211·6 | 53,011·0 |
| 85 | 26 | 10,356·6 | 39,799·4 |
| 86 | 27 | 7,997·29 | 29,442·79 |
| 87 | 28 | 6,078·18 | 21,445·50 |
| 88 | 29 | 4,542·95 | 15,367·32 |
| 89 | 30 | 3,336·23 | 10,824·37 |
| 90 | 31 | 2,405·09 | 7,488·14 |
| 91 | 32 | 1,700·45 | 5,083·05 |
| 92 | 33 | 1,177·98 | 3,382·60 |
| 93 | 34 | 798·771 | 2,204·617 |
| 94 | 35 | 529·645 | 1,405·846 |
| 95 | 36 | 343·064 | 876·201 |
| 96 | 37 | 216·837 | 533·137 |
| 97 | 38 | 133·594 | 316·300 |
| 98 | 39 | 80·1413 | 182·7055 |
| 99 | 40 | 46·7571 | 102·5642 |
| 100 | 41 | 26·5005 | 55·8071 |
| 101 | 42 | 14·5735 | 29·3066 |
| 102 | 43 | 7·7669 | 14·7331 |
| 103 | 44 | 4·0065 | 6·9662 |
| 104 | 45 | 1·9979 | 2·9597 |
| 105 | 46 | ·9618 | ·9618 |

## JOINT LIVES:—Two Males.

### Difference of Age 49 Years.

### Difference of Age 58 Years.

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | Difference of Age 49 Years. | |
| 49 | 0 | 589,143 | 6,276,302 |
| 50 | 1 | 469,764 | 5,687,159 |
| 51 | 2 | 418,715 | 5,217,395 |
| 52 | 3 | 384,163 | 4,798,680 |
| 53 | 4 | 356,352 | 4,414,517 |
| 54 | 5 | 332,242 | 4,058,165 |
| 55 | 6 | 310,748 | 3,725,923 |
| 56 | 7 | 291,106 | 3,415,175 |
| 57 | 8 | 272,803 | 3,124,069 |
| 58 | 9 | 255,670 | 2,851,266 |
| 59 | 10 | 239,509 | 2,595,596 |
| 60 | 11 | 224,157 | 2,356,087 |
| 61 | 12 | 209,486 | 2,131,930 |
| 62 | 13 | 195,396 | 1,922,444 |
| 63 | 14 | 181,811 | 1,727,048 |
| 64 | 15 | 168,680 | 1,545,237 |
| 65 | 16 | 155,968 | 1,376,557 |
| 66 | 17 | 143,659 | 1,220,589 |
| 67 | 18 | 131,753 | 1,076,930 |
| 68 | 19 | 120,259 | 945,177 |
| 69 | 20 | 109,196 | 824,918 |
| 70 | 21 | 98,592·0 | 715,721·6 |
| 71 | 22 | 88,524·5 | 617,129·6 |
| 72 | 23 | 79,008·3 | 528,605·1 |
| 73 | 24 | 70,058·0 | 449,596·8 |
| 74 | 25 | 61,687·4 | 379,538·8 |
| 75 | 26 | 53,908·1 | 317,851·4 |
| 76 | 27 | 46,729·0 | 263,943·3 |
| 77 | 28 | 40,154·7 | 217,214·3 |
| 78 | 29 | 34,185·2 | 177,059·6 |
| 79 | 30 | 28,814·6 | 142,874·4 |
| 80 | 31 | 24,030·9 | 114,059·8 |
| 81 | 32 | 19,815·8 | 90,028·9 |
| 82 | 33 | 16,144·4 | 70,213·1 |
| 83 | 34 | 12,986·1 | 54,068·7 |
| 84 | 35 | 10,305·0 | 41,082·6 |
| 85 | 36 | 8,060·97 | 30,777·56 |
| 86 | 37 | 6,210·65 | 22,716·59 |
| 87 | 38 | 4,709·01 | 16,505·94 |
| 88 | 39 | 3,510·64 | 11,796·93 |
| 89 | 40 | 2,571·10 | 8,286·29 |
| 90 | 41 | 1,848·09 | 5,715·19 |
| 91 | 42 | 1,302·53 | 3,867·10 |
| 92 | 43 | 899·274 | 2,564·570 |
| 93 | 44 | 607·572 | 1,665·296 |
| 94 | 45 | 401·291 | 1,057·724 |
| 95 | 46 | 258·834 | 656·433 |
| 96 | 47 | 162·860 | 397·599 |
| 97 | 48 | 99·8529 | 234·7390 |
| 98 | 49 | 59·5892 | 134·8861 |
| 99 | 50 | 34·5728 | 75·2969 |
| 100 | 51 | 19·4782 | 40·7241 |
| 101 | 52 | 10·6376 | 21·2459 |
| 102 | 53 | 5·6268 | 10·6083 |
| 103 | 54 | 2·8792 | 4·9815 |
| 104 | 55 | 1·4234 | 2·1023 |
| 105 | 56 | ·6789 | ·6789 |

### Difference of Age 58 Years.

| $x$ | $y$ | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 58 | 0 | 420,603 | 3,649,293 |
| 59 | 1 | 331,701 | 3,228,690 |
| 60 | 2 | 292,120 | 2,896,989 |
| 61 | 3 | 264,650 | 2,604,869 |
| 62 | 4 | 242,117 | 2,340,219 |
| 63 | 5 | 222,317 | 2,098,102 |
| 64 | 6 | 204,449 | 1,875,785 |
| 65 | 7 | 187,968 | 1,671,336 |
| 66 | 8 | 172,520 | 1,483,368 |
| 67 | 9 | 157,993 | 1,310,848 |
| 68 | 10 | 144,267 | 1,152,855 |
| 69 | 11 | 131,252 | 1,008,588 |
| 70 | 12 | 118,891 | 877,336 |
| 71 | 13 | 107,149 | 758,445 |
| 72 | 14 | 96,010·3 | 651,295·9 |
| 73 | 15 | 85,474·5 | 555,285·6 |
| 74 | 16 | 75,551·7 | 469,811·1 |
| 75 | 17 | 66,259·2 | 394,259·4 |
| 76 | 18 | 57,616·7 | 328,000·2 |
| 77 | 19 | 49,643·3 | 270,383·5 |
| 78 | 20 | 42,354·1 | 220,740·2 |
| 79 | 21 | 35,757·6 | 178,386·1 |
| 80 | 22 | 29,869·7 | 142,628·5 |
| 81 | 23 | 24,671·1 | 112,758·8 |
| 82 | 24 | 20,134·4 | 88,087·7 |
| 83 | 25 | 16,224·2 | 67,953·3 |
| 84 | 26 | 12,898·5 | 51,729·1 |
| 85 | 27 | 10,109·4 | 38,830·6 |
| 86 | 28 | 7,805·04 | 28,721·18 |
| 87 | 29 | 5,930·98 | 20,916·14 |
| 88 | 30 | 4,432·09 | 14,985·16 |
| 89 | 31 | 3,254·16 | 10,553·07 |
| 90 | 32 | 2,345·44 | 7,298·91 |
| 91 | 33 | 1,657·90 | 4,953·47 |
| 92 | 34 | 1,148·23 | 3,295·57 |
| 93 | 35 | 778·400 | 2,147·337 |
| 94 | 36 | 515·995 | 1,368·937 |
| 95 | 37 | 334·124 | 852·942 |
| 96 | 38 | 211·119 | 518·818 |
| 97 | 39 | 130·027 | 307·699 |
| 98 | 40 | 77·9726 | 177·6723 |
| 99 | 41 | 45·4736 | 99·6997 |
| 100 | 42 | 25·7621 | 54·2261 |
| 101 | 43 | 14·1609 | 28·4640 |
| 102 | 44 | 7·5432 | 14·3031 |
| 103 | 45 | 3·8891 | 6·7599 |
| 104 | 46 | 1·9382 | 2·8708 |
| 105 | 47 | ·9326 | ·9326 |

## JOINT LIVES:—TWO MALES.

### Difference of Age 50 Years.

### Difference of Age 51 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 50 Years.** | |
| 50 | 0 | 570,010 | 5,953,245 |
| 51 | 1 | 454,150 | 5,383,235 |
| 52 | 2 | 404,230 | 4,929,085 |
| 53 | 3 | 370,494 | 4,524,855 |
| 54 | 4 | 343,307 | 4,154,361 |
| 55 | 5 | 319,719 | 3,811,054 |
| 56 | 6 | 298,672 | 3,491,335 |
| 57 | 7 | 279,424 | 3,192,663 |
| 58 | 8 | 261,473 | 2,913,239 |
| 59 | 9 | 244,656 | 2,651,766 |
| 60 | 10 | 228,779 | 2,407,110 |
| 61 | 11 | 213,686 | 2,178,331 |
| 62 | 12 | 199,255 | 1,964,645 |
| 63 | 13 | 185,391 | 1,765,390 |
| 64 | 14 | 172,026 | 1,579,999 |
| 65 | 15 | 159,113 | 1,407,973 |
| 66 | 16 | 146,624 | 1,248,860 |
| 67 | 17 | 134,549 | 1,102,236 |
| 68 | 18 | 122,892 | 967,687 |
| 69 | 19 | 111,666 | 844,795 |
| 70 | 20 | 100,896 | 733,129 |
| 71 | 21 | 90,609·8 | 632,233·3 |
| 72 | 22 | 80,883·9 | 541,623·5 |
| 73 | 23 | 71,733·7 | 460,739·6 |
| 74 | 24 | 63,173·7 | 389,005·9 |
| 75 | 25 | 55,216·5 | 325,832·2 |
| 76 | 26 | 47,871·4 | 270,615·7 |
| 77 | 27 | 41,143·8 | 222,744·3 |
| 78 | 28 | 35,033·6 | 181,600·5 |
| 79 | 29 | 29,535·4 | 146,566·9 |
| 80 | 30 | 24,636·9 | 117,031·5 |
| 81 | 31 | 20,319·7 | 92,394·6 |
| 82 | 32 | 16,558·7 | 72,074·9 |
| 83 | 33 | 13,322·5 | 55,516·2 |
| 84 | 34 | 10,574·7 | 42,193·7 |
| 85 | 35 | 8,274·21 | 31,619·02 |
| 86 | 36 | 6,376·82 | 23,344·81 |
| 87 | 37 | 4,836·54 | 16,967·99 |
| 88 | 38 | 3,606·96 | 12,131·45 |
| 89 | 39 | 2,642·61 | 8,524·49 |
| 90 | 40 | 1,900·25 | 5,881·88 |
| 91 | 41 | 1,339·87 | 3,981·63 |
| 92 | 42 | 925·478 | 2,641·758 |
| 93 | 43 | 625·585 | 1,716·280 |
| 94 | 44 | 413·409 | 1,090·695 |
| 95 | 45 | 266·802 | 677·286 |
| 96 | 46 | 167·976 | 410·484 |
| 97 | 47 | 103·056 | 242·508 |
| 98 | 48 | 61·5438 | 139·4521 |
| 99 | 49 | 35·7333 | 77·9083 |
| 100 | 50 | 20·1479 | 42·1750 |
| 101 | 51 | 11·0187 | 22·0271 |
| 102 | 52 | 5·8344 | 11·0084 |
| 103 | 53 | 2·9886 | 5·1740 |
| 104 | 54 | 1·4791 | 2·1854 |
| 105 | 55 | ·7063 | ·7063 |

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 51 Years.** | |
| 51 | 0 | 551,063 | 5,637,711 |
| 52 | 1 | 438,439 | 5,086,648 |
| 53 | 2 | 389,847 | 4,648,209 |
| 54 | 3 | 356,931 | 4,258,362 |
| 55 | 4 | 330,367 | 3,901,431 |
| 56 | 5 | 307,295 | 3,571,064 |
| 57 | 6 | 286,686 | 3,263,769 |
| 58 | 7 | 267,819 | 2,977,083 |
| 59 | 8 | 250,210 | 2,709,264 |
| 60 | 9 | 233,696 | 2,459,054 |
| 61 | 10 | 218,093 | 2,225,358 |
| 62 | 11 | 203,250 | 2,007,265 |
| 63 | 12 | 189,053 | 1,804,015 |
| 64 | 13 | 175,414 | 1,614,962 |
| 65 | 14 | 162,269 | 1,439,548 |
| 66 | 15 | 149,581 | 1,277,279 |
| 67 | 16 | 137,326 | 1,127,698 |
| 68 | 17 | 125,500 | 990,372 |
| 69 | 18 | 114,111 | 864,872 |
| 70 | 19 | 103,178 | 750,761 |
| 71 | 20 | 92,727·0 | 647,583·1 |
| 72 | 21 | 82,789·2 | 554,856·1 |
| 73 | 22 | 73,436·6 | 472,066·9 |
| 74 | 23 | 64,684·7 | 398,630·3 |
| 75 | 24 | 56,546·9 | 333,945·6 |
| 76 | 25 | 49,033·3 | 277,398·7 |
| 77 | 26 | 42,149·7 | 228,365·4 |
| 78 | 27 | 35,896·5 | 186,215·7 |
| 79 | 28 | 30,268·4 | 150,319·2 |
| 80 | 29 | 25,253·2 | 120,050·8 |
| 81 | 30 | 20,832·1 | 94,797·6 |
| 82 | 31 | 16,979·8 | 73,965·5 |
| 83 | 32 | 13,664·4 | 56,985·7 |
| 84 | 33 | 10,848·7 | 43,321·3 |
| 85 | 34 | 8,490·75 | 32,472·60 |
| 86 | 35 | 6,545·50 | 23,981·85 |
| 87 | 36 | 4,965·95 | 17,436·35 |
| 88 | 37 | 3,704·65 | 12,470·40 |
| 89 | 38 | 2,715·11 | 8,765·75 |
| 90 | 39 | 1,953·11 | 6,050·64 |
| 91 | 40 | 1,377·69 | 4,097·53 |
| 92 | 41 | 952·006 | 2,719·842 |
| 93 | 42 | 643·814 | 1,767·836 |
| 94 | 43 | 425·666 | 1,124·022 |
| 95 | 44 | 274·858 | 698·356 |
| 96 | 45 | 173·147 | 423·498 |
| 97 | 46 | 106·294 | 250·351 |
| 98 | 47 | 63·5183 | 144·0572 |
| 99 | 48 | 36·9054 | 80·5389 |
| 100 | 49 | 20·8242 | 43·6335 |
| 101 | 50 | 11·3976 | 22·8093 |
| 102 | 51 | 6·0435 | 11·4117 |
| 103 | 52 | 3·0989 | 5·3682 |
| 104 | 53 | 1·5353 | 2·2693 |
| 105 | 54 | ·7340 | ·7340 |

## JOINT LIVES:—Two Males.

### Difference of Age 52 Years.

### Difference of Age 53 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ | Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | Difference of Age 52 Years. | | $x$ | $y$ | Difference of Age 53 Years. | |
| 52 | 0 | 532,000 | 5,329,688 | 53 | 0 | 513,070 | 5,029,511 |
| 53 | 1 | 422,839 | 4,797,688 | 54 | 1 | 407,360 | 4,516,441 |
| 54 | 2 | 375,576 | 4,374,849 | 55 | 2 | 361,419 | 4,109,081 |
| 55 | 3 | 343,477 | 3,999,273 | 56 | 3 | 330,130 | 3,747,662 |
| 56 | 4 | 317,529 | 3,655,796 | 57 | 4 | 304,786 | 3,417,532 |
| 57 | 5 | 294,963 | 3,338,267 | 58 | 5 | 282,714 | 3,112,746 |
| 58 | 6 | 274,780 | 3,043,304 | 59 | 6 | 262,943 | 2,830,032 |
| 59 | 7 | 256,282 | 2,768,524 | 60 | 7 | 244,801 | 2,567,089 |
| 60 | 8 | 239,001 | 2,512,242 | 61 | 8 | 227,837 | 2,322,288 |
| 61 | 9 | 222,780 | 2,273,241 | 62 | 9 | 211,900 | 2,094,451 |
| 62 | 10 | 207,442 | 2,050,461 | 63 | 10 | 196,820 | 1,882,551 |
| 63 | 11 | 192,844 | 1,843,019 | 64 | 11 | 182,465 | 1,685,731 |
| 64 | 12 | 178,878 | 1,650,175 | 65 | 12 | 168,733 | 1,503,266 |
| 65 | 13 | 165,465 | 1,471,297 | 66 | 13 | 155,552 | 1,334,533 |
| 66 | 14 | 152,548 | 1,305,832 | 67 | 14 | 142,874 | 1,178,981 |
| 67 | 15 | 140,095 | 1,153,284 | 68 | 15 | 130,672 | 1,036,107 |
| 68 | 16 | 128,090 | 1,013,189 | 69 | 16 | 118,937 | 905,435 |
| 69 | 17 | 116,533 | 885,099 | 70 | 17 | 107,675 | 786,498 |
| 70 | 18 | 105,437 | 768,566 | 71 | 18 | 96,900·5 | 678,822·6 |
| 71 | 19 | 94,824·4 | 663,128·7 | 72 | 19 | 86,640·0 | 581,922·1 |
| 72 | 20 | 84,723·7 | 568,304·3 | 73 | 20 | 76,922·8 | 495,282·1 |
| 73 | 21 | 75,166·4 | 483,580·6 | 74 | 21 | 67,780·1 | 418,359·3 |
| 74 | 22 | 66,220·2 | 408,414·2 | 75 | 22 | 59,273·9 | 350,579·2 |
| 75 | 23 | 57,899·4 | 342,194·0 | 76 | 23 | 51,415·8 | 291,305·3 |
| 76 | 24 | 50,214·8 | 284,294·6 | 77 | 24 | 44,213·0 | 239,889·5 |
| 77 | 25 | 43,172·7 | 234,079·8 | 78 | 25 | 37,666·7 | 195,676·5 |
| 78 | 26 | 36,774·2 | 190,907·1 | 79 | 26 | 31,772·2 | 158,009·8 |
| 79 | 27 | 31,013·9 | 154,132·9 | 80 | 27 | 26,517·4 | 126,237·6 |
| 80 | 28 | 25,879·9 | 123,119·0 | 81 | 28 | 21,883·2 | 99,720·2 |
| 81 | 29 | 21,353·2 | 97,239·1 | 82 | 29 | 17,843·4 | 77,837·0 |
| 82 | 30 | 17,408·0 | 75,885·9 | 83 | 30 | 14,365·3 | 59,993·6 |
| 83 | 31 | 14,012·0 | 58,477·9 | 84 | 31 | 11,410·1 | 45,628·3 |
| 84 | 32 | 11,127·1 | 44,465·9 | 85 | 32 | 8,934·27 | 34,218·23 |
| 85 | 33 | 8,710·72 | 33,338·82 | 86 | 33 | 6,890·82 | 25,283·96 |
| 86 | 34 | 6,716·80 | 24,628·10 | 87 | 34 | 5,230·71 | 18,393·14 |
| 87 | 35 | 5,097·31 | 17,911·30 | 88 | 35 | 3,904·39 | 13,162·43 |
| 88 | 36 | 3,803·77 | 12,813·99 | 89 | 36 | 2,863·26 | 9,258·04 |
| 89 | 37 | 2,788·65 | 9,010·22 | 90 | 37 | 2,061·04 | 6,394·78 |
| 90 | 38 | 2,006·69 | 6,221·57 | 91 | 38 | 1,454·86 | 4,333·74 |
| 91 | 39 | 1,416·01 | 4,214·88 | 92 | 39 | 1,006·10 | 2,878·88 |
| 92 | 40 | 978·876 | 2,798·868 | 93 | 40 | 680·961 | 1,872·778 |
| 93 | 41 | 662·269 | 1,819·992 | 94 | 41 | 450·626 | 1,191·817 |
| 94 | 42 | 438·069 | 1,157·723 | 95 | 42 | 291·254 | 741·191 |
| 95 | 43 | 283·007 | 719·654 | 96 | 43 | 183·663 | 449·937 |
| 96 | 44 | 178·375 | 436·647 | 97 | 44 | 112·874 | 266·274 |
| 97 | 45 | 109·566 | 258·272 | 98 | 45 | 67·5301 | 153·4003 |
| 98 | 46 | 65·5135 | 148·7055 | 99 | 46 | 39·2859 | 85·8702 |
| 99 | 47 | 38·0894 | 83·1920 | 100 | 47 | 22·1973 | 46·5843 |
| 100 | 48 | 21·5073 | 45·1026 | 101 | 48 | 12·1666 | 24·3870 |
| 101 | 49 | 11·7802 | 23·5953 | 102 | 49 | 6·4611 | 12·2204 |
| 102 | 50 | 6·2513 | 11·8151 | 103 | 50 | 3·3203 | 5·7593 |
| 103 | 51 | 3·2099 | 5·5638 | 104 | 51 | 1·6490 | 2·4390 |
| 104 | 52 | 1·5920 | 2·3539 | 105 | 52 | ·7900 | ·7900 |
| 105 | 53 | ·7619 | ·7619 | | | | |

## JOINT LIVES:—TWO MALES.

### Difference of Age 54 Years.

### Difference of Age 55 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ | Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | Difference of Age 54 Years. | | $x$ | $y$ | Difference of Age 55 Years. | |
| 54 | 0 | 494,288 | 4,737,284 | 55 | 0 | 475,658 | 4,453,069 |
| 55 | 1 | 392,006 | 4,242,996 | 56 | 1 | 376,773 | 3,977,411 |
| 56 | 2 | 347,375 | 3,850,990 | 57 | 2 | 333,434 | 3,600,638 |
| 57 | 3 | 316,882 | 3,503,615 | 58 | 3 | 303,722 | 3,267,204 |
| 58 | 4 | 292,129 | 3,186,733 | 59 | 4 | 279,544 | 2,963,482 |
| 59 | 5 | 270,535 | 2,894,604 | 60 | 5 | 258,415 | 2,683,938 |
| 60 | 6 | 251,164 | 2,624,069 | 61 | 6 | 239,432 | 2,425,523 |
| 61 | 7 | 233,366 | 2,372,905 | 62 | 7 | 221,969 | 2,186,091 |
| 62 | 8 | 216,710 | 2,139,539 | 63 | 8 | 205,614 | 1,964,122 |
| 63 | 9 | 201,051 | 1,922,829 | 64 | 9 | 190,230 | 1,758,508 |
| 64 | 10 | 186,228 | 1,721,778 | 65 | 10 | 175,666 | 1,568,278 |
| 65 | 11 | 172,116 | 1,535,550 | 66 | 11 | 161,805 | 1,392,612 |
| 66 | 12 | 158,625 | 1,363,434 | 67 | 12 | 148,565 | 1,230,807 |
| 67 | 13 | 145,688 | 1,204,809 | 68 | 13 | 135,889 | 1,082,242 |
| 68 | 14 | 133,265 | 1,059,121 | 69 | 14 | 123,743 | 946,353 |
| 69 | 15 | 121,336 | 925,856 | 70 | 15 | 112,113 | 822,610 |
| 70 | 16 | 109,897 | 804,520 | 71 | 16 | 100,999 | 710,497 |
| 71 | 17 | 98,957·0 | 694,623·0 | 72 | 17 | 90,415·9 | 609,498·4 |
| 72 | 18 | 88,536·9 | 595,666·0 | 73 | 18 | 80,384·9 | 519,082·5 |
| 73 | 19 | 78,662·7 | 507,129·1 | 74 | 19 | 70,932·8 | 438,697·6 |
| 74 | 20 | 69,363·9 | 428,466·4 | 75 | 20 | 62,087·8 | 367,764·8 |
| 75 | 21 | 60,670·1 | 359,102·5 | 76 | 21 | 53,876·3 | 305,677·0 |
| 76 | 22 | 52,636·4 | 298,432·4 | 77 | 22 | 46,345·1 | 251,800·7 |
| 77 | 23 | 45,270·5 | 245,796·0 | 78 | 23 | 39,496·9 | 205,455·6 |
| 78 | 24 | 38,574·3 | 200,525·5 | 79 | 24 | 33,327·5 | 165,958·7 |
| 79 | 25 | 32,543·3 | 161,951·2 | 80 | 25 | 27,825·0 | 132,631·2 |
| 80 | 26 | 27,165·7 | 129,407·9 | 81 | 26 | 22,970·4 | 104,806·2 |
| 81 | 27 | 22,422·2 | 102,242·2 | 82 | 27 | 18,736·7 | 81,835·8 |
| 82 | 28 | 18,286·3 | 79,820·0 | 83 | 28 | 15,090·1 | 63,099·1 |
| 83 | 29 | 14,724·6 | 61,533·7 | 84 | 29 | 11,990·4 | 48,009·0 |
| 84 | 30 | 11,697·8 | 46,809·1 | 85 | 30 | 9,392·53 | 36,018·63 |
| 85 | 31 | 9,161·50 | 35,111·34 | 86 | 31 | 7,247·41 | 26,626·10 |
| 86 | 32 | 7,067·66 | 25,949·84 | 87 | 32 | 5,503·94 | 19,378·69 |
| 87 | 33 | 5,366·23 | 18,882·18 | 88 | 33 | 4,110·37 | 13,874·75 |
| 88 | 34 | 4,006·57 | 13,515·95 | 89 | 34 | 3,015·91 | 9,764·38 |
| 89 | 35 | 2,939·00 | 9,509·38 | 90 | 35 | 2,172·16 | 6,748·47 |
| 90 | 36 | 2,116·18 | 6,570·38 | 91 | 36 | 1,534·24 | 4,576·31 |
| 91 | 37 | 1,494·26 | 4,454·20 | 92 | 37 | 1,061·70 | 3,042·07 |
| 92 | 38 | 1,033·71 | 2,959·94 | 93 | 38 | 719·103 | 1,980·374 |
| 93 | 39 | 699·901 | 1,926·227 | 94 | 39 | 476·232 | 1,261·271 |
| 94 | 40 | 463·344 | 1,226·326 | 95 | 40 | 308·058 | 785·039 |
| 95 | 41 | 299·602 | 762·982 | 96 | 41 | 194·433 | 476·981 |
| 96 | 42 | 189·015 | 463·380 | 97 | 42 | 119·607 | 282·548 |
| 97 | 43 | 116·220 | 274·365 | 98 | 43 | 71·6319 | 162·9413 |
| 98 | 44 | 69·5693 | 158·1448 | 99 | 44 | 41·7179 | 91·3094 |
| 99 | 45 | 40·4952 | 88·5755 | 100 | 45 | 23·5993 | 49·5915 |
| 100 | 46 | 22·8945 | 48·0803 | 101 | 46 | 12·9513 | 25·9922 |
| 101 | 47 | 12·5569 | 25·1858 | 102 | 47 | 6·8871 | 13·0409 |
| 102 | 48 | 6·6731 | 12·6289 | 103 | 48 | 3·5443 | 6·1538 |
| 103 | 49 | 3·4318 | 5·9558 | 104 | 49 | 1·7630 | 2·6095 |
| 104 | 50 | 1·7057 | 2·5240 | 105 | 50 | ·8465 | ·8465 |
| 105 | 51 | ·8183 | ·8183 | | | | |

## JOINT LIVES:—Two Males.

### Difference of Age 56 Years.

### Difference of Age 57* Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ | Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | **Difference of Age 56 Years.** | | $x$ | $y$ | **Difference of Age 57* Years.** | |
| 56 | 0 | 457,174 | 4,176,950 | 57 | 0 | 438,827 | 3,908,998 |
| 57 | 1 | 361,652 | 3,719,776 | 58 | 1 | 346,633 | 3,470,171 |
| 58 | 2 | 319,587 | 3,358,124 | 59 | 2 | 305,820 | 3,123,538 |
| 59 | 3 | 290,638 | 3,038,537 | 60 | 3 | 277,618 | 2,817,718 |
| 60 | 4 | 267,021 | 2,747,899 | 61 | 4 | 254,548 | 2,540,100 |
| 61 | 5 | 246,345 | 2,480,878 | 62 | 5 | 234,314 | 2,285,552 |
| 62 | 6 | 227,738 | 2,234,533 | 63 | 6 | 216,078 | 2,051,238 |
| 63 | 7 | 210,604 | 2,006,795 | 64 | 7 | 199,270 | 1,835,160 |
| 64 | 8 | 194,548 | 1,796,191 | 65 | 8 | 183,514 | 1,635,890 |
| 65 | 9 | 179,441 | 1,601,643 | 66 | 9 | 168,691 | 1,452,376 |
| 66 | 10 | 165,142 | 1,422,202 | 67 | 10 | 154,669 | 1,283,685 |
| 67 | 11 | 151,544 | 1,257,060 | 68 | 11 | 141,352 | 1,129,016 |
| 68 | 12 | 138,573 | 1,105,516 | 69 | 12 | 128,672 | 987,664 |
| 69 | 13 | 126,180 | 966,943 | 70 | 13 | 116,588 | 858,992 |
| 70 | 14 | 114,337 | 840,763 | 71 | 14 | 105,080 | 742,404 |
| 71 | 15 | 103,036 | 726,426 | 72 | 15 | 94,142·6 | 637,324·0 |
| 72 | 16 | 92,281·7 | 623,390·3 | 73 | 16 | 83,784·9 | 543,181·4 |
| 73 | 17 | 82,090·9 | 531,108·6 | 74 | 17 | 74,024·2 | 459,396·5 |
| 74 | 18 | 72,485·8 | 449,017·7 | 75 | 18 | 64,882·2 | 385,372·3 |
| 75 | 19 | 63,492·1 | 376,531·9 | 76 | 19 | 56,382·3 | 320,490·1 |
| 76 | 20 | 55,135·2 | 313,039·8 | 77 | 20 | 48,545·3 | 264,107·8 |
| 77 | 21 | 47,436·8 | 257,904·6 | 78 | 21 | 41,387·0 | 215,562·5 |
| 78 | 22 | 40,434·6 | 210,467·8 | 79 | 22 | 34,934·7 | 174,175·5 |
| 79 | 23 | 34,124·6 | 170,033·2 | 80 | 23 | 29,177·0 | 139,240·8 |
| 80 | 24 | 28,495·5 | 135,908·6 | 81 | 24 | 24,094·8 | 110,063·8 |
| 81 | 25 | 23,527·9 | 107,413·1 | 82 | 25 | 19,660·7 | 85,969·0 |
| 82 | 26 | 19,194·8 | 83,885·2 | 83 | 26 | 15,839·8 | 66,308·3 |
| 83 | 27 | 15,461·7 | 64,690·4 | 84 | 27 | 12,590·7 | 50,468·5 |
| 84 | 28 | 12,288·0 | 49,228·7 | 85 | 28 | 9,866·40 | 37,877·84 |
| 85 | 29 | 9,627·46 | 36,940·65 | 86 | 29 | 7,616·03 | 28,011·44 |
| 86 | 30 | 7,430·17 | 27,313·19 | 87 | 30 | 5,786·25 | 20,395·41 |
| 87 | 31 | 5,643·93 | 19,883·02 | 88 | 31 | 4,323·07 | 14,609·16 |
| 88 | 32 | 4,215·85 | 14,239·09 | 89 | 32 | 3,173·45 | 10,286·09 |
| 89 | 33 | 3,094·05 | 10,023·24 | 90 | 33 | 2,286·76 | 7,112·64 |
| 90 | 34 | 2,229·01 | 6,920·19 | 91 | 34 | 1,616·04 | 4,825·88 |
| 91 | 35 | 1,574·82 | 4,700·18 | 92 | 35 | 1,118·94 | 3,209·84 |
| 92 | 36 | 1,090·11 | 3,125·36 | 93 | 36 | 758·340 | 2,090·895 |
| 93 | 37 | 738·579 | 2,035·253 | 94 | 37 | 502·549 | 1,332·555 |
| 94 | 38 | 489·298 | 1,296·674 | 95 | 38 | 325·314 | 830·006 |
| 95 | 39 | 316·627 | 807·376 | 96 | 39 | 205·482 | 504·692 |
| 96 | 40 | 199·921 | 490·749 | 97 | 40 | 126·508 | 299·210 |
| 97 | 41 | 123·035 | 290·828 | 98 | 41 | 75·8323 | 172·7024 |
| 98 | 42 | 73·7192 | 167·7931 | 99 | 42 | 44·2065 | 96·8701 |
| 99 | 43 | 42·9548 | 94·0739 | 100 | 43 | 25·0327 | 52·6636 |
| 100 | 44 | 24·3119 | 51·1191 | 101 | 44 | 13·7531 | 27·6309 |
| 101 | 45 | 13·3500 | 26·8072 | 102 | 45 | 7·3221 | 13·8778 |
| 102 | 46 | 7·1035 | 13·4572 | 103 | 46 | 3·7729 | 6·5557 |
| 103 | 47 | 3·6580 | 6·3537 | 104 | 47 | 1·8792 | 2·7828 |
| 104 | 48 | 1·8208 | 2·6957 | 105 | 48 | ·9036 | ·9036 |
| 105 | 49 | ·8749 | ·8749 | | | | |

* **Note.**—The Columns $D_{x,\,y}$ and $N_{x,\,y}$ for **Difference of Age 58 Years** are printed on page 475; and the corresponding Columns for **Difference of Age 59-105 Years** will be found by reading the Tables backwards from p. 474 to p. 428.

# JOINT LIVES.

## TWO FEMALES.

Interest **3** per Cent.

## JOINT LIVES:—Two Females.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 0 | | | 1 | | | 2 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,0}$ | λ $N_{x,\,0}$ | Age of (x) | λ $D_{x,\,1}$ | λ $N_{x,\,1}$ | Age of (x) | λ $D_{x,\,2}$ | λ $N_{x,\,2}$ |
| 0 | 6·3772930 | 7·5050688 | 0 | 6·3080348 | 7·4879848 | 0 | 6·2738572 | 7·4746229 |
| 1 | 6·3080348 | 7·4879848 | 1 | 6·2387766 | 7·4714397 | 1 | 6·2045990 | 7·4582959 |
| 2 | 6·2738572 | 7·4746229 | 2 | 6·2045990 | 7·4582959 | 2 | 6·1704214 | 7·4452489 |
| 3 | 6·2517940 | 7·4625824 | 3 | 6·1825358 | 7·4463697 | 3 | 6·1483582 | 7·4333796 |
| 4 | 6·2347464 | 7·4511373 | 4 | 6·1654882 | 7·4349945 | 4 | 6·1313106 | 7·4220445 |
| 5 | 6·2205800 | 7·4400126 | 5 | 6·1513218 | 7·4239143 | 5 | 6·1171442 | 7·4109938 |
| 6 | 6·2083565 | 7·4290575 | 6 | 6·1390983 | 7·4129859 | 6 | 6·1049207 | 7·4000885 |
| 7 | 6·1973307 | 7·4181683 | 7 | 6·1280725 | 7·4021120 | 7 | 6·0938949- | 7·3892329 |
| 8 | 6·1869512 | 7·4072799 | 8 | 6·1176930 | 7·3912314 | 8 | 6·0835154 | 7·3783674 |
| 9 | 6·1771821 | 7·3963585 | 9 | 6·1079239 | 7·3803105 | 9 | 6·0737463 | 7·3674588 |
| 10 | 6·1678797 | 7·3853689 | 10 | 6·0986215 | 7·3693153 | 10 | 6·0644439 | 7·3564731 |
| 11 | 6·1589125 | 7·3742807 | 11 | 6·0896543 | 7·3582169 | 11 | 6·0554767 | 7·3453819 |
| 12 | 6·1501612 | 7·3630696 | 12 | 6·0809030 | 7·3469917 | 12 | 6·0467254 | 7·3341626 |
| 13 | 6·1415190 | 7·3517157 | 13 | 6·0722608 | 7·3356205 | 13 | 6·0380832 | 7·3227959 |
| 14 | 6·1328911 | 7·3402033 | 14 | 6·0636329 | 7·3240892 | 14 | 6·0294553 | 7·3112680 |
| 15 | 6·1241949 | 7·3285215 | 15 | 6·0549367 | 7·3123866 | 15 | 6·0207591 | 7·2995685 |
| 16 | 6·1153601 | 7·3166623 | 16 | 6·0461019 | 7·3005063 | 16 | 6·0119243 | 7·2876909 |
| 17 | 6·1063287 | 7·3046220 | 17 | 6·0370705 | 7·2884450 | 17 | 6·0028929 | 7·2756317 |
| 18 | 6·0970549 | 7·2923994 | 18 | 6·0277967 | 7·2762021 | 18 | 5·9936191 | 7·2633911 |
| 19 | 6·0875050 | 7·2799971 | 19 | 6·0182468 | 7·2637794 | 19 | 5·9840692 | 7·2509710 |
| 20 | 6·0776576 | 7·2674191 | 20 | 6·0083994 | 7·2511821 | 20 | 5·9742218 | 7·2383761 |
| 21 | 6·0675036 | 7·2546723 | 21 | 5·9982454 | 7·2384160 | 21 | 5·9640678 | 7·2256124 |
| 22 | 6·0572520 | 7·2417665 | 22 | 5·9879938 | 7·2254897 | 22 | 5·9538162 | 7·2126874 |
| 23 | 6·0469064 | 7·2286980 | 23 | 5·9776482 | 7·2123988 | 23 | 5·9434706 | 7·1995975 |
| 24 | 6·0364694 | 7·2154620 | 24 | 5·9672112 | 7·1991390 | 24 | 5·9330336 | 7·1863372 |
| 25 | 6·0259437 | 7·2020536 | 25 | 5·9566855 | 7·1857050 | 25 | 5·9225079 | 7·1729023 |
| 26 | 6·0153310 | 7·1884676 | 26 | 5·9460728 | 7·1720916 | 26 | 5·9118952 | 7·1592868 |
| 27 | 6·0046330 | 7·1746976 | 27 | 5·9353748 | 7·1582925 | 27 | 5·9011972 | 7·1454845 |
| 28 | 5·9938507 | 7·1607374 | 28 | 5·9245925 | 7·1443004 | 28 | 5·8904149 | 7·1314884 |
| 29 | 5·9829846 | 7·1465795 | 29 | 5·9137264 | 7·1301091 | 29 | 5·8795488 | 7·1172915 |
| 30 | 5·9720347 | 7·1322165 | 30 | 5·9027765 | 7·1157097 | 30 | 5·8685989 | 7·1028855 |
| 31 | 5·9610008 | 7·1176394 | 31 | 5·8917426 | 7·1010941 | 31 | 5·8575650 | 7·0882623 |
| 32 | 5·9498820 | 7·1028393 | 32 | 5·8806238 | 7·0862526 | 32 | 5·8464462 | 7·0734119 |
| 33 | 5·9386769 | 7·0878063 | 33 | 5·8694187 | 7·0711755 | 33 | 5·8352411 | 7·0583243 |
| 34 | 5·9273838 | 7·0725297 | 34 | 5·8581256 | 7·0558517 | 34 | 5·8239480 | 7·0429888 |
| 35 | 5·9160004 | 7·0569973 | 35 | 5·8467422 | 7·0402692 | 35 | 5·8125646 | 7·0273933 |
| 36 | 5·9045239 | 7·0411976 | 36 | 5·8352657 | 7·0244155 | 36 | 5·8010881 | 7·0115249 |
| 37 | 5·8929513 | 7·0251174 | 37 | 5·8236931 | 7·0082773 | 37 | 5·7895155 | 6·9953702 |
| 38 | 5·8812788 | 7·0087411 | 38 | 5·8120206 | 6·9918397 | 38 | 5·7778430 | 6·9789143 |
| 39 | 5·8695023 | 6·9920543 | 39 | 5·8002441 | 6·9750869 | 39 | 5·7660665 | 6·9621415 |
| 40 | 5·8576173 | 6·9750399 | 40 | 5·7883591 | 6·9580019 | 40 | 5·7541815 | 6·9450344 |
| 41 | 5·8456186 | 6·9576802 | 41 | 5·7763604 | 6·9405665 | 41 | 5·7421828 | 6·9275744 |
| 42 | 5·8335007 | 6·9399556 | 42 | 5·7642425 | 6·9227609 | 42 | 5·7300649 | 6·9097418 |
| 43 | 5·8212576 | 6·9218453 | 43 | 5·7519994 | 6·9045637 | 43 | 5·7178218 | 6·8915148 |
| 44 | 5·8088829 | 6·9033266 | 44 | 5·7396247 | 6·8859514 | 44 | 5·7054471 | 6·8728701 |
| 45 | 5·7963695 | 6·8843752 | 45 | 5·7271113 | 6·8668992 | 45 | 5·6929337 | 6·8537821 |
| 46 | 5·7837102 | 6·8649641 | 46 | 5·7144520 | 6·8473799 | 46 | 5·6802744 | 6·8342230 |
| 47 | 5·7708970 | 6·8450643 | 47 | 5·7016388 | 6·8273634 | 47 | 5·6674612 | 6·8141631 |
| 48 | 5·7579216 | 6·8246434 | 48 | 5·6886634 | 6·8068170 | 48 | 5·6544858 | 6·7935688 |
| 49 | 5·7447751 | 6·8036666 | 49 | 5·6755169 | 6·7857042 | 49 | 5·6413393 | 6·7724040 |
| 50 | 5·7314484 | 6·7820949 | 50 | 5·6621902 | 6·7639857 | 50 | 5·6280126 | 6·7506276 |
| 51 | 5·7179316 | 6·7598846 | 51 | 5·6486734 | 6·7416168 | 51 | 5·6144958 | 6·7281958 |
| 52 | 5·7042145 | 6·7369872 | 52 | 5·6349563 | 6·7185479 | 52 | 5·6007787 | 6·7050580 |
| 53 | 5·6902864 | 6·7133473 | 53 | 5·6210282 | 6·6947230 | 53 | 5·5868506 | 6·6811580 |
| 54 | 5·6761363 | 6·6888997 | 54 | 5·6068781 | 6·6700782 | 54 | 5·5727005 | 6·6564323 |

## JOINT LIVES :—Two Females.

## Logarithms of the Series $D_{x, y}$ and $N_{x, y}$.

| Age of (y) | 0 | | 1 | | | 2 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x, 0}$ | λ $N_{x, 0}$ | Age of (x) | λ $D_{x, 1}$ | λ $N_{x, 1}$ | Age of (x) | λ $D_{x, 2}$ | λ $N_{x, 2}$ |
| 55 | 5·6610892 | 6·6635652 | 55 | 5·5918310 | 6·6445376 | 55 | 5·5576534 | 6·6308072 |
| 56 | 5·6454625 | 6·6373279 | 56 | 5·5762043 | 6·6180820 | 56 | 5·5420267 | 6·6042603 |
| 57 | 5·6292303 | 6·6101346 | 57 | 5·5599721 | 6·5906570 | 57 | 5·5257945 | 6·5767378 |
| 58 | 5·6123556 | 6·5819266 | 58 | 5·5430974 | 6·5622027 | 58 | 5·5089198 | 6·5481789 |
| 59 | 5·5947907 | 6·5526390 | 59 | 5·5255325 | 6·5326526 | 59 | 5·4913549 | 6·5185169 |
| 60 | 5·5764768 | 6·5221999 | 60 | 5·5072186 | 6·5019352 | 60 | 5·4730410 | 6·4876791 |
| 61 | 5·5573440 | 6·4905319 | 61 | 5·4880858 | 6·4699705 | 61 | 5·4539082 | 6·4555866 |
| 62 | 5·5373119 | 6·4575506 | 62 | 5·4680537 | 6·4366744 | 62 | 5·4338761 | 6·4221529 |
| 63 | 5·5162888 | 6·4231646 | 63 | 5·4470306 | 6·4019541 | 63 | 5·4128530 | 6·3872862 |
| 64 | 5·4941721 | 6·3872750 | 64 | 5·4249139 | 6·3657107 | 64 | 5·3907363 | 6·3508867 |
| 65 | 5·4708485 | 6·3497765 | 65 | 5·4015903 | 6·3278373 | 65 | 5·3674127 | 6·3128478 |
| 66 | 5·4461934 | 6·3105559 | 66 | 5·3769352 | 6·2882204 | 66 | 5·3427576 | 6·2730551 |
| 67 | 5·4200715 | 6·2694915 | 67 | 5·3508133 | 6·2467383 | 67 | 5·3166357 | 6·2313868 |
| 68 | 5·3923366 | 6·2264542 | 68 | 5·3230784 | 6·2032609 | 68 | 5·2889008 | 6·1877131 |
| 69 | 5·3628313 | 6·1813070 | 69 | 5·2935731 | 6·1576502 | 69 | 5·2593955 | 6·1418954 |
| 70 | 5·3313876 | 6·1339022 | 70 | 5·2621294 | 6·1097600 | 70 | 5·2279518 | 6·0937876 |
| 71 | 5·2978263 | 6·0840853 | 71 | 5·2285681 | 6·0594339 | 71 | 5·1943905 | 6·0432338 |
| 72 | 5·2619573 | 6·0316920 | 72 | 5·1926991 | 6·0065075 | 72 | 5·1585215 | 5·9900692 |
| 73 | 5·2235797 | 5·9765471 | 73 | 5·1543215 | 5·9508077 | 73 | 5·1201439 | 5·9341195 |
| 74 | 5·1824816 | 5·9184660 | 74 | 5·1132234 | 5·8921492 | 74 | 5·0790458 | 5·8752025 |
| 75 | 5·1384400 | 5·8572553 | 75 | 5·0691818 | 5·8303371 | 75 | 5·0350042 | 5·8131224 |
| 76 | 5·0912211 | 5·7927103 | 76 | 5·0219629 | 5·7651685 | 76 | 4·9877853 | 5·7476751 |
| 77 | 5·0405803 | 5·7246150 | 77 | 4·9713221 | 5·6964279 | 77 | 4·9371445 | 5·6786473 |
| 78 | 4·9862617 | 5·6527436 | 78 | 4·9170035 | 5·6238896 | 78 | 4·8828259 | 5·6058132 |
| 79 | 4·9279988 | 5·5768588 | 79 | 4·8587406 | 5·5473172 | 79 | 4·8245630 | 5·5289363 |
| 80 | 4·8655140 | 5·4967119 | 80 | 4·7962558 | 5·4664626 | 80 | 4·7620782 | 5·4477695 |
| 81 | 4·7985188 | 5·4120428 | 81 | 4·7292606 | 5·3810670 | 81 | 4·6950830 | 5·3620540 |
| 82 | 4·7267137 | 5·3225798 | 82 | 4·6574555 | 5·2908592 | 82 | 4·6232779 | 5·2715200 |
| 83 | 4·6497884 | 5·2280396 | 83 | 4·5805302 | 5·1955568 | 83 | 4·5463526 | 5·1758850 |
| 84 | 4·5674214 | 5·1281268 | 84 | 4·4981632 | 5·0948654 | 84 | 4·4639856 | 5·0748556 |
| 85 | 4·4792807 | 5·0225332 | 85 | 4·4100225 | 4·9884791 | 85 | 4·3758449 | 4·9681260 |
| 86 | 4·3850228 | 4·9109407 | 86 | 4·3157646 | 4·8760786 | 86 | 4·2815870 | 4·8553786 |
| 87 | 4·2842937 | 4·7930161 | 87 | 4·2150355 | 4·7573345 | 87 | 4·1808579 | 4·7362825 |
| 88 | 4·1767283 | 4·6684158 | 88 | 4·1074701 | 4·6319032 | 88 | 4·0732925 | 4·6104973 |
| 89 | 4·0619505 | 4·5367831 | 89 | 3·9926923 | 4·4994286 | 89 | 3·9585147 | 4·4776658 |
| 90 | 3·9395734 | 4·3977466 | 90 | 3·8703152 | 4·3595425 | 90 | 3·8361376 | 4·3374205 |
| 91 | 3·8091991 | 4·2509243 | 91 | 3·7399409 | 4·2118622 | 91 | 3·7057633 | 4·1893800 |
| 92 | 3·6704187 | 4·0959176 | 92 | 3·6011605 | 4·0559908 | 92 | 3·5669829 | 4·0331474 |
| 93 | 3·5228125 | 3·9323134 | 93 | 3·4535543 | 3·8915158 | 93 | 3·4193767 | 3·8683099 |
| 94 | 3·3659496 | 3·7596800 | 94 | 3·2966914 | 3·7180049 | 94 | 3·2625138 | 3·6944359 |
| 95 | 3·1993884 | 3·5775584 | 95 | 3·1301302 | 3·5350015 | 95 | 3·0959526 | 3·5110675 |
| 96 | 3·0226764 | 3·3854633 | 96 | 2·9534182 | 3·3420123 | 96 | 2·9192406 | 3·3177118 |
| 97 | 2·8353499 | 3·1828550 | 97 | 2·7660917 | 3·1384935 | 97 | 2·7319141 | 3·1138194 |
| 98 | 2·6369346 | 2·9691036 | 98 | 2·5676764 | 2·9238039 | 98 | 2·5334988 | 2·8987449 |
| 99 | 2·4269448 | 2·7434227 | 99 | 2·3576866 | 2·6971282 | 99 | 2·3235090 | 2·6716615 |
| 100 | 2·2048843 | 2·5047087 | 100 | 2·1356261 | 2·4573095 | 100 | 2·1014485 | 2·4313862 |
| 101 | 1·9702458 | 2·2511908 | 101 | 1·9009876 | 2·2024696 | 101 | 1·8668100 | 2·1759960 |
| 102 | 1·7225110 | 1·9795925 | 102 | 1·6532528 | 1·9291015 | 102 | 1·6190752 | 1·9018908 |
| 103 | 1·4611507 | 1·6828947 | 103 | 1·3918925 | 1·6296603 | 103 | 1·3577149 | 1·6013395 |
| 104 | 1·1856249 | 1·3430874 | 104 | 1·1163667 | 1·2847984 | 104 | 1·0821891 | 1·2545553 |
| 105 | 0·8953823 | | 105 | 0·8261241 | | 105 | 0·7919465 | |
| 106 | 0·5898611 | | 106 | 0·5206029 | | 106 | 0·4864253 | |
| 107 | 0·2684882 | | 107 | 0·1992300 | | 107 | 0·1650524 | |
| 108 | 9·9306798 | | 108 | 9·8614216 | | 108 | 9·8272440 | |
| 109 | 9·5758410 | | 109 | 9·5065828 | | 109 | 9·4724052 | |

## JOINT LIVES:—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 3 | | | 4 | | | 5 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,3}$ | λ $N_{x,\,3}$ | Age of (x) | λ $D_{x,\,4}$ | λ $N_{x,\,4}$ | Age of (x) | λ $D_{x,\,5}$ | λ $N_{x,\,5}$ |
| 0 | 6·2517940 | 7·4625824 | 0 | 6·2347464 | 7·4511373 | 0 | 6·2205800 | 7·4400126 |
| 1 | 6·1825358 | 7·4463697 | 1 | 6·1654882 | 7·4349945 | 1 | 6·1513218 | 7·4239143 |
| 2 | 6·1483582 | 7·4333796 | 2 | 6·1313106 | 7·4220445 | 2 | 6·1171442 | 7·4109938 |
| 3 | 6·1262950 | 7·4215487 | 3 | 6·1092474 | 7·4102440 | 3 | 6·0950810 | 7·3992193 |
| 4 | 6·1092474 | 7·4102440 | 4 | 6·0921998 | 7·3989659 | 4 | 6·0780334 | 7·3879657 |
| 5 | 6·0950810 | 7·3992193 | 5 | 6·0780334 | 7·3879657 | 5 | 6·0638670 | 7·3769896 |
| 6 | 6·0828575 | 7·3883362 | 6 | 6·0658099 | 7·3771058 | 6 | 6·0516435 | 7·3661530 |
| 7 | 6·0718317 | 7·3775013 | 7 | 6·0547841 | 7·3662928 | 7 | 6·0406177 | 7·3553632 |
| 8 | 6·0614522 | 7·3666547 | 8 | 6·0444046 | 7·3554677 | 8 | 6·0302382 | 7·3445609 |
| 9 | 6·0516831 | 7·3557634 | 9 | 6·0346355 | 7·3445970 | 9 | 6·0204691 | 7·3337130 |
| 10 | 6·0423807 | 7·3447940 | 10 | 6·0253331 | 7·3336470 | 10 | 6·0111667 | 7·3227856 |
| 11 | 6·0334135 | 7·3337176 | 11 | 6·0163659 | 7·3225901 | 11 | 6·0021995 | 7·3117508 |
| 12 | 6·0246622 | 7·3225123 | 12 | 6·0076146 | 7·3114032 | 12 | 5·9934482 | 7·3005855 |
| 13 | 6·0160200 | 7·3111588 | 13 | 5·9989724 | 7·3000679 | 13 | 5·9848060 | 7·2892713 |
| 14 | 6·0073921 | 7·2996435 | 14 | 5·9903445 | 7·2885702 | 14 | 5·9761781 | 7·2777948 |
| 15 | 5·9986959 | 7·2879562 | 15 | 5·9816483 | 7·2769000 | 15 | 5·9674819 | 7·2661456 |
| 16 | 5·9898611 | 7·2760906 | 16 | 5·9728135 | 7·2650514 | 16 | 5·9586471 | 7·2543175 |
| 17 | 5·9808297 | 7·2640431 | 17 | 5·9637821 | 7·2530209 | 17 | 5·9496157 | 7·2423074 |
| 18 | 5·9715559 | 7·2518141 | 18 | 5·9545083 | 7·2408085 | 18 | 5·9403419 | 7·2301149 |
| 19 | 5·9620060 | 7·2394056 | 19 | 5·9449584 | 7·2284163 | 19 | 5·9307920 | 7·2177429 |
| 20 | 5·9521586 | 7·2268220 | 20 | 5·9351110 | 7·2158490 | 20 | 5·9209446 | 7·2051952 |
| 21 | 5·9420046 | 7·2140694 | 21 | 5·9249570 | 7·2031126 | 21 | 5·9107906 | 7·1924779 |
| 22 | 5·9317530 | 7·2011550 | 22 | 5·9147054 | 7·1902134 | 22 | 5·9005390 | 7·1795980 |
| 23 | 5·9214074 | 7·1880748 | 23 | 5·9043598 | 7·1771485 | 23 | 5·8901934 | 7·1665515 |
| 24 | 5·9109704 | 7·1748242 | 24 | 5·8939228 | 7·1639121 | 24 | 5·8797564 | 7·1533334 |
| 25 | 5·9004447 | 7·1613977 | 25 | 5·8833971 | 7·1505000 | 25 | 5·8692307 | 7·1399389 |
| 26 | 5·8898320 | 7·1477900 | 26 | 5·8727844 | 7·1369060 | 26 | 5·8586180 | 7·1263623 |
| 27 | 5·8791340 | 7·1339950 | 27 | 5·8620864 | 7·1231239 | 27 | 5·8479200 | 7·1125974 |
| 28 | 5·8683517 | 7·1200061 | 28 | 5·8513041 | 7·1091474 | 28 | 5·8371377 | 7·0986372 |
| 29 | 5·8574856 | 7·1058149 | 29 | 5·8404380 | 7·0949684 | 29 | 5·8262716 | 7·0844744 |
| 30 | 5·8465357 | 7·0914144 | 30 | 5·8294881 | 7·0805796 | 30 | 5·8153217 | 7·0701011 |
| 31 | 5·8355018 | 7·0767955 | 31 | 5·8184542 | 7·0659717 | 31 | 5·8042878 | 7·0555087 |
| 32 | 5·8243830 | 7·0619491 | 32 | 5·8073354 | 7·0511355 | 32 | 5·7931690 | 7·0406874 |
| 33 | 5·8131779 | 7·0468645 | 33 | 5·7961303 | 7·0360609 | 33 | 5·7819639 | 7·0256274 |
| 34 | 5·8018848 | 7·0315308 | 34 | 5·7848372 | 7·0207370 | 34 | 5·7706708 | 7·0103179 |
| 35 | 5·7905014 | 7·0159366 | 35 | 5·7734538 | 7·0051518 | 35 | 5·7592874 | 6·9947460 |
| 36 | 5·7790249 | 7·0000691 | 36 | 5·7619773 | 6·9892925 | 36 | 5·7478109 | 6·9789009 |
| 37 | 5·7674523 | 6·9839141 | 37 | 5·7504047 | 6·9731456 | 37 | 5·7362383 | 6·9627671 |
| 38 | 5·7557798 | 6·9674570 | 38 | 5·7387322 | 6·9566958 | 38 | 5·7245658 | 6·9463303 |
| 39 | 5·7440033 | 6·9506816 | 39 | 5·7269557 | 6·9399275 | 39 | 5·7127893 | 6·9295745 |
| 40 | 5·7321183 | 6·9335712 | 40 | 5·7150707 | 6·9228228 | 40 | 5·7009043 | 6·9124825 |
| 41 | 5·7201196 | 6·9161066 | 41 | 5·7030720 | 6·9053641 | 41 | 5·6889056 | 6·8950353 |
| 42 | 5·7080017 | 6·8982679 | 42 | 5·6909541 | 6·8875302 | 42 | 5·6767877 | 6·8772131 |
| 43 | 5·6957586 | 6·8800335 | 43 | 5·6787110 | 6·8692997 | 43 | 5·6645446 | 6·8589939 |
| 44 | 5·6833839 | 6·8613798 | 44 | 5·6663363 | 6·8506490 | 44 | 5·6521699 | 6·8403537 |
| 45 | 5·6708705 | 6·8422810 | 45 | 5·6538229 | 6·8315523 | 45 | 5·6396565 | 6·8212671 |
| 46 | 5·6582112 | 6·8227093 | 46 | 5·6411636 | 6·8119814 | 46 | 5·6269972 | 6·8017058 |
| 47 | 5·6453980 | 6·8026340 | 47 | 5·6283504 | 6·7919060 | 47 | 5·6141840 | 6·7816392 |
| 48 | 5·6324226 | 6·7820224 | 48 | 5·6153750 | 6·7712921 | 48 | 5·6012086 | 6·7610334 |
| 49 | 5·6192761 | 6·7608375 | 49 | 5·6022285 | 6·7501038 | 49 | 5·5880621 | 6·7398515 |
| 50 | 5·6059494 | 6·7390387 | 50 | 5·5889018 | 6·7282995 | 50 | 5·5747354 | 6·7180531 |
| 51 | 5·5924326 | 6·7165803 | 51 | 5·5753850 | 6·7058346 | 51 | 5·5612186 | 6·6955927 |
| 52 | 5·5787155 | 6·6934133 | 52 | 5·5616679 | 6·6826579 | 52 | 5·5475015 | 6·6724200 |
| 53 | 5·5647874 | 6·6694807 | 53 | 5·5477398 | 6·6587141 | 53 | 5·5335734 | 6·6484779 |
| 54 | 5·5506373 | 6·6447188 | 54 | 5·5335897 | 6·6339388 | 54 | 5·5194233 | 6·6237036 |

## JOINT LIVES:—Two Females.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (*y*) | 3 | | | 4 | | | 5 | |
|---|---|---|---|---|---|---|---|---|
| Age of (*x*) | λ $D_{x,\,3}$ | λ $N_{x,\,3}$ | Age of (*x*) | λ $D_{x\ 4}$ | λ $N_{x,\,4}$ | Age of (*x*) | λ $D_{x,\,5}$ | λ $N_{x,\,5}$ |
| 55 | 5·5355902 | 6·6190550 | 55 | 5·5185426 | 6·6082598 | 55 | 5·5043762 | 6·5980243 |
| 56 | 5·5199635 | 6·5924665 | 56 | 5·5029159 | 6·5816538 | 56 | 5·4887495 | 6·5714165 |
| 57 | 5·5037313 | 6·5648976 | 57 | 5·4866837 | 6·5540657 | 57 | 5·4725173 | 6·5438249 |
| 58 | 5·4868566 | 6·5362887 | 58 | 5·4698090 | 6·5254337 | 58 | 5·4556426 | 6·5151883 |
| 59 | 5·4692917 | 6·5065723 | 59 | 5·4522441 | 6·4956918 | 59 | 5·4380777 | 6·4854389 |
| 60 | 5·4509778 | 6·4756753 | 60 | 5·4339302 | 6·4647662 | 60 | 5·4197638 | 6·4545042 |
| 61 | 5·4318450 | 6·4435180 | 61 | 5·4147974 | 6·4325771 | 61 | 5·4006310 | 6·4223037 |
| 62 | 5·4118129 | 6·4100152 | 62 | 5·3947653 | 6·3990385 | 62 | 5·3805989 | 6·3887509 |
| 63 | 5·3907898 | 6·3750732 | 63 | 5·3737422 | 6·3640576 | 63 | 5·3595758 | 6·3537532 |
| 64 | 5·3686731 | 6·3385927 | 64 | 5·3516255 | 6 3275336 | 64 | 5·3374591 | 6·3172104 |
| 65 | 5·3453495 | 6·3004670 | 65 | 5·3283019 | 6·2893606 | 65 | 5·3141355 | 6·2790148 |
| 66 | 5·3206944 | 6·2605817 | 66 | 5·3036468 | 6·2494237 | 66 | 5·2894804 | 6·2390526 |
| 67 | 5·2945725 | 6·2188142 | 67 | 5·2775249 | 6·2076009 | 67 | 5·2633585 | 6·1972012 |
| 68 | 5·2668376 | 6·1750355 | 68 | 5·2497900 | 6·1637617 | 68 | 5·2356236 | 6·1533310 |
| 69 | 5·2373323 | 6·1291064 | 69 | 5·2202847 | 6·1177683 | 69 | 5·2061183 | 6·1073022 |
| 70 | 5·2058886 | 6·0808807 | 70 | 5·1888410 | 6·0694735 | 70 | 5·1746746 | 6·0589694 |
| 71 | 5·1723273 | 6·0302029 | 71 | 5·1552797 | 6·0187221 | 71 | 5·1411133 | 6·0081763 |
| 72 | 5·1364583 | 5·9769082 | 72 | 5·1194107 | 5·9653494 | 72 | 5·1052443 | 5·9547590 |
| 73 | 5·0980807 | 5·9208222 | 73 | 5·0810331 | 5·9091820 | 73 | 5·0668667 | 5·8985426 |
| 74 | 5·0569826 | 5·8617620 | 74 | 5·0399350 | 5·8500351 | 74 | 5·0257686 | 5·8393448 |
| 75 | 5·0129410 | 5·7995342 | 75 | 4·9958934 | 5·7877165 | 75 | 4·9817270 | 5·7769713 |
| 76 | 4·9657221 | 5·7339342 | 76 | 4·9486745 | 5·7220218 | 76 | 4·9345081 | 5·7112186 |
| 77 | 4·9150813 | 5·6647477 | 77 | 4·8980337 | 5·6527375 | 77 | 4·8838673 | 5·64187[illegible]4 |
| 78 | 4·8607627 | 5·5917501 | 78 | 4·8437151 | 5·5796381 | 78 | 4·8295487 | 5·5687109 |
| 79 | 4·8024998 | 5·5147055 | 79 | 4·7854522 | 5·5024887 | 79 | 4·7712858 | 5·4914952 |
| 80 | 4·7400150 | 5·4333665 | 80 | 4·7229674 | 5·4210422 | 80 | 4·7088010 | 5·4099802 |
| 81 | 4·6730198 | 5·3474754 | 81 | 4·6559722 | 5·3350404 | 81 | 4·6418058 | 5·3239081 |
| 82 | 4·6012147 | 5·2567617 | 82 | 4·5841671 | 5·2442143 | 82 | 4·5700007 | 5·2330091 |
| 83 | 4·5242894 | 5·1609449 | 83 | 4·5072418 | 5·1482820 | 83 | 4·4930754 | 5·1370029 |
| 84 | 4·4419224 | 5·0597308 | 84 | 4·4248748 | 5·0469515 | 84 | 4·4107084 | 5·0355962 |
| 85 | 4·3537817 | 4·9528143 | 85 | 4·3367341 | 4·9399169 | 85 | 4·3225677 | 4·9284849 |
| 86 | 4·2595238 | 4·8398782 | 86 | 4·2424762 | 4·8268617 | 86 | 4·2283098 | 4·8153519 |
| 87 | 4·1587947 | 4·7205925 | 87 | 4·1417471 | 4·7074561 | 87 | 4·1275807 | 4·6958677 |
| 88 | 4·0512293 | 4·5946157 | 88 | 4·0341817 | 4·5813590 | 88 | 4·0200153 | 4·5696911 |
| 89 | 3·9364515 | 4·4615931 | 89 | 3·9194039 | 4·4482148 | 89 | 3·9052375 | 4·4364678 |
| 90 | 3·8140744 | 4·3211565 | 90 | 3·7970268 | 4·3076574 | 90 | 3·7828604 | 4·2958305 |
| 91 | 3·6837001 | 4·1729242 | 91 | 3·6666525 | 4·1593045 | 91 | 3·6524861 | 4·1473983 |
| 92 | 3·5449197 | 4·0165002 | 92 | 3·5278721 | 4·0027603 | 92 | 3·5137057 | 3·9907752 |
| 93 | 3·3973135 | 3·8514724 | 93 | 3·3802659 | 3·8376118 | 93 | 3·3660995 | 3·8255481 |
| 94 | 3·2404506 | 3·6774071 | 94 | 3·2234030 | 3·6634276 | 94 | 3·2092366 | 3·6512848 |
| 95 | 3·0738894 | 3·4938497 | 95 | 3·0568418 | 3·4797494 | 95 | 3·0426754 | 3·4675282 |
| 96 | 2·8971774 | 3·3003018 | 96 | 2·8801298 | 3·2860831 | 96 | 2·8659634 | 3·2737828 |
| 97 | 2·7098509 | 3·0962167 | 97 | 2·6928033 | 3·0818752 | 97 | 2·6786369 | 3·0694957 |
| 98 | 2·5114356 | 2·8809422 | 98 | 2·4943880 | 2·8664770 | 98 | 2·4802216 | 2·8540126 |
| 99 | 2·3014458 | 2·6536476 | 99 | 2·2843982 | 2·6390480 | 99 | 2·2702318 | 2·6264974 |
| 100 | 2·0793853 | 2·4131371 | 100 | 2·0623377 | 2·3983897 | 100 | 2·0481713 | 2·3857385 |
| 101 | 1·8447468 | 2·1574610 | 101 | 1·8276992 | 2·1425353 | 101 | 1·8135328 | 2·1297666 |
| 102 | 1·5970120 | 1·8829717 | 102 | 1·5799644 | 1·8678091 | 102 | 1·5657980 | 1·8548858 |
| 103 | 1·3356517 | 1·5818484 | 103 | 1·3186041 | 1·5663290 | 103 | 1·3044377 | 1·5531813 |
| 104 | 1·0601259 | 1·2341426 | 104 | 1·0430783 | 1·2180468 | 104 | 1·0289119 | 1·2045242 |
| 105 | 0·7698833 | | 105 | 0·7528357 | | 105 | 0·7386693 | |
| 106 | 0·4643621 | | 106 | 0·4473145 | | 106 | 0·4331481 | |
| 107 | 0·1429892 | | 107 | 0·1259416 | | 107 | 0·1117752 | |
| 108 | 9·8051808 | | 108 | 9·7881332 | | 108 | 9·7739668 | |
| 109 | 9·4503420 | | 109 | 9·4332944 | | 109 | 9·4191280 | |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 6 | | 7 | | | 8 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,6}$ | λ $N_{x,\,6}$ | Age of (x) | λ $D_{x,\,7}$ | λ $N_{x,\,7}$ | Age of (x) | λ $D_{x,\,8}$ | λ $N_{x,\,8}$ |
| 0 | 6·2083565 | 7·4290575 | 0 | 6·1973307 | 7·4181683 | 0 | 6·1869512 | 7·4072799 |
| 1 | 6·1390983 | 7·4129859 | 1 | 6·1280725 | 7·4021120 | 1 | 6·1176930 | 7·3912314 |
| 2 | 6·1049207 | 7·4000885 | 2 | 6·0938949 | 7·3892329 | 2 | 6·0835154 | 7·3783674 |
| 3 | 6·0828575 | 7·3883362 | 3 | 6·0718317 | 7·3775013 | 3 | 6·0614522 | 7·3666547 |
| 4 | 6·0658099 | 7·3771058 | 4 | 6·0547841 | 7·3662928 | 4 | 6·0444046 | 7·3554677 |
| 5 | 6·0516435 | 7·3661530 | 5 | 6·0406177 | 7·3553632 | 5 | 6·0302382 | 7·3445609 |
| 6 | 6·0394200 | 7·3553402 | 6 | 6·0283942 | 7·3445746 | 6 | 6·0180147 | 7·3337968 |
| 7 | 6·0283942 | 7·3445746 | 7 | 6·0173684 | 7·3338336 | 7 | 6·0069889 | 7·3230810 |
| 8 | 6·0180147 | 7·3337968 | 8 | 6·0069889 | 7·3230810 | 8 | 5·9966094 | 7·3123547 |
| 9 | 6·0082456 | 7·3229731 | 9 | 5·9972198 | 7·3122830 | 9 | 5·9868403 | 7·3015832 |
| 10 | 5·9989432 | 7·3120700 | 10 | 5·9879174 | 7·3014057 | 10 | 5·9775379 | 7·2907330 |
| 11 | 5·9899760 | 7·3010593 | 11 | 5·9789502 | 7·2904211 | 11 | 5·9685707 | 7·2797753 |
| 12 | 5·9812247 | 7·2899181 | 12 | 5·9701989 | 7·2793057 | 12 | 5·9598194 | 7·2686872 |
| 13 | 5·9725825 | 7·2786281 | 13 | 5·9615567 | 7·2680413 | 13 | 5·9511772 | 7·2574504 |
| 14 | 5·9639546 | 7·2671750 | 14 | 5·9529288 | 7·2566141 | 14 | 5·9425493 | 7·2460500 |
| 15 | 5·9552584 | 7·2555491 | 15 | 5·9442326 | 7·2450137 | 15 | 5·9338531 | 7·2344771 |
| 16 | 5·9464236 | 7·2437445 | 16 | 5·9353978 | 7·2332340 | 16 | 5·9250183 | 7·2227243 |
| 17 | 5·9373922 | 7·2317573 | 17 | 5·9263664 | 7·2212718 | 17 | 5·9159869 | 7·2107887 |
| 18 | 5·9281184 | 7·2195876 | 18 | 5·9170926 | 7·2091272 | 18 | 5·9067131 | 7·1986709 |
| 19 | 5·9185685 | 7·2072379 | 19 | 5·9075427 | 7·1968022 | 19 | 5·8971632 | 7·1863720 |
| 20 | 5·9087211 | 7·1947128 | 20 | 5·8976953 | 7·1843013 | 20 | 5·8873158 | 7·1738971 |
| 21 | 5·8985671 | 7·1820173 | 21 | 5·8875413 | 7·1716302 | 21 | 5·8771618 | 7·1612521 |
| 22 | 5·8883155 | 7·1691594 | 22 | 5·8772897 | 7·1587956 | 22 | 5·8669102 | 7·1484434 |
| 23 | 5·8779699 | 7·1561340 | 23 | 5·8669441 | 7·1457941 | 23 | 5·8565646 | 7·1354669 |
| 24 | 5·8675329 | 7·1429370 | 24 | 5·8565071 | 7·1326202 | 24 | 5·8461276 | 7·1223182 |
| 25 | 5·8570072 | 7·1295629 | 25 | 5·8459814 | 7·1192688 | 25 | 5·8356019 | 7·1089920 |
| 26 | 5·8463945 | 7·1160067 | 26 | 5·8353687 | 7·1057350 | 26 | 5·8249892 | 7·0954821 |
| 27 | 5·8356965 | 7·1022614 | 27 | 5·8246707 | 7·0920119 | 27 | 5·8142912 | 7·0817832 |
| 28 | 5·8249142 | 7·0883204 | 28 | 5·8138884 | 7·0780931 | 28 | 5·8035089 | 7·0678881 |
| 29 | 5·8140481 | 7·0741769 | 29 | 5·8030223 | 7·0639707 | 29 | 5·7926428 | 7·0537893 |
| 30 | 5·8030982 | 7·0598227 | 30 | 5·7920724 | 7·0496374 | 30 | 5·7816929 | 7·0394788 |
| 31 | 5·7920643 | 7·0452486 | 31 | 5·7810385 | 7·0350841 | 31 | 5·7706590 | 7·0249485 |
| 32 | 5·7809455 | 7·0304456 | 32 | 5·7699197 | 7·0203020 | 32 | 5·7595402 | 7·0101884 |
| 33 | 5·7697404 | 7·0154034 | 33 | 5·7587146 | 7·0052801 | 33 | 5·7483351 | 6·9951888 |
| 34 | 5·7584473 | 7·0001112 | 34 | 5·7474215 | 6·9900078 | 34 | 5·7370420 | 6·9799388 |
| 35 | 5·7470639 | 6·9845573 | 35 | 5·7360381 | 6·9744737 | 35 | 5·7256586 | 6·9644262 |
| 36 | 5·7355874 | 6·9687288 | 36 | 5·7245616 | 6·9586649 | 36 | 5·7141821 | 6·9486392 |
| 37 | 5·7240148 | 6·9526119 | 37 | 5·7129890 | 6·9425677 | 37 | 5·7026095 | 6·9325634 |
| 38 | 5·7123423 | 6·9361919 | 38 | 5·7013165 | 6·9261671 | 38 | 5·6909370 | 6·9161842 |
| 39 | 5·7005658 | 6·9194528 | 39 | 5·6895400 | 6·9094471 | 39 | 5·6791605 | 6·8994857 |
| 40 | 5·6886808 | 6·9023771 | 40 | 5·6776550 | 6·8923909 | 40 | 5·6672755 | 6·8824507 |
| 41 | 5·6766821 | 6·8849465 | 41 | 5·6656563 | 6·8749794 | 41 | 5·6552768 | 6·8650607 |
| 42 | 5·6645642 | 6·8671403 | 42 | 5·6535384 | 6·8571926 | 42 | 5·6431589 | 6·8472954 |
| 43 | 5·6523211 | 6·8489371 | 43 | 5·6412953 | 6·8390084 | 43 | 5·6309158 | 6·8291329 |
| 44 | 5·6399464 | 6·8303127 | 44 | 5·6289206 | 6·8204034 | 44 | 5·6185411 | 6·8105492 |
| 45 | 5·6274330 | 6·8112415 | 45 | 5·6164072 | 6·8013515 | 45 | 5·6060277 | 6·7915189 |
| 46 | 5·6147737 | 6·7916955 | 46 | 5·6037479 | 6·7818244 | 46 | 5·5933684 | 6·7720137 |
| 47 | 5·6019605 | 6·7716436 | 47 | 5·5909347 | 6·7617915 | 47 | 5·5805552 | 6·7520025 |
| 48 | 5·5889851 | 6·7510524 | 48 | 5·5779593 | 6·7412191 | 48 | 5·5675798 | 6·7314520 |
| 49 | 5·5758386 | 6·7298846 | 49 | 5·5648128 | 6·7200700 | 49 | 5·5544333 | 6·7103247 |
| 50 | 5·5625119 | 6·7080993 | 50 | 5·5514861 | 6·6983030 | 50 | 5·5411066 | 6·6885796 |
| 51 | 5·5489951 | 6·6856515 | 51 | 5·5379693 | 6·6758730 | 51 | 5·5275898 | 6·6661713 |
| 52 | 5·5352780 | 6·6624906 | 52 | 5·5242522 | 6·6527296 | 52 | 5·5138727 | 6·6430492 |
| 53 | 5·5213499 | 6·6385601 | 53 | 5·5103241 | 6·6288162 | 53 | 5·4999446 | 6·6191570 |
| 54 | 5·5071998 | 6·6137958 | 54 | 5·4961740 | 6·6040692 | 54 | 5·4857945 | 6·5944310 |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 6 | | | 7 | | | 8 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,6}$ | λ $N_{x,\,6}$ | Age of (x) | λ $D_{x,\,7}$ | λ $N_{x,\,7}$ | Age of (x) | λ $D_{x,\,8}$ | λ $N_{x,\,8}$ |
| 55 | 5·4921527 | 6·5881265 | 55 | 5·4811269 | 6·5784157 | 55 | 5·4707474 | 6·5687992 |
| 56 | 5·4765260 | 6·5615273 | 56 | 5·4655002 | 6·5518328 | 56 | 5·4551207 | 6·5422365 |
| 57 | 5·4602938 | 6·5339434 | 57 | 5·4492680 | 6·5242641 | 57 | 5·4388885 | 6·5146885 |
| 58 | 5·4434191 | 6·5053135 | 58 | 5·4323933 | 6·4956485 | 58 | 5·4220138 | 6·4860930 |
| 59 | 5·4258542 | 6·4755699 | 59 | 5·4148284 | 6·4659187 | 59 | 5·4044489 | 6·4563827 |
| 60 | 5·4075403 | 6·4446386 | 60 | 5·3965145 | 6·4350009 | 60 | 5·3861350 | 6·4254840 |
| 61 | 5·3884075 | 6·4124405 | 61 | 5·3773817 | 6·4028141 | 61 | 5·3670022 | 6·3933165 |
| 62 | 5·3683754 | 6·3788888 | 62 | 5·3573496 | 6·3692732 | 62 | 5·3469701 | 6·3597929 |
| 63 | 5·3473523 | 6·3438899 | 63 | 5·3363265 | 6·3342839 | 63 | 5·3259470 | 6·3248206 |
| 64 | 5·3252356 | 6·3073439 | 64 | 5·3142098 | 6·2977461 | 64 | 5·3038303 | 6·2882989 |
| 65 | 5·3019120 | 6·2691436 | 65 | 5·2908862 | 6·2595521 | 65 | 5·2805067 | 6·2501200 |
| 66 | 5·2772569 | 6·2291738 | 66 | 5·2662311 | 6·2195876 | 66 | 5·2558516 | 6·2101691 |
| 67 | 5·2511350 | 6·1873129 | 67 | 5·2401092 | 6·1777298 | 67 | 5·2297297 | 6·1683242 |
| 68 | 5·2234001 | 6·1434298 | 68 | 5·2123743 | 6·1338485 | 68 | 5·2019948 | 6·1244540 |
| 69 | 5·1938948 | 6·0973875 | 69 | 5·1828690 | 6·0878048 | 69 | 5·1724895 | 6·0784206 |
| 70 | 5·1624511 | 6·0490373 | 70 | 5·1514253 | 6·0394530 | 70 | 5·1410458 | 6·0300760 |
| 71 | 5·1288898 | 5·9982245 | 71 | 5·1178640 | 5·9886357 | 71 | 5·1074845 | 5·9792660 |
| 72 | 5·0930208 | 5·9447846 | 72 | 5·0819950 | 5·9351887 | 72 | 5·0716155 | 5·9258240 |
| 73 | 5·0546432 | 5·8885439 | 73 | 5·0436174 | 5·8789387 | 73 | 5·0332379 | 5·8695766 |
| 74 | 5·0135451 | 5·8293179 | 74 | 5·0025193 | 5·8197025 | 74 | 4·9921398 | 5·8103411 |
| 75 | 4·9695035 | 5·7669142 | 75 | 4·9584777 | 5·7572852 | 75 | 4·9480982 | 5·7479233 |
| 76 | 4·9222846 | 5·7011293 | 76 | 4·9112588 | 5·6914845 | 76 | 4·9008793 | 5·6821199 |
| 77 | 4·8716438 | 5·6317487 | 77 | 4·8606180 | 5·6220866 | 77 | 4·8502385 | 5·6127170 |
| 78 | 4·8173252 | 5·5585485 | 78 | 4·8062994 | 5·5488664 | 78 | 4·7959199 | 5·5394905 |
| 79 | 4·7590623 | 5·4812934 | 79 | 4·7480365 | 5·4715893 | 79 | 4·7376570 | 5·4622047 |
| 80 | 4·6965775 | 5·3997365 | 80 | 4·6855517 | 5·3900090 | 80 | 4·6751722 | 5·3806135 |
| 81 | 4·6295823 | 5·3136209 | 81 | 4·6185565 | 5·3038675 | 81 | 4·6081770 | 5·2944600 |
| 82 | 4·5577772 | 5·2226767 | 82 | 4·5467514 | 5·2128966 | 82 | 4·5363719 | 5·2034746 |
| 83 | 4·4808519 | 5·1266232 | 83 | 4·4698261 | 5·1168142 | 83 | 4·4594466 | 5·1073776 |
| 84 | 4·3984849 | 5·0251686 | 84 | 4·3874591 | 5·0153291 | 84 | 4·3770796 | 5·0058748 |
| 85 | 4·3103442 | 4·9180078 | 85 | 4·2993184 | 4·9081369 | 85 | 4·2889389 | 4·8986638 |
| 86 | 4·2160863 | 4·8048241 | 86 | 4·2050605 | 4·7949207 | 86 | 4·1946810 | 4·7854281 |
| 87 | 4·1153572 | 4·6852893 | 87 | 4·1043314 | 4·6753521 | 87 | 4·0939519 | 4·6658380 |
| 88 | 4·0077918 | 4·5590611 | 88 | 3·9967660 | 4·5490901 | 88 | 3·9863865 | 4·5395537 |
| 89 | 3·8930140 | 4·4257859 | 89 | 3·8819882 | 4·4157802 | 89 | 3·8716087 | 4·4062211 |
| 90 | 3·7706369 | 4·2850965 | 90 | 3·7596111 | 4·2750557 | 90 | 3·7492316 | 4·2654728 |
| 91 | 3·6402626 | 4·1366118 | 91 | 3·6292368 | 4·1265356 | 91 | 3·6188573 | 4·1169284 |
| 92 | 3·5014822 | 3·9799366 | 92 | 3·4904564 | 3·9698244 | 92 | 3·4800769 | 3·9601924 |
| 93 | 3·3538760 | 3·8146577 | 93 | 3·3428502 | 3·8045102 | 93 | 3·3324707 | 3·7948525 |
| 94 | 3·1970131 | 3·6403433 | 94 | 3·1859873 | 3·6301603 | 94 | 3·1756078 | 3·6204765 |
| 95 | 3·0304519 | 3·4565345 | 95 | 3·0194261 | 3·4463166 | 95 | 3·0090466 | 3·4366078 |
| 96 | 2·8537399 | 3·2627372 | 96 | 2·8427141 | 3·2524828 | 96 | 2·8323346 | 3·2427479 |
| 97 | 2·6664134 | 3·0583976 | 97 | 2·6553876 | 3·0481068 | 97 | 2·6450081 | 3·0383447 |
| 98 | 2·4679981 | 2·8428613 | 98 | 2·4569723 | 2·8325326 | 98 | 2·4465928 | 2·8227426 |
| 99 | 2·2580083 | 2·6152850 | 99 | 2·2469825 | 2·6049169 | 99 | 2·2366030 | 2·5950959 |
| 100 | 2·0359478 | 2·3744643 | 100 | 2·0249220 | 2·3640461 | 100 | 2·0145425 | 2·3541911 |
| 101 | 1·8013093 | 2·1184102 | 101 | 1·7902835 | 2·1079386 | 101 | 1·7799040 | 2·0980387 |
| 102 | 1·5535745 | 1·8434259 | 102 | 1·5425487 | 1·8328779 | 102 | 1·5321692 | 1·8229203 |
| 103 | 1·2922142 | 1·5415755 | 103 | 1·2811884 | 1·5309216 | 103 | 1·2708089 | 1·5208764 |
| 104 | 1·0166884 | 1·1926984 | 104 | 1·0056626 | 1·1818893 | 104 | 0·9952831 | 1·1717148 |
| 105 | 0·7264458 | | 105 | 0·7154200 | | 105 | 0·7050405 | |
| 106 | 0·4209246 | | 106 | 0·4098988 | | 106 | 0·3995193 | |
| 107 | 0·0995517 | | 107 | 0·0885259 | | 107 | 0·0781464 | |
| 108 | 9·7617433 | | 108 | 9·7507175 | | 108 | 9·7403380 | |
| 109 | 9·4069045 | | 109 | 9·3958787 | | 109 | 9·3854992 | |

## JOINT LIVES:—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 9 | | | 10 | | | 11 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,9}$ | $\lambda\ N_{x,\,9}$ | Age of (x) | $\lambda\ D_{x,\,10}$ | $\lambda\ N_{x,\,10}$ | Age of (x) | $\lambda\ D_{x,\,11}$ | $\lambda\ N_{x,\,11}$ |
| 0 | 6·1771821 | 7·3963585 | 0 | 6·1678797 | 7·3853689 | 0 | 6·1589125 | 7·3742807 |
| 1 | 6·1079239 | 7·3803105 | 1 | 6·0986215 | 7·3693153 | 1 | 6·0896543 | 7·3582169 |
| 2 | 6·0737463 | 7·3674588 | 2 | 6·0644439 | 7·3564731 | 2 | 6·0554767 | 7·3453819 |
| 3 | 6·0516831 | 7·3557634 | 3 | 6·0423807 | 7·3447940 | 3 | 6·0334135 | 7·3337176 |
| 4 | 6·0346355 | 7·3445970 | 4 | 6·0253331 | 7·3336470 | 4 | 6·0163659 | 7·3225901 |
| 5 | 6·0204691 | 7·3337130 | 5 | 6·0111667 | 7·3227856 | 5 | 6·0021995 | 7·3117508 |
| 6 | 6·0082456 | 7·3229731 | 6 | 5·9989432 | 7·3120700 | 6 | 5·9899760 | 7·3010593 |
| 7 | 5·9972198 | 7·3122830 | 7 | 5·9879174 | 7·3014057 | 7 | 5·9789502 | 7·2904211 |
| 8 | 5·9868403 | 7·3015832 | 8 | 5·9775379 | 7·2907330 | 8 | 5·9685707 | 7·2797753 |
| 9 | 5·9770712 | 7·2908389 | 9 | 5·9677688 | 7·2800167 | 9 | 5·9588016 | 7·2690874 |
| 10 | 5·9677688 | 7·2800167 | 10 | 5·9584664 | 7·2692229 | 10 | 5·9494992 | 7·2583225 |
| 11 | 5·9588016 | 7·2690874 | 11 | 5·9494992 | 7·2583225 | 11 | 5·9405320 | 7·2474523 |
| 12 | 5·9500503 | 7·2580278 | 12 | 5·9407479 | 7·2472926 | 12 | 5·9317807 | 7·2364526 |
| 13 | 5·9414081 | 7·2468195 | 13 | 5·9321057 | 7·2361141 | 13 | 5·9231385 | 7·2253046 |
| 14 | 5·9327802 | 7·2354481 | 14 | 5·9234778 | 7·2247726 | 14 | 5·9145106 | 7·2139938 |
| 15 | 5·9240840 | 7·2239033 | 15 | 5·9147816 | 7·2132577 | 15 | 5·9058144 | 7·2025101 |
| 16 | 5·9152492 | 7·2121794 | 16 | 5·9059168 | 7·2015632 | 16 | 5·8969796 | 7·1908463 |
| 17 | 5·9062178 | 7·2002722 | 17 | 5·8969154 | 7·1896860 | 17 | 5·8879482 | 7·1789999 |
| 18 | 5·8969140 | 7·1881821 | 18 | 5·8876416 | 7·1776254 | 18 | 5·8786744 | 7·1669704 |
| 19 | 5·8873941 | 7·1759114 | 19 | 5·8780917 | 7·1653841 | 19 | 5·8691245 | 7·1547598 |
| 20 | 5·8775467 | 7·1634647 | 20 | 5·8682443 | 7·1529666 | 20 | 5·8592771 | 7·1423726 |
| 21 | 5·8673927 | 7·1508469 | 21 | 5·8580903 | 7·1403779 | 21 | 5·8491231 | 7·1298146 |
| 22 | 5·8571411 | 7·1380657 | 22 | 5·8478387 | 7·1276256 | 22 | 5·8388715 | 7·1170922 |
| 23 | 5·8467955 | 7·1251164 | 23 | 5·8374931 | 7·1147046 | 23 | 5·8285259 | 7·1042019 |
| 24 | 5·8363585 | 7·1119943 | 24 | 5·8270561 | 7·1016113 | 24 | 5·8180889 | 7·0911382 |
| 25 | 5·8258328 | 7·0986942 | 25 | 5·8165304 | 7·0883393 | 25 | 5·8075632 | 7·0778957 |
| 26 | 5·8152201 | 7·0852110 | 26 | 5·8059177 | 7·0748837 | 26 | 5·7969505 | 7·0644692 |
| 27 | 5·8045221 | 7·0715374 | 27 | 5·7952197 | 7·0612375 | 27 | 5·7862525 | 7·0508521 |
| 28 | 5·7937398 | 7·0576676 | 28 | 5·7844374 | 7·0473948 | 28 | 5·7754702 | 7·0370379 |
| 29 | 5·7828737 | 7·0435941 | 29 | 5·7735713 | 7·0333481 | 29 | 5·7646041 | 7·0230190 |
| 30 | 5·7719238 | 7·0293087 | 30 | 5·7626214 | 7·0190889 | 30 | 5·7536542 | 7·0087878 |
| 31 | 5·7608899 | 7·0148026 | 31 | 5·7515875 | 7·0046090 | 31 | 5·7426203 | 6·9943354 |
| 32 | 5·7497711 | 7·0000669 | 32 | 5·7404687 | 6·9898988 | 32 | 5·7315015 | 6·9796526 |
| 33 | 5·7385660 | 6·9850913 | 33 | 5·7292636 | 6·9749486 | 33 | 5·7202964 | 6·9647291 |
| 34 | 5·7272729 | 6·9698650 | 34 | 5·7179705 | 6·9597475 | 34 | 5·7090033 | 6·9495545 |
| 35 | 5·7158895 | 6·9543760 | 35 | 5·7065871 | 6·9442838 | 35 | 5·6976199 | 6·9341169 |
| 36 | 5·7044130 | 6·9386120 | 36 | 5·6951106 | 6·9285445 | 36 | 5·6861434 | 6·9184038 |
| 37 | 5·6928404 | 6·9225596 | 37 | 5·6835380 | 6·9125163 | 37 | 5·6745708 | 6·9024015 |
| 38 | 5·6811679 | 6·9062034 | 38 | 5·6718655 | 6·8961850 | 38 | 5·6628983 | 6·8860953 |
| 39 | 5·6693914 | 6·8895281 | 39 | 5·6600890 | 6·8795339 | 39 | 5·6511218 | 6·8694700 |
| 40 | 5·6575064 | 6·8725162 | 40 | 5·6482040 | 6·8625465 | 40 | 5·6392368 | 6·8525079 |
| 41 | 5·6455077 | 6·8551491 | 41 | 5·6362053 | 6·8452038 | 41 | 5·6272381 | 6·8351908 |
| 42 | 5·6333898 | 6·8374070 | 42 | 5·6240874 | 6·8274861 | 42 | 5·6151202 | 6·8174985 |
| 43 | 5·6211467 | 6·8192678 | 43 | 5·6118443 | 6·8093714 | 43 | 5·6028771 | 6·7994092 |
| 44 | 5·6087720 | 6·8007077 | 44 | 5·5994696 | 6·7908361 | 44 | 5·5905024 | 6·7808996 |
| 45 | 5·5962586 | 6·7817008 | 45 | 5·5869562 | 6·7718544 | 45 | 5·5779890 | 6·7619439 |
| 46 | 5·5835993 | 6·7622195 | 46 | 5·5742969 | 6·7523979 | 46 | 5·5653297 | 6·7425135 |
| 47 | 5·5707861 | 6·7422324 | 47 | 5·5614837 | 6·7324363 | 47 | 5·5525165 | 6·7225779 |
| 48 | 5·5578107 | 6·7217057 | 48 | 5·5485083 | 6·7119355 | 48 | 5·5395411 | 6·7021037 |
| 49 | 5·5446642 | 6·7006026 | 49 | 5·5353618 | 6·6908581 | 49 | 5·5263946 | 6·6810534 |
| 50 | 5·5313375 | 6·6788820 | 50 | 5·5220351 | 6·6691635 | 50 | 5·5130679 | 6·6593858 |
| 51 | 5·5178207 | 6·6564983 | 51 | 5·5085183 | 6·6468061 | 51 | 5·4995511 | 6·6370556 |
| 52 | 5·5041036 | 6·6334006 | 52 | 5·4948012 | 6·6237351 | 52 | 5·4858340 | 6·6140124 |
| 53 | 5·4901755 | 6·6095327 | 53 | 5·4808731 | 6·5998938 | 53 | 5·4719059 | 6·5901992 |
| 54 | 5·4760254 | 6·5848312 | 54 | 5·4667230 | 6·5752188 | 54 | 5·4577558 | 6·5655521 |

## JOINT LIVES:—Two Females.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 9 | | 10 | | | 11 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,9}$ | λ $N_{x,9}$ | Age of (x) | λ $D_{x,10}$ | λ $N_{x,10}$ | Age of (x) | λ $D_{x,11}$ | λ $N_{x,11}$ |
| 55 | 5·4609783 | 6·5592237 | 55 | 5·4516759 | 6·5496381 | 55 | 5·4427087 | 6·5399997 |
| 56 | 5·4453516 | 6·5326862 | 56 | 5·4360492 | 6·5231275 | 56 | 5·4270820 | 6·5135174 |
| 57 | 5·4291194 | 6·5051620 | 57 | 5·4198170 | 6·4956314 | 57 | 5·4108498 | 6·4860497 |
| 58 | 5·4122447 | 6·4765913 | 58 | 5·4029423 | 6·4670871 | 58 | 5·3939751 | 6·4575354 |
| 59 | 5·3946798 | 6·4469052 | 59 | 5·3853774 | 6·4374285 | 59 | 5·3764102 | 6·4279055 |
| 60 | 5·3763659 | 6·4160302 | 60 | 5·3670635 | 6·4065810 | 60 | 5·3580963 | 6·3970875 |
| 61 | 5·3572331 | 6·3838864 | 61 | 5·3479307 | 6·3744645 | 61 | 5·3389635 | 6·3650004 |
| 62 | 5·3372010 | 6·3503868 | 62 | 5·3278986 | 6·3409919 | 62 | 5·3189314 | 6·3315575 |
| 63 | 5·3161779 | 6·3154369 | 63 | 5·3068755 | 6·3060700 | 63 | 5·2979083 | 6·2966652 |
| 64 | 5·2940612 | 6·2789378 | 64 | 5·2847588 | 6·2695970 | 64 | 5·2757916 | 6·2602229 |
| 65 | 5·2707376 | 6·2407808 | 65 | 5·2614352 | 6·2314671 | 65 | 5·2524680 | 6·2221218 |
| 66 | 5·2460825 | 6·2008511 | 66 | 5·2367801 | 6·1915636 | 66 | 5·2278129 | 6·1822486 |
| 67 | 5·2199606 | 6·1590261 | 67 | 5·2106582 | 6·1497643 | 67 | 5·2016910 | 6·1404788 |
| 68 | 5·1922257 | 6·1151754 | 68 | 5·1829233 | 6·1059385 | 68 | 5·1739561 | 6·0966820 |
| 69 | 5·1627204 | 6·0691599 | 69 | 5·1534180 | 6·0599480 | 69 | 5·1444508 | 6·0507200 |
| 70 | 5·1312767 | 6·0208330 | 70 | 5·1219743 | 6·0116444 | 70 | 5·1130071 | 6·0024452 |
| 71 | 5·0977154 | 5·9700380 | 71 | 5·0884130 | 5·9608730 | 71 | 5·0794458 | 5·9517012 |
| 72 | 5·0618464 | 5·9166113 | 72 | 5·0525440 | 5·9074673 | 72 | 5·0435768 | 5·8983236 |
| 73 | 5·0234688 | 5·8603769 | 73 | 5·0141664 | 5·8512546 | 73 | 5·0051992 | 5·8421367 |
| 74 | 4·9823707 | 5·8011528 | 74 | 4·9730683 | 5·7920499 | 74 | 4·9641011 | 5·7829581 |
| 75 | 4·9383291 | 5·7387449 | 75 | 4·9290267 | 5·7296607 | 75 | 4·9200595 | 5·7205936 |
| 76 | 4·8911102 | 5·6729499 | 76 | 4·8818078 | 5·6638828 | 76 | 4·8728406 | 5·6548396 |
| 77 | 4·8404694 | 5·6035538 | 77 | 4·8311670 | 5·5945026 | 77 | 4·8221998 | 5·5854820 |
| 78 | 4·7861508 | 5·5303320 | 78 | 4·7768484 | 5·5212955 | 78 | 4·7678812 | 5·5122966 |
| 79 | 4·7278879 | 5·4530500 | 79 | 4·7185855 | 5·4440259 | 79 | 4·7096183 | 5·4350478 |
| 80 | 4·6654031 | 5·3714604 | 80 | 4·6561007 | 5·3624486 | 80 | 4·6471335 | 5·3534888 |
| 81 | 4·5984079 | 5·2853063 | 81 | 4·5891055 | 5·2763044 | 81 | 4·5801383 | 5·2673636 |
| 82 | 4·5266028 | 5·1943194 | 82 | 4·5173004 | 5·1853254 | 82 | 4·5083332 | 5·1764009 |
| 83 | 4·4496775 | 5·0982186 | 83 | 4·4403751 | 5·0892316 | 83 | 4·4314079 | 5·0803220 |
| 84 | 4·3673105 | 4·9967121 | 84 | 4·3580081 | 4·9877302 | 84 | 4·3490409 | 4·9788345 |
| 85 | 4·2791698 | 4·8894939 | 85 | 4·2698674 | 4·8805175 | 85 | 4·2609002 | 4·8716342 |
| 86 | 4·1849119 | 4·7762500 | 86 | 4·1756095 | 4·7672754 | 86 | 4·1666423 | 4·7584047 |
| 87 | 4·0841828 | 4·6566520 | 87 | 4·0748804 | 4·6476773 | 87 | 4·0659132 | 4·6388156 |
| 88 | 3·9766174 | 4·5303572 | 88 | 3·9673150 | 4·5213834 | 88 | 3·9583478 | 4·5125301 |
| 89 | 3·8618396 | 4·3970125 | 89 | 3·8525372 | 4·3880383 | 89 | 3·8435700 | 4·3791918 |
| 90 | 3·7394625 | 4·2562525 | 90 | 3·7301601 | 4·2472749 | 90 | 3·7211929 | 4·2384356 |
| 91 | 3·6090882 | 4·1076949 | 91 | 3·5997858 | 4·0987146 | 91 | 3·5908186 | 4·0898790 |
| 92 | 3·4703078 | 3·9509449 | 92 | 3·4610054 | 3·9419604 | 92 | 3·4520382 | 3·9331298 |
| 93 | 3·3227016 | 3·7855904 | 93 | 3·3133992 | 3·7766010 | 93 | 3·3044320 | 3·7677731 |
| 94 | 3·1658387 | 3·6111995 | 94 | 3·1565363 | 3·6022044 | 94 | 3·1475691 | 3·5933791 |
| 95 | 2·9992775 | 3·4273146 | 95 | 2·9899751 | 3·4183129 | 95 | 2·9810079 | 3·4094891 |
| 96 | 2·8225655 | 3·2334393 | 96 | 2·8132631 | 3·2244308 | 96 | 2·8042959 | 3·2156082 |
| 97 | 2·6352390 | 3·0290199 | 97 | 2·6259366 | 3·0200039 | 97 | 2·6169694 | 3·0111816 |
| 98 | 2·4368237 | 2·8133995 | 98 | 2·4275213 | 2·8043760 | 98 | 2·4185541 | 2·7955540 |
| 99 | 2·2268339 | 2·5857348 | 99 | 2·2175315 | 2·5767006 | 99 | 2·2085643 | 2·5678788 |
| 100 | 2·0047734 | 2·3448068 | 100 | 1·9954710 | 2·3357625 | 100 | 1·9865038 | 2·3269381 |
| 101 | 1·7701349 | 2·0886257 | 101 | 1·7608325 | 2·0795651 | 101 | 1·7518653 | 2·0707370 |
| 102 | 1·5224001 | 1·8134656 | 102 | 1·5130977 | 1·8043814 | 102 | 1·5041305 | 1·7955443 |
| 103 | 1·2610398 | 1·5113619 | 103 | 1·2517374 | 1·5022373 | 103 | 1·2427702 | 1·4933814 |
| 104 | 0·9855140 | 1·1620982 | 104 | 0·9762116 | 1·1529118 | 104 | 0·9672444 | 1·1440135 |
| 105 | 0·6952714 | | 105 | 0·6859690 | | 105 | 0·6770018 | |
| 106 | 0·3897502 | | 106 | 0·3804478 | | 106 | 0·3714806 | |
| 107 | 0·0683773 | | 107 | 0·0590749 | | 107 | 0·0501077 | |
| 108 | 9·7305689 | | 108 | 9·7212665 | | 108 | 9·7122993 | |
| 109 | 9·3757301 | | 109 | 9·3664277 | | 109 | 9·3574605 | |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 12 | | | 13 | | | 14 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,12}$ | $\lambda\ N_{x,\,12}$ | Age of (x) | $\lambda\ D_{x,\,13}$ | $\lambda\ N_{x,\,13}$ | Age of (x) | $\lambda\ D_{x,\,14}$ | $\lambda\ N_{x,\,14}$ |
| 0 | 6·1501612 | 7·3630696 | 0 | 6·1415190 | 7·3517157 | 0 | 6·1328911 | 7·3402033 |
| 1 | 6·0809030 | 7·3469917 | 1 | 6·0722608 | 7·3356205 | 1 | 6·0636329 | 7·3240892 |
| 2 | 6·0467254 | 7·3341626 | 2 | 6·0380832 | 7·3227959 | 2 | 6·0294553 | 7·3112680 |
| 3 | 6·0246622 | 7·3225123 | 3 | 6·0160200 | 7·3111588 | 3 | 6·0073921 | 7·2996435 |
| 4 | 6·0076146 | 7·3114032 | 4 | 5·9989724 | 7·3000679 | 4 | 5·9903445 | 7·2885702 |
| 5 | 5·9934482 | 7·3005855 | 5 | 5·9848060 | 7·2892713 | 5 | 5·9761781 | 7·2777948 |
| 6 | 5·9812247 | 7·2899181 | 6 | 5·9725825 | 7·2786281 | 6 | 5·9639546 | 7·2671750 |
| 7 | 5·9701989 | 7·2793057 | 7 | 5·9615567 | 7·2680413 | 7 | 5·9529288 | 7·2566141 |
| 8 | 5·9598194 | 7·2686872 | 8 | 5·9511772 | 7·2574504 | 8 | 5·9425493 | 7·2460500 |
| 9 | 5·9500503 | 7·2580278 | 9 | 5·9414081 | 7·2468195 | 9 | 5·9327802 | 7·2354481 |
| 10 | 5·9407479 | 7·2472926 | 10 | 5·9321057 | 7·2361141 | 10 | 5·9234778 | 7·2247726 |
| 11 | 5·9317807 | 7·2364526 | 11 | 5·9231385 | 7·2253046 | 11 | 5·9145106 | 7·2139938 |
| 12 | 5·9230294 | 7·2254838 | 12 | 5·9143872 | 7·2143669 | 12 | 5·9057593 | 7·2030878 |
| 13 | 5·9143872 | 7·2143669 | 13 | 5·9057450 | 7·2032823 | 13 | 5·8971171 | 7·1920353 |
| 14 | 5·9057593 | 7·2030878 | 14 | 5·8971171 | 7·1920353 | 14 | 5·8884892 | 7·1808212 |
| 15 | 5·8970631 | 7·1916357 | 15 | 5·8884209 | 7·1806159 | 15 | 5·8797930 | 7·1694349 |
| 16 | 5·8882283 | 7·1800042 | 16 | 5·8795861 | 7·1690169 | 16 | 5·8709582 | 7·1578694 |
| 17 | 5·8791969 | 7·1681898 | 17 | 5·8705547 | 7·1572355 | 17 | 5·8619268 | 7·1461212 |
| 18 | 5·8699231 | 7·1561920 | 18 | 5·8612809 | 7·1452707 | 18 | 5·8526530 | 7·1341905 |
| 19 | 5·8603732 | 7·1440135 | 19 | 5·8517310 | 7·1331246 | 19 | 5·8431031 | 7·1220785 |
| 20 | 5·8505258 | 7·1316577 | 20 | 5·8418836 | 7·1208022 | 20 | 5·8332557 | 7·1097897 |
| 21 | 5·8403718 | 7·1191315 | 21 | 5·8317296 | 7·1083086 | 21 | 5·8231017 | 7·0973302 |
| 22 | 5·8301202 | 7·1064408 | 22 | 5·8214780 | 7·0956508 | 22 | 5·8128501 | 7·0847063 |
| 23 | 5·8197746 | 7·0935818 | 23 | 5·8111324 | 7·0828242 | 23 | 5·8025045 | 7·0719136 |
| 24 | 5·8093376 | 7·0805489 | 24 | 5·8006954 | 7·0698241 | 24 | 5·7920675 | 7·0589473 |
| 25 | 5·7988119 | 7·0673376 | 25 | 5·7901697 | 7·0566450 | 25 | 5·7815418 | 7·0458020 |
| 26 | 5·7881992 | 7·0539420 | 26 | 5·7795570 | 7·0432814 | 26 | 5·7709291 | 7·0324717 |
| 27 | 5·7775012 | 7·0403551 | 27 | 5·7688590 | 7·0297262 | 27 | 5·7602311 | 7·0189495 |
| 28 | 5·7667189 | 7·0265708 | 28 | 5·7580767 | 7·0159734 | 28 | 5·7494488 | 7·0052299 |
| 29 | 5·7558528 | 7·0125821 | 29 | 5·7472106 | 7·0020152 | 29 | 5·7385827 | 6·9913038 |
| 30 | 5·7449029 | 6·9983797 | 30 | 5·7362607 | 6·9878439 | 30 | 5·7276328 | 6·9771642 |
| 31 | 5·7338690 | 6·9839562 | 31 | 5·7252268 | 6·9734502 | 31 | 5·7165989 | 6·9628022 |
| 32 | 5·7227502 | 6·9693017 | 32 | 5·7141080 | 6·9588256 | 32 | 5·7054801 | 6·9482084 |
| 33 | 5·7115451 | 6·9544063 | 33 | 5·7029029 | 6·9439596 | 33 | 5·6942750 | 6·9333731 |
| 34 | 5·7002520 | 6·9392594 | 34 | 5·6916098 | 6·9288416 | 34 | 5·6829819 | 6·9182852 |
| 35 | 5·6888686 | 6·9238492 | 35 | 5·6802264 | 6·9134598 | 35 | 5·6715985 | 6·9029331 |
| 36 | 5·6773921 | 6·9081632 | 36 | 5·6687499 | 6·8978020 | 36 | 5·6601220 | 6·8873043 |
| 37 | 5·6658195 | 6·8921879 | 37 | 5·6571773 | 6·8818544 | 37 | 5·6485494 | 6·8713855 |
| 38 | 5·6541470 | 6·8759084 | 38 | 5·6455048 | 6·8656027 | 38 | 5·6368769 | 6·8551621 |
| 39 | 5·6423705 | 6·8593091 | 39 | 5·6337283 | 6·8490306 | 39 | 5·6251004 | 6·8386184 |
| 40 | 5·6304855 | 6·8423734 | 40 | 5·6218433 | 6·8321217 | 40 | 5·6132154 | 6·8217374 |
| 41 | 5·6184868 | 6·8250824 | 41 | 5·6098446 | 6·8148576 | 41 | 5·6012167 | 6·8045004 |
| 42 | 5·6063689 | 6·8074163 | 42 | 5·5977267 | 6·7972183 | 42 | 5·5890988 | 6·7868883 |
| 43 | 5·5941258 | 6·7893533 | 43 | 5·5854836 | 6·7791821 | 43 | 5·5768557 | 6·7688792 |
| 44 | 5·5817511 | 6·7708699 | 44 | 5·5731089 | 6·7607253 | 44 | 5·5644810 | 6·7504496 |
| 45 | 5·5692377 | 6·7519404 | 45 | 5·5605955 | 6·7418224 | 45 | 5·5519676 | 6·7315737 |
| 46 | 5·5565784 | 6·7325368 | 46 | 5·5479362 | 6·7224456 | 46 | 5·5393083 | 6·7122238 |
| 47 | 5·5437652 | 6·7126283 | 47 | 5·5351230 | 6·7025641 | 47 | 5·5264951 | 6·6923692 |
| 48 | 5·5307898 | 6·6921808 | 48 | 5·5221476 | 6·6821441 | 48 | 5 5135197 | 6·6719764 |
| 49 | 5·5176433 | 6·6711578 | 49 | 5·5090011 | 6·6611483 | 49 | 5·5003732 | 6·6510081 |
| 50 | 5·5043166 | 6·6495180 | 50 | 5·4956744 | 6·6395361 | 50 | 5·4870465 | 6·6294232 |
| 51 | 5·4907998 | 6·6272157 | 51 | 5·4821576 | 6·6172619 | 51 | 5·4735297 | 6·6071765 |
| 52 | 5·4770827 | 6·6042004 | 52 | 5·4684405 | 6·5942749 | 52 | 5·4598126 | 6·5842176 |
| 53 | 5·4631546 | 6·5804157 | 53 | 5·4545124 | 6·5705184 | 53 | 5·4458845 | 6·5604891 |
| 54 | 5·4490045 | 6·5557976 | 54 | 5·4403623 | 6·5459289 | 54 | 5·4317344 | 6·5359277 |

## JOINT LIVES:—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 12 | | | 13 | | | 14 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,12}$ | $\lambda\ N_{x,\,12}$ | Age of (x) | $\lambda\ D_{x,\,13}$ | $\lambda\ N_{x,\,13}$ | Age of (x) | $\lambda\ D_{x,\,14}$ | $\lambda\ N_{x,\,14}$ |
| 55 | 5·4339574 | 6·5302737 | 55 | 5·4253152 | 6·5204342 | 55 | 5·4166873 | 6·5104614 |
| 56 | 5·4183307 | 6·5038206 | 56 | 5·4096885 | 6·4940099 | 56 | 5·4010606 | 6·4840660 |
| 57 | 5·4020985 | 6·4763823 | 57 | 5·3934563 | 6·4666010 | 57 | 5·3848284 | 6·4566857 |
| 58 | 5·3852238 | 6·4478975 | 58 | 5·3765816 | 6·4381458 | 58 | 5·3679537 | 6·4282595 |
| 59 | 5·3676589 | 6·4182985 | 59 | 5·3590167 | 6·4085766 | 59 | 5·3503888 | 6·3987197 |
| 60 | 5·3493450 | 6·3875102 | 60 | 5·3407028 | 6·3778196 | 60 | 5·3320749 | 6·3679922 |
| 61 | 5·3302122 | 6·3554538 | 61 | 5·3215700 | 6·3457933 | 61 | 5·3129421 | 6·3359970 |
| 62 | 5·3101801 | 6·3220418 | 62 | 5·3015379 | 6·3124124 | 62 | 5·2929100 | 6·3026459 |
| 63 | 5·2891570 | 6·2871806 | 63 | 5·2805148 | 6·2775826 | 63 | 5·2718869 | 6·2678467 |
| 64 | 5·2670403 | 6·2507692 | 64 | 5·2583981 | 6·2412030 | 64 | 5·2497702 | 6·2314982 |
| 65 | 5·2437167 | 6·2127004 | 65 | 5·2350745 | 6·2031657 | 65 | 5·2264466 | 6·1934923 |
| 66 | 5·2190616 | 6·1728580 | 66 | 5·2104194 | 6·1633558 | 66 | 5·2017915 | 6·1537136 |
| 67 | 5·1929397 | 6·1311203 | 67 | 5·1842975 | 6·1216498 | 67 | 5·1756696 | 6·1120397 |
| 68 | 5·1652048 | 6·0873551 | 68 | 5·1565626 | 6·0779174 | 68 | 5·1479347 | 6·0683391 |
| 69 | 5·1356995 | 6·0414243 | 69 | 5·1270573 | 6·0320188 | 69 | 5·1184294 | 6·0224733 |
| 70 | 5·1042558 | 5·9931804 | 70 | 5·0956136 | 5·9838075 | 70 | 5·0869857 | 5·9742938 |
| 71 | 5·0706945 | 5·9424674 | 71 | 5·0620523 | 5·9331268 | 71 | 5·0534244 | 5·9236455 |
| 72 | 5·0348255 | 5·8891201 | 72 | 5·0261833 | 5·8798113 | 72 | 5·0175554 | 5·8703623 |
| 73 | 4·9964479 | 5·8329637 | 73 | 4·9878057 | 5·8236873 | 73 | 4·9791778 | 5·8142703 |
| 74 | 4·9553498 | 5·7738149 | 74 | 4·9467076 | 5·7645700 | 74 | 4·9380797 | 5·7551852 |
| 75 | 4·9113082 | 5·7114794 | 75 | 4·9026660 | 5·7022660 | 75 | 4·8940381 | 5·6929131 |
| 76 | 4·8640893 | 5·6457537 | 76 | 4·8554471 | 5·6365712 | 76 | 4·8468192 | 5·6272503 |
| 77 | 4·8134485 | 5·5764239 | 77 | 4·8048063 | 5·5672716 | 77 | 4·7961784 | 5·5579821 |
| 78 | 4·7591299 | 5·5032649 | 78 | 4·7504877 | 5·4941428 | 78 | 4·7418598 | 5·4848840 |
| 79 | 4·7008670 | 5·4260419 | 79 | 4·6922248 | 5·4169487 | 79 | 4·6835969 | 5·4077208 |
| 80 | 4·6383822 | 5·3445082 | 80 | 4·6297400 | 5·3354432 | 80 | 4·6211121 | 5·3262456 |
| 81 | 4·5713870 | 5·2584057 | 81 | 4·5627448 | 5·2493689 | 81 | 4·5541169 | 5·2402005 |
| 82 | 4·4995819 | 5·1674668 | 82 | 4·4909397 | 5·1584557 | 82 | 4·4823118 | 5·1493168 |
| 83 | 4·4226566 | 5·0714092 | 83 | 4·4140144 | 5·0624249 | 83 | 4·4053865 | 5·0533128 |
| 84 | 4·3402896 | 4·9699417 | 84 | 4·3316474 | 4·9609819 | 84 | 4·3230195 | 4·9518983 |
| 85 | 4·2521489 | 4·8627603 | 85 | 4·2435067 | 4·8538241 | 85 | 4·2348788 | 4·8447666 |
| 86 | 4·1578910 | 4·7495485 | 86 | 4·1492488 | 4·7406351 | 86 | 4·1406209 | 4·7316033 |
| 87 | 4·0571619 | 4·6299781 | 87 | 4·0485197 | 4·6210859 | 87 | 4·0398918 | 4·6120789 |
| 88 | 3·9495965 | 4·5037064 | 88 | 3·9409543 | 4·4948355 | 88 | 3·9323264 | 4·4858526 |
| 89 | 3·8348187 | 4·3703826 | 89 | 3·8261765 | 4·3615311 | 89 | 3·8175486 | 4·3525715 |
| 90 | 3·7124416 | 4·2296389 | 90 | 3·7037994 | 4·2208059 | 90 | 3·6951715 | 4·2118681 |
| 91 | 3·5820673 | 4·0810956 | 91 | 3·5734251 | 4·0722790 | 91 | 3·5647972 | 4·0633627 |
| 92 | 3·4432869 | 3·9243553 | 92 | 3·4546447 | 3·9155570 | 92 | 3·4260168 | 3·9066593 |
| 93 | 3·2956807 | 3·7590102 | 93 | 3·2870385 | 3·7502244 | 93 | 3·2784106 | 3·7413486 |
| 94 | 3·1388178 | 3·5846241 | 94 | 3·1301756 | 3·5758550 | 94 | 3·1215477 | 3·5669946 |
| 95 | 2·9722566 | 3·4007429 | 95 | 2·9636144 | 3·3919865 | 95 | 2·9549865 | 3·3831451 |
| 96 | 2·7955446 | 3·2068698 | 96 | 2·7869024 | 3·1981266 | 96 | 2·7782745 | 3·1893019 |
| 97 | 2·6082181 | 3·0024508 | 97 | 2·5995759 | 2·9937209 | 97 | 2·5909480 | 2·9849133 |
| 98 | 2·4098028 | 2·7868302 | 98 | 2·4011606 | 2·7781129 | 98 | 2·3925327 | 2·7693234 |
| 99 | 2·1998130 | 2·5591618 | 99 | 2·1911708 | 2·5504583 | 99 | 2·1825429 | 2·5416865 |
| 100 | 1·9777525 | 2·3182282 | 100 | 1·9691103 | 2·3095386 | 100 | 1·9604824 | 2·3007871 |
| 101 | 1·7431140 | 2·0620326 | 101 | 1·7344718 | 2·0533578 | 101 | 1·7258439 | 2·0446283 |
| 102 | 1·4953792 | 1·7868444 | 102 | 1·4867370 | 1·7781838 | 102 | 1·4781091 | 1·7694785 |
| 103 | 1·2340189 | 1·4846798 | 103 | 1·2253767 | 1·4760342 | 103 | 1·2167488 | 1·4673550 |
| 104 | 0·9584931 | 1·1353012 | 104 | 0·9498509 | 1·1266638 | 104 | 0·9412230 | 1·1180132 |
| 105 | 0·6682505 | | 105 | 0·6596083 | | 105 | 0·6509804 | |
| 106 | 0·3627293 | | 106 | 0·3540871 | | 106 | 0·3454592 | |
| 107 | 0·0413564 | | 107 | 0·0327142 | | 107 | 0·0240863 | |
| 108 | 9·7035480 | | 108 | 9·6949058 | | 108 | 9·6862779 | |
| 109 | 9·3487092 | | 109 | 9·3400670 | | 109 | 9·3314391 | |

## JOINT LIVES:—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 15 | | | 16 | | | 17 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,15}$ | $\lambda\ N_{x,\,15}$ | Age of (x) | $\lambda\ D_{x,\,16}$ | $\lambda\ N_{x,\,16}$ | Age of (x) | $\lambda\ D_{x,\,17}$ | $\lambda\ N_{x,\,17}$ |
| 0 | 6·1241949 | 7·3285215 | 0 | 6·1153601 | 7·3166623 | 0 | 6·1063287 | 7·3046220 |
| 1 | 6·0549367 | 7·3123866 | 1 | 6·0461019 | 7·3005063 | 1 | 6·0370705 | 7·2884450 |
| 2 | 6·0207591 | 7·2995685 | 2 | 6·0119243 | 7·2876909 | 2 | 6·0028929 | 7·2756317 |
| 3 | 5·9986959 | 7·2879562 | 3 | 5·9898611 | 7·2760906 | 3 | 5·9808297 | 7·2640431 |
| 4 | 5·9816483 | 7·2769000 | 4 | 5·9728135 | 7·2650514 | 4 | 5·9637821 | 7·2530209 |
| 5 | 5·9674819 | 7·2661456 | 5 | 5·9586471 | 7·2543175 | 5 | 5·9496157 | 7·2423074 |
| 6 | 5·9552584 | 7·2555491 | 6 | 5·9464236 | 7·2437445 | 6 | 5·9373922 | 7·2317573 |
| 7 | 5·9442326 | 7·2450137 | 7 | 5·9353978 | 7·2332340 | 7 | 5·9263664 | 7·2212718 |
| 8 | 5·9338531 | 7·2344771 | 8 | 5·9250183 | 7·2227243 | 8 | 5·9159869 | 7·2107887 |
| 9 | 5·9240840 | 7·2239033 | 9 | 5·9152492 | 7·2121794 | 9 | 5·9062178 | 7·2002722 |
| 10 | 5·9147816 | 7·2132577 | 10 | 5·9059468 | 7·2015632 | 10 | 5·8969154 | 7·1896860 |
| 11 | 5·9058144 | 7·2025101 | 11 | 5·8969796 | 7·1908463 | 11 | 5·8879482 | 7·1789999 |
| 12 | 5·8970631 | 7·1916357 | 12 | 5·8882283 | 7·1800042 | 12 | 5·8791969 | 7·1681898 |
| 13 | 5·8884209 | 7·1806159 | 13 | 5·8795861 | 7·1690169 | 13 | 5·8705547 | 7·1572355 |
| 14 | 5·8797930 | 7·1694349 | 14 | 5·8709582 | 7·1578694 | 14 | 5·8619268 | 7·1461212 |
| 15 | 5·8710968 | 7·1580822 | 15 | 5·8622620 | 7·1465506 | 15 | 5·8532306 | 7·1348370 |
| 16 | 5·8622620 | 7·1465506 | 16 | 5·8534272 | 7·1350537 | 16 | 5·8443958 | 7·1233749 |
| 17 | 5·8532306 | 7·1348370 | 17 | 5·8443958 | 7·1233749 | 17 | 5·8353644 | 7·1117319 |
| 18 | 5·8439568 | 7·1229407 | 18 | 5·8351220 | 7·1115138 | 18 | 5·8260906 | 7·0999064 |
| 19 | 5·8344069 | 7·1108634 | 19 | 5·8255721 | 7·0994721 | 19 | 5·8165407 | 7·0879013 |
| 20 | 5·8245595 | 7·0986098 | 20 | 5·8157247 | 7·0872546 | 20 | 5·8066933 | 7·0757200 |
| 21 | 5·8144055 | 7·0861850 | 21 | 5·8055707 | 7·0748658 | 21 | 5·7965393 | 7·0633687 |
| 22 | 5·8041539 | 7·0735963 | 22 | 5·7953191 | 7·0623131 | 22 | 5·7862877 | 7·0508532 |
| 23 | 5·7938083 | 7·0608391 | 23 | 5·7849735 | 7·0495920 | 23 | 5·7759421 | 7·0381694 |
| 24 | 5·7833713 | 7·0479074 | 24 | 5·7745365 | 7·0366971 | 24 | 5·7655051 | 7·0253121 |
| 25 | 5·7728456 | 7·0347972 | 25 | 5·7640108 | 7·0236228 | 25 | 5·7549794 | 7·0122752 |
| 26 | 5·7622329 | 7·0215015 | 26 | 5·7533981 | 7·0103632 | 26 | 5·7443667 | 6·9990531 |
| 27 | 5·7515349 | 7·0080139 | 27 | 5·7427001 | 6·9969117 | 27 | 5·7336687 | 6·9856390 |
| 28 | 5·7407526 | 6·9943282 | 28 | 5·7319178 | 6·9832613 | 28 | 5·7228864 | 6·9720256 |
| 29 | 5·7298865 | 6·9804360 | 29 | 5·7210517 | 6·9694045 | 29 | 5·7120203 | 6·9582055 |
| 30 | 5·7189366 | 6·9663297 | 30 | 5·7101018 | 6·9553330 | 30 | 5·7010704 | 6·9441703 |
| 31 | 5·7079027 | 6·9520005 | 31 | 5·6990679 | 6·9410381 | 31 | 5·6900365 | 6·9299113 |
| 32 | 5·6967839 | 6·9374392 | 32 | 5·6879491 | 6·9265106 | 32 | 5·6789177 | 6·9154192 |
| 33 | 5·6855788 | 6·9226356 | 33 | 5·6767440 | 6·9117403 | 33 | 5·6677126 | 6·9006837 |
| 34 | 5·6742857 | 6·9075791 | 34 | 5·6654509 | 6·8967163 | 34 | 5·6564195 | 6·8856940 |
| 35 | 5·6629023 | 6·8922578 | 35 | 5·6540675 | 6·8814272 | 35 | 5·6450361 | 6·8704383 |
| 36 | 5·6514258 | 6·8766594 | 36 | 5·6425910 | 6·8658604 | 36 | 5·6335596 | 6·8549046 |
| 37 | 5·6398532 | 6·8607703 | 37 | 5·6310184 | 6·8500024 | 37 | 5·6219870 | 6·8390788 |
| 38 | 5·6281807 | 6·8445764 | 38 | 5·6193459 | 6·8338386 | 38 | 5·6103145 | 6·8229468 |
| 39 | 5·6164042 | 6·8280615 | 39 | 5·6075694 | 6·8173538 | 39 | 5·5985380 | 6·8064927 |
| 40 | 5·6045192 | 6·8112091 | 40 | 5·5956844 | 6·8005307 | 40 | 5·5866530 | 6·7897000 |
| 41 | 5·5925205 | 6·7940004 | 41 | 5·5836857 | 6·7833512 | 41 | 5·5746543 | 6·7725503 |
| 42 | 5·5804026 | 6·7764159 | 42 | 5·5715678 | 6·7657952 | 42 | 5·5625364 | 6·7550239 |
| 43 | 5·5681095 | 6·7584343 | 43 | 5·5593247 | 6·7478413 | 43 | 5·5502933 | 6·7370988 |
| 44 | 5·5557848 | 6·7400319 | 44 | 5·5469500 | 6·7294667 | 44 | 5·5379186 | 6·7187521 |
| 45 | 5·5432714 | 6·7211834 | 45 | 5·5344366 | 6·7106454 | 45 | 5·5254052 | 6·6999588 |
| 46 | 5·5306121 | 6·7018604 | 46 | 5·5217773 | 6·6913498 | 46 | 5·5127459 | 6·6806906 |
| 47 | 5·5177989 | 6·6820328 | 47 | 5·5089641 | 6·6715492 | 47 | 5·4999327 | 6·6609173 |
| 48 | 5·5048235 | 6·6616669 | 48 | 5·4959887 | 6·6512102 | 48 | 5·4869573 | 6·6406050 |
| 49 | 5·4916770 | 6·6407257 | 49 | 5·4828422 | 6·6302955 | 49 | 5·4738108 | 6·6197172 |
| 50 | 5·4783503 | 6·6191680 | 50 | 5·4695155 | 6·6087648 | 50 | 5·4604841 | 6·5982126 |
| 51 | 5·4648335 | 6·5969486 | 51 | 5·4559987 | 6·5865723 | 51 | 5·4469673 | 6·5760464 |
| 52 | 5·4511164 | 6·5740168 | 52 | 5·4422816 | 6·5636669 | 52 | 5·4332502 | 6·5531677 |
| 53 | 5·4371883 | 6·5503159 | 53 | 5·4283535 | 6·5399928 | 53 | 5·4193221 | 6·5295193 |
| 54 | 5·4230382 | 6·5257821 | 54 | 5·4142034 | 6·5154858 | 54 | 5·4051720 | 6·5050381 |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of ($y$) | 15 | | | 16 | | | 17 | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$) | λ $D_{x,\,15}$ | λ $N_{x,\,15}$ | Age of ($x$) | λ $D_{x,\,16}$ | λ $N_{x,\,16}$ | Age of ($x$) | λ $D_{x,\,17}$ | λ $N_{x,\,17}$ |
| 55 | 5·4079911 | 6·5003432 | 55 | 5·3991563 | 6·4900736 | 55 | 5·3901249 | 6·4796519 |
| 56 | 5·3923644 | 6·4739754 | 56 | 5·3835296 | 6·4637324 | 56 | 5·3744982 | 6·4533363 |
| 57 | 5·3761322 | 6·4466234 | 57 | 5·3672974 | 6·4364071 | 57 | 5·3582660 | 6·4260365 |
| 58 | 5·3592575 | 6·4182252 | 58 | 5·3504227 | 6·4080361 | 58 | 5·3413913 | 6·3976912 |
| 59 | 5·3416926 | 6·3887137 | 59 | 5·3328578 | 6·3785516 | 59 | 5·3238264 | 6·3682328 |
| 60 | 5·3233787 | 6·3580146 | 60 | 5·3145439 | 6·3478800 | 60 | 5·3055125 | 6·3375867 |
| 61 | 5·3042459 | 6·3260482 | 61 | 5·2954111 | 6·3159406 | 61 | 5·2863797 | 6·3056733 |
| 62 | 5·2842138 | 6·2927271 | 62 | 5·2753790 | 6·2826471 | 62 | 5·2663476 | 6·2724053 |
| 63 | 5·2631907 | 6·2579568 | 63 | 5·2543559 | 6·2479053 | 63 | 5·2453245 | 6·2376898 |
| 64 | 5·2410740 | 6·2216380 | 64 | 5·2322392 | 6·2116138 | 64 | 5·2232078 | 6·2014252 |
| 65 | 5·2177504 | 6·1836622 | 65 | 5·2089156 | 6·1736663 | 65 | 5·1998842 | 6·1635031 |
| 66 | 5·1930953 | 6·1439137 | 66 | 5·1842605 | 6·1339464 | 66 | 5·1752291 | 6·1238095 |
| 67 | 5·1669734 | 6·1022704 | 67 | 5·1581386 | 6·0923315 | 67 | 5·1491072 | 6·0822211 |
| 68 | 5·1392385 | 6·0586006 | 68 | 5·1304037 | 6·0486903 | 68 | 5·1213723 | 6·0386063 |
| 69 | 5·1097332 | 6·0127651 | 69 | 5·1008984 | 6·0028841 | 69 | 5·0918670 | 5·9928265 |
| 70 | 5·0782895 | 5·9646174 | 70 | 5·0694547 | 5·9547648 | 70 | 5·0604233 | 5·9447343 |
| 71 | 5·0447282 | 5·9139997 | 71 | 5·0358934 | 5·9041771 | 71 | 5·0268620 | 5·8941726 |
| 72 | 5·0088592 | 5·8607482 | 72 | 5·0000244 | 5·8509542 | 72 | 4·9909930 | 5·8409767 |
| 73 | 4·9704816 | 5·8046870 | 73 | 4·9616468 | 5·7949227 | 73 | 4·9526154 | 5·7849717 |
| 74 | 4·9293835 | 5·7456333 | 74 | 4·9205487 | 5·7358980 | 74 | 4·9115173 | 5·7259739 |
| 75 | 4·8853419 | 5·6833924 | 75 | 4·8765071 | 5·6736865 | 75 | 4·8674757 | 5·6637888 |
| 76 | 4·8381230 | 5·6177606 | 76 | 4·8292882 | 5·6080838 | 76 | 4·8202568 | 5·5982128 |
| 77 | 4·7874822 | 5·5485235 | 77 | 4·7786474 | 5·5388760 | 77 | 4·7696160 | 5·5290313 |
| 78 | 4·7331636 | 5·4754562 | 78 | 4·7243288 | 5·4658379 | 78 | 4·7152974 | 5·4560196 |
| 79 | 4·6749007 | 5·3983230 | 79 | 4·6660659 | 5·3887337 | 79 | 4·6570345 | 5·3789420 |
| 80 | 4·6124159 | 5·3168781 | 80 | 4·6035811 | 5·3073169 | 80 | 4·5945497 | 5·2975516 |
| 81 | 4·5454207 | 5·2308629 | 81 | 4·5365859 | 5·2213303 | 81 | 4·5275545 | 5·2115904 |
| 82 | 4·4736156 | 5·1400081 | 82 | 4·4647808 | 5·1305039 | 82 | 4·4557494 | 5·1207898 |
| 83 | 4·3966903 | 5·0440338 | 83 | 4·3878555 | 5·0345570 | 83 | 4·3788241 | 5·0248688 |
| 84 | 4·3143233 | 4·9426459 | 84 | 4·3054885 | 4·9331977 | 84 | 4·2964571 | 4·9235341 |
| 85 | 4·2261826 | 4·8355434 | 85 | 4·2173478 | 4·8261202 | 85 | 4·2083164 | 4·8164826 |
| 86 | 4·1319247 | 4·7224061 | 86 | 4·1230899 | 4·7130115 | 86 | 4·1140585 | 4·7033963 |
| 87 | 4·0311956 | 4·6029082 | 87 | 4·0223608 | 4·5935386 | 87 | 4·0133294 | 4·5839499 |
| 88 | 3·9236302 | 4·4767076 | 88 | 3·9147954 | 4·4673634 | 88 | 3·9057640 | 4·4577977 |
| 89 | 3·8088524 | 4·3434510 | 89 | 3·8000176 | 4·3341317 | 89 | 3·7909862 | 4·3245894 |
| 90 | 3·6864753 | 4·2027719 | 90 | 3·6776405 | 4·1934766 | 90 | 3·6686091 | 4·1839573 |
| 91 | 3·5561010 | 4·0542893 | 91 | 3·5472662 | 4·0450181 | 91 | 3·5382348 | 4·0355210 |
| 92 | 3·4173206 | 3·8976090 | 92 | 3·4084858 | 3·8883603 | 92 | 3·3994544 | 3·8788859 |
| 93 | 3·2697144 | 3·7323182 | 93 | 3·2608796 | 3·7230927 | 93 | 3·2518482 | 3·7136392 |
| 94 | 3·1128515 | 3·5579881 | 94 | 3·1040167 | 3·5487824 | 94 | 3·0949853 | 3·5393509 |
| 95 | 2·9462903 | 3·3741568 | 95 | 2·9374555 | 3·3649738 | 95 | 2·9284241 | 3·3555626 |
| 96 | 2·7695783 | 3·1803337 | 96 | 2·7607435 | 3·1711716 | 96 | 2·7517121 | 3·1617808 |
| 97 | 2·5822518 | 2·9759641 | 97 | 2·5734170 | 2·9668234 | 97 | 2·5643856 | 2·9574530 |
| 98 | 2·3838365 | 2·7603946 | 98 | 2·3750017 | 2·7512737 | 98 | 2·3659703 | 2·7419257 |
| 99 | 2·1738467 | 2·5327799 | 99 | 2·1650119 | 2·5236827 | 99 | 2·1559805 | 2·5143552 |
| 100 | 1·9517862 | 2·2919045 | 100 | 1·9429514 | 2·2828325 | 100 | 1·9339200 | 2·2735303 |
| 101 | 1·7171477 | 2·0357730 | 101 | 1·7083129 | 2·0267334 | 101 | 1·6992815 | 2·0174615 |
| 102 | 1·4694129 | 1·7606554 | 102 | 1·4605781 | 1·7516532 | 102 | 1·4515467 | 1·7424242 |
| 103 | 1·2080526 | 1·4585683 | 103 | 1·1992178 | 1·4496126 | 103 | 1·1901864 | 1·4404352 |
| 104 | 0·9325268 | 1·1092680 | 104 | 0·9236920 | 1·1003671 | 104 | 0·9146606 | 1·0912554 |
| 105 | 0·6422842 | | 105 | 0·6334494 | | 105 | 0·6244180 | |
| 106 | 0·3367630 | | 106 | 0·3279282 | | 106 | 0·3188968 | |
| 107 | 0·0153901 | | 107 | 0·0065553 | | 107 | 9·9975239 | |
| 108 | 9·6775817 | | 108 | 9·6687469 | | 108 | 9·6597155 | |
| 109 | 9·3227429 | | 109 | 9·3139081 | | 109 | 9·3048767 | |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of ($y$) | 18 | | | 19 | | | 20 | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$) | $\lambda\ D_{x,\,18}$ | $\lambda\ N_{x,\,18}$ | Age of ($x$) | $\lambda\ D_{x,\,19}$ | $\lambda\ N_{x,\,19}$ | Age of ($x$) | $\lambda\ D_{x,\,20}$ | $\lambda\ N_{x,\,20}$ |
| 0 | 6·0970549 | 7·2923994 | 0 | 6·0875050 | 7·2799971 | 0 | 6·0776576 | 7·2674191 |
| 1 | 6·0277967 | 7·2762021 | 1 | 6·0182468 | 7·2637794 | 1 | 6·0083994 | 7·2511821 |
| 2 | 5·9936191 | 7·2633911 | 2 | 5·9840692 | 7·2509710 | 2 | 5·9742218 | 7·2383761 |
| 3 | 5·9715559 | 7·2518141 | 3 | 5·9620060 | 7·2394056 | 3 | 5·9521586 | 7·2268220 |
| 4 | 5·9545083 | 7·2408085 | 4 | 5·9449584 | 7·2284163 | 4 | 5·9351110 | 7·2158490 |
| 5 | 5·9403419 | 7·2301149 | 5 | 5·9307920 | 7·2177429 | 5 | 5·9209446 | 7·2051952 |
| 6 | 5·9281184 | 7·2195876 | 6 | 5·9185685 | 7·2072379 | 6 | 5·9087211 | 7·1947128 |
| 7 | 5·9170926 | 7·2091272 | 7 | 5·9075427 | 7·1968022 | 7 | 5·8976953 | 7·1843013 |
| 8 | 5·9067131 | 7·1986709 | 8 | 5·8971632 | 7·1863720 | 8 | 5·8873158 | 7·1738971 |
| 9 | 5·8969440 | 7·1881821 | 9 | 5·8873941 | 7·1759114 | 9 | 5·8775467 | 7·1634647 |
| 10 | 5·8876416 | 7·1776254 | 10 | 5·8780917 | 7·1653841 | 10 | 5·8682443 | 7·1529666 |
| 11 | 5·8786744 | 7·1669704 | 11 | 5·8691245 | 7·1547598 | 11 | 5·8592771 | 7·1423726 |
| 12 | 5·8699231 | 7·1561920 | 12 | 5·8603732 | 7·1440135 | 12 | 5·8505258 | 7·1316577 |
| 13 | 5·8612809 | 7·1452707 | 13 | 5·8517310 | 7·1331246 | 13 | 5·8418836 | 7·1208022 |
| 14 | 5·8526530 | 7·1341905 | 14 | 5·8431031 | 7·1220785 | 14 | 5·8332557 | 7·1097897 |
| 15 | 5·8439568 | 7·1229407 | 15 | 5·8344069 | 7·1108634 | 15 | 5·8245595 | 7·0986098 |
| 16 | 5·8351220 | 7·1115138 | 16 | 5·8255721 | 7·0994721 | 16 | 5·8157247 | 7·0872546 |
| 17 | 5·8260906 | 7·0999064 | 17 | 5·8165407 | 7·0879013 | 17 | 5·8066933 | 7·0757200 |
| 18 | 5·8168168 | 7·0881176 | 18 | 5·8072669 | 7·0761494 | 18 | 5·7974195 | 7·0640056 |
| 19 | 5·8072669 | 7·0761494 | 19 | 5·7977170 | 7·0642191 | 19 | 5·7878696 | 7·0521135 |
| 20 | 5·7974195 | 7·0640056 | 20 | 5·7878696 | 7·0521135 | 20 | 5·7780222 | 7·0400470 |
| 21 | 5·7872655 | 7·0516919 | 21 | 5·7777156 | 7·0398387 | 21 | 5·7678682 | 7·0278117 |
| 22 | 5·7770139 | 7·0392154 | 22 | 5·7674640 | 7·0274011 | 22 | 5·7576166 | 7·0154147 |
| 23 | 5·7666683 | 7·0265700 | 23 | 5·7571184 | 7·0147956 | 23 | 5·7472710 | 7·0028500 |
| 24 | 5·7562313 | 7·0137517 | 24 | 5·7466814 | 7·0020174 | 24 | 5·7368340 | 6·9901132 |
| 25 | 5·7457056 | 7·0007537 | 25 | 5·7361557 | 6·9890597 | 25 | 5·7263083 | 6·9771974 |
| 26 | 5·7350929 | 6·9875705 | 26 | 5·7255430 | 6·9759170 | 26 | 5·7156956 | 6·9640964 |
| 27 | 5·7243949 | 6·9741950 | 27 | 5·7148450 | 6·9625819 | 27 | 5·7049976 | 6·9508034 |
| 28 | 5·7136126 | 6·9606203 | 28 | 5·7040627 | 6·9490474 | 28 | 5·6942153 | 6·9373109 |
| 29 | 5·7027465 | 6·9468385 | 29 | 5·6931966 | 6·9353057 | 29 | 5·6833492 | 6·9236110 |
| 30 | 5·6917966 | 6·9328414 | 30 | 5·6822467 | 6·9213482 | 30 | 5·6723993 | 6·9096952 |
| 31 | 5·6807627 | 6·9186200 | 31 | 5·6712128 | 6·9071662 | 31 | 5·6613654 | 6·8955543 |
| 32 | 5·6696439 | 6·9041648 | 32 | 5·6600940 | 6·8927500 | 32 | 5·6502466 | 6·8811790 |
| 33 | 5·6584388 | 6·8894658 | 33 | 5·6488889 | 6·8780891 | 33 | 5·6390415 | 6·8665586 |
| 34 | 5·6471457 | 6·8745119 | 34 | 5·6375958 | 6·8631729 | 34 | 5·6277484 | 6·8516820 |
| 35 | 5·6357623 | 6·8592915 | 35 | 5·6262124 | 6·8479896 | 35 | 5·6163650 | 6·8365377 |
| 36 | 5·6242858 | 6·8437921 | 36 | 5·6147359 | 6·8325265 | 36 | 5·6048885 | 6·8211129 |
| 37 | 5·6127132 | 6·8280002 | 37 | 5·6031633 | 6·8167699 | 37 | 5·5933159 | 6·8053940 |
| 38 | 5·6010407 | 6·8119012 | 38 | 5·5914908 | 6·8007058 | 38 | 5·5816434 | 6·7893664 |
| 39 | 5·5892642 | 6·7954797 | 39 | 5·5797143 | 6·7843182 | 39 | 5·5698669 | 6·7730146 |
| 40 | 5·5773792 | 6·7787185 | 40 | 5·5678293 | 6·7675903 | 40 | 5·5579819 | 6·7563217 |
| 41 | 5·5653805 | 6·7615998 | 41 | 5·5558306 | 6·7505037 | 41 | 5·5459832 | 6·7392693 |
| 42 | 5·5532626 | 6·7441035 | 42 | 5·5437127 | 6·7330392 | 42 | 5·5338653 | 6·7218378 |
| 43 | 5·5410195 | 6·7262085 | 43 | 5·5314696 | 6·7151749 | 43 | 5·5216222 | 6·7040061 |
| 44 | 5·5286448 | 6·7078908 | 44 | 5·5190949 | 6·6968878 | 44 | 5·5092475 | 6·6857504 |
| 45 | 5·5161314 | 6·6891257 | 45 | 5·5065815 | 6·6781521 | 45 | 5·4967341 | 6·6670459 |
| 46 | 5·5034721 | 6·6698855 | 46 | 5·4939222 | 6·6589404 | 46 | 5·4840748 | 6·6478642 |
| 47 | 5·4906589 | 6·6501396 | 47 | 5·4811090 | 6·6392228 | 47 | 5·4712616 | 6·6281753 |
| 48 | 5·4776835 | 6·6298546 | 48 | 5·4681336 | 6·6189652 | 48 | 5·4582862 | 6·6079465 |
| 49 | 5·4645370 | 6·6089933 | 49 | 5·4549871 | 6·5981312 | 49 | 5·4451397 | 6·5871403 |
| 50 | 5·4512103 | 6·5875154 | 50 | 5·4416604 | 6·5766798 | 50 | 5·4318130 | 6·5657162 |
| 51 | 5·4376935 | 6·5653750 | 51 | 5·4281436 | 6·5545659 | 51 | 5·4182962 | 6·5436286 |
| 52 | 5·4239764 | 6·5425222 | 52 | 5·4144265 | 6·5317384 | 52 | 5·4045791 | 6·5208277 |
| 53 | 5·4100483 | 6·5188998 | 53 | 5·4004984 | 6·5081415 | 53 | 5·3906510 | 6·4972559 |
| 54 | 5·3958982 | 6·4944434 | 54 | 5·3863483 | 6·4837106 | 54 | 5·3765009 | 6·4728502 |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x, y}$ and $N_{x, y}$.

| Age of $(y)$ | 18 | | 19 | | | 20 | | |
|---|---|---|---|---|---|---|---|---|
| Age of $(x)$ | λ $D_{x, 18}$ | λ $N_{x, 18}$ | Age of $(x)$ | λ $D_{x, 19}$ | λ $N_{x, 19}$ | Age of $(x)$ | λ $D_{x, 20}$ | λ $N_{x, 20}$ |
| 55 | 5·3808511 | 6·4690821 | 55 | 5·3713012 | 6·4583733 | 55 | 5·3614538 | 6·4475377 |
| 56 | 5·3652244 | 6·4427918 | 56 | 5·3556745 | 6·4321068 | 56 | 5·3458271 | 6·4212951 |
| 57 | 5·3489922 | 6·4155167 | 57 | 5·3394423 | 6·4048562 | 57 | 5·3295949 | 6·3940676 |
| 58 | 5·3321175 | 6·3871956 | 58 | 5·3225676 | 6·3765591 | 58 | 5·3127202 | 6·3657943 |
| 59 | 5·3145526 | 6·3577615 | 59 | 5·3050027 | 6·3471481 | 59 | 5·2951553 | 6·3364065 |
| 60 | 5·2962387 | 6·3271402 | 60 | 5·2866888 | 6·3165501 | 60 | 5·2768414 | 6·3058306 |
| 61 | 5·2771059 | 6·2952510 | 61 | 5·2675560 | 6·2846842 | 61 | 5·2577086 | 6·2739874 |
| 62 | 5·2570738 | 6·2620075 | 62 | 5·2475239 | 6·2514635 | 62 | 5·2376765 | 6·2407888 |
| 63 | 5·2360507 | 6·2273159 | 63 | 5·2265008 | 6·2167949 | 63 | 5·2166534 | 6·2061416 |
| 64 | 5·2139340 | 6·1910756 | 64 | 5·2043841 | 6·1805769 | 64 | 5·1945367 | 6·1699453 |
| 65 | 5·1906104 | 6·1531787 | 65 | 5·1810605 | 6·1427022 | 65 | 5·1712131 | 6·1320918 |
| 66 | 5·1659553 | 6·1135085 | 66 | 5·1564054 | 6·1030555 | 66 | 5·1465580 | 6·0924659 |
| 67 | 5·1398334 | 6·0719438 | 67 | 5·1302835 | 6·0615125 | 67 | 5·1204361 | 6·0509444 |
| 68 | 5·1120985 | 6·0283536 | 68 | 5·1025486 | 6·0179441 | 68 | 5·0927012 | 6·0073957 |
| 69 | 5·0825932 | 5·9825977 | 69 | 5·0730433 | 5·9722103 | 69 | 5·0631959 | 5·9616821 |
| 70 | 5·0511495 | 5·9345292 | 70 | 5·0415996 | 5·9241635 | 70 | 5·0317522 | 5·9136549 |
| 71 | 5·0175882 | 5·8839923 | 71 | 5·0080383 | 5·8736473 | 71 | 4·9981909 | 5·8631585 |
| 72 | 4·9817192 | 5·8308198 | 72 | 4·9721693 | 5·8204967 | 72 | 4·9623219 | 5·8100269 |
| 73 | 4·9433416 | 5·7748389 | 73 | 4·9337917 | 5·7645367 | 73 | 4·9239443 | 5·7540857 |
| 74 | 4·9022435 | 5·7158645 | 74 | 4·8926936 | 5·7055834 | 74 | 4·8828462 | 5·6951509 |
| 75 | 4·8582019 | 5·6537033 | 75 | 4·8486520 | 5·6434424 | 75 | 4·8388046 | 5·6330283 |
| 76 | 4·8109830 | 5·5881505 | 76 | 4·8014331 | 5·5779104 | 76 | 4·7915857 | 5·5675138 |
| 77 | 4·7603422 | 5·5189926 | 77 | 4·7507923 | 5·5087723 | 77 | 4·7409449 | 5·4983936 |
| 78 | 4·7060236 | 5·4460039 | 78 | 4·6964737 | 5·4358038 | 78 | 4·6866263 | 5·4254420 |
| 79 | 4·6477607 | 5·3689494 | 79 | 4·6382108 | 5·3587688 | 79 | 4·6283634 | 5·3484239 |
| 80 | 4·5852759 | 5·2875818 | 80 | 4·5757260 | 5·2774210 | 80 | 4·5658786 | 5·2670921 |
| 81 | 4·5182807 | 5·2016437 | 81 | 4·5087308 | 5·1915019 | 81 | 4·4988834 | 5·1811897 |
| 82 | 4·4464756 | 5·1108654 | 82 | 4·4369257 | 5·1007426 | 82 | 4·4270783 | 5·0904461 |
| 83 | 4·3695503 | 5·0149663 | 83 | 4·3600004 | 5·0048625 | 83 | 4·3501530 | 4·9945811 |
| 84 | 4·2871833 | 4·9136544 | 84 | 4·2776334 | 4·9035685 | 84 | 4·2677860 | 4·8933023 |
| 85 | 4·1990426 | 4·8066242 | 85 | 4·1894927 | 4·7965570 | 85 | 4·1796453 | 4·7863048 |
| 86 | 4·1047847 | 4·6935599 | 86 | 4·0952348 | 4·6835108 | 86 | 4·0853874 | 4·6732735 |
| 87 | 4·0040556 | 4·5741332 | 87 | 3·9945057 | 4·5641016 | 87 | 3·9846583 | 4·5538780 |
| 88 | 3·8964902 | 4·4480034 | 88 | 3·8869403 | 4·4379885 | 88 | 3·8770929 | 4·4277788 |
| 89 | 3·7817124 | 4·3148155 | 89 | 3·7721625 | 4·3048178 | 89 | 3·7623151 | 4·2946212 |
| 90 | 3·6593353 | 4·1742038 | 90 | 3·6497854 | 4·1642229 | 90 | 3·6399380 | 4·1540394 |
| 91 | 3·5289610 | 4·0257874 | 91 | 3·5194111 | 4·0158231 | 91 | 3·5095637 | 4·0056523 |
| 92 | 3·3901806 | 3·8691718 | 92 | 3·3806307 | 3·8592236 | 92 | 3·3707833 | 3·8490654 |
| 93 | 3·2425744 | 3·7039454 | 93 | 3·2330245 | 3·6940126 | 93 | 3·2231771 | 3·6838662 |
| 94 | 3·0857115 | 3·5296754 | 94 | 3·0761616 | 3·5197598 | 94 | 3·0663142 | 3·5096245 |
| 95 | 2·9191503 | 3·3459060 | 95 | 2·9096004 | 3·3360052 | 95 | 2·8997530 | 3·3258824 |
| 96 | 2·7424383 | 3·1521430 | 96 | 2·7328884 | 3·1422574 | 96 | 2·7230410 | 3·1321466 |
| 97 | 2·5551118 | 2·9478335 | 97 | 2·5455619 | 2·9379640 | 97 | 2·5357145 | 2·9278644 |
| 98 | 2·3566965 | 2·7323254 | 98 | 2·3471466 | 2·7224710 | 98 | 2·3372992 | 2·7123837 |
| 99 | 2·1467067 | 2·5047766 | 99 | 2·1371568 | 2·4949390 | 99 | 2·1273094 | 2·4848633 |
| 100 | 1·9246462 | 2·2639732 | 100 | 1·9150963 | 2·2541551 | 100 | 1·9052489 | 2·2440940 |
| 101 | 1·6900077 | 2·0079312 | 101 | 1·6804578 | 1·9981351 | 101 | 1·6706104 | 1·9880905 |
| 102 | 1·4422729 | 1·7329299 | 102 | 1·4327230 | 1·7231616 | 102 | 1·4228756 | 1·7131376 |
| 103 | 1·1809126 | 1·4309985 | 103 | 1·1713627 | 1·4212732 | 103 | 1·1615153 | 1·4112762 |
| 104 | 0·9053868 | 1·0818907 | 104 | 0·8958369 | 1·0722425 | 104 | 0·8859895 | 1·0622924 |
| 105 | 0·6151442 | | 105 | 0·6055943 | | 105 | 0·5957469 | |
| 106 | 0·3096230 | | 106 | 0·3000731 | | 106 | 0·2902257 | |
| 107 | 9·9882501 | | 107 | 9·9787002 | | 107 | 9·9688528 | |
| 108 | 9·6504417 | | 108 | 9·6408918 | | 108 | 9·6310444 | |
| 109 | 9·2956029 | | 109 | 9·2860530 | | 109 | 9·2762056 | |

## JOINT LIVES:—Two Females.

### Logarithms of the Series $D_{x, y}$ and $N_{x, y}$.

| Age of (y) | 21 | | | 22 | | | 23 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x, 21}$ | λ $N_{x, 21}$ | Age of (x) | λ $D_{x, 22}$ | λ $N_{x, 22}$ | Age of (x) | λ $D_{x, 23}$ | λ $N_{x, 23}$ |
| 0 | 6·0675036 | 7·2546723 | 0 | 6·0572520 | 7·2417665 | 0 | 6·0469064 | 7·2286980 |
| 1 | 5·9982454 | 7·2384160 | 1 | 5·9879938 | 7·2254897 | 1 | 5·9776482 | 7·2123988 |
| 2 | 5·9640678 | 7·2256124 | 2 | 5·9538162 | 7·2126874 | 2 | 5·9434706 | 7·1995975 |
| 3 | 5·9420046 | 7·2140694 | 3 | 5·9317530 | 7·2011550 | 3 | 5·9214074 | 7·1880748 |
| 4 | 5·9249570 | 7·2031126 | 4 | 5·9147054 | 7·1902134 | 4 | 5·9043598 | 7·1771485 |
| 5 | 5·9107906 | 7·1924779 | 5 | 5·9005390 | 7·1795980 | 5 | 5·8901934 | 7·1665515 |
| 6 | 5·8985671 | 7·1820173 | 6 | 5·8883155 | 7·1691594 | 6 | 5·8779699 | 7·1561340 |
| 7 | 5·8875413 | 7·1716302 | 7 | 5·8772897 | 7·1587956 | 7 | 5·8669441 | 7·1457941 |
| 8 | 5·8771618 | 7·1612521 | 8 | 5·8669102 | 7·1484434 | 8 | 5·8565646 | 7·1354669 |
| 9 | 5·8673927 | 7·1508469 | 9 | 5·8571411 | 7·1380657 | 9 | 5·8467955 | 7·1251164 |
| 10 | 5·8580903 | 7·1403779 | 10 | 5·8478387 | 7·1276256 | 10 | 5·8374931 | 7·1147046 |
| 11 | 5·8491231 | 7·1298146 | 11 | 5·8388715 | 7·1170922 | 11 | 5·8285259 | 7·1042019 |
| 12 | 5·8403718 | 7·1191315 | 12 | 5·8301202 | 7·1064408 | 12 | 5·8197746 | 7·0935818 |
| 13 | 5·8317296 | 7·1083086 | 13 | 5·8214780 | 7·0956508 | 13 | 5·8111324 | 7·0828242 |
| 14 | 5·8231017 | 7·0973302 | 14 | 5·8128501 | 7·0847063 | 14 | 5·8025045 | 7·0719136 |
| 15 | 5·8144055 | 7·0861850 | 15 | 5·8041539 | 7·0735963 | 15 | 5·7938083 | 7·0608391 |
| 16 | 5·8055707 | 7·0748658 | 16 | 5·7953191 | 7·0623131 | 16 | 5·7849735 | 7·0495920 |
| 17 | 5·7965393 | 7·0633687 | 17 | 5·7862877 | 7·0508532 | 17 | 5·7759421 | 7·0381694 |
| 18 | 5·7872655 | 7·0516919 | 18 | 5·7770139 | 7·0392154 | 18 | 5·7666683 | 7·0265700 |
| 19 | 5·7777156 | 7·0398387 | 19 | 5·7674640 | 7·0274011 | 19 | 5·7571184 | 7·0147956 |
| 20 | 5·7678682 | 7·0278117 | 20 | 5·7576166 | 7·0154147 | 20 | 5·7472710 | 7·0028500 |
| 21 | 5·7577142 | 7·0156171 | 21 | 5·7474626 | 7·0032615 | 21 | 5·7371170 | 6·9907391 |
| 22 | 5·7474626 | 7·0032615 | 22 | 5·7372110 | 6·9909479 | 22 | 5·7268654 | 6·9784687 |
| 23 | 5·7371170 | 6·9907391 | 23 | 5·7268654 | 6·9784687 | 23 | 5·7165198 | 6·9660338 |
| 24 | 5·7266800 | 6·9780445 | 24 | 5·7164284 | 6·9658183 | 24 | 5·7060828 | 6·9534284 |
| 25 | 5·7161543 | 6·9651721 | 25 | 5·7059027 | 6·9529899 | 25 | 5·6955571 | 6·9406461 |
| 26 | 5·7055416 | 6·9521146 | 26 | 5·6952900 | 6·9399778 | 26 | 5·6849444 | 6·9276800 |
| 27 | 5·6948436 | 6·9388652 | 27 | 5·6845920 | 6·9267739 | 27 | 5·6742464 | 6·9145234 |
| 28 | 5·6840613 | 6·9254164 | 28 | 5·6738097 | 6·9133706 | 28 | 5·6634641 | 6·9011677 |
| 29 | 5·6731952 | 6·9117602 | 29 | 5·6629436 | 6·8997602 | 29 | 5·6525980 | 6·8876048 |
| 30 | 5·6622453 | 6·8978880 | 30 | 5·6519937 | 6·8859336 | 30 | 5·6416481 | 6·8738261 |
| 31 | 5·6512114 | 6·8837906 | 31 | 5·6409598 | 6·8718817 | 31 | 5·6306142 | 6·8598219 |
| 32 | 5·6400926 | 6·8694581 | 32 | 5·6298410 | 6·8575945 | 32 | 5·6194954 | 6·8455823 |
| 33 | 5·6288875 | 6·8548803 | 33 | 5·6186359 | 6·8430614 | 33 | 5·6082903 | 6·8310966 |
| 34 | 5·6175944 | 6·8400457 | 34 | 5·6073428 | 6·8282713 | 34 | 5·5969972 | 6·8163532 |
| 35 | 5·6062110 | 6·8249427 | 35 | 5·5959594 | 6·8132120 | 35 | 5·5856138 | 6·8013404 |
| 36 | 5·5947345 | 6·8095583 | 36 | 5·5844829 | 6·7978707 | 36 | 5·5741373 | 6·7860449 |
| 37 | 5·5831619 | 6·7938791 | 37 | 5·5729103 | 6·7822339 | 37 | 5·5625647 | 6·7704528 |
| 38 | 5·5714894 | 6·7778907 | 38 | 5·5612378 | 6·7662868 | 38 | 5·5508922 | 6·7545499 |
| 39 | 5·5597129 | 6·7615767 | 39 | 5·5494613 | 6·7500136 | 39 | 5·5391157 | 6·7383200 |
| 40 | 5·5478279 | 6·7449211 | 40 | 5·5375763 | 6·7333972 | 40 | 5·5272307 | 6·7217459 |
| 41 | 5·5358292 | 6·7279049 | 41 | 5·5255776 | 6·7164198 | 41 | 5·5152320 | 6·7048095 |
| 42 | 5·5237113 | 6·7105086 | 42 | 5·5134597 | 6·6990612 | 42 | 5·5031141 | 6·6874913 |
| 43 | 5·5114682 | 6·6927110 | 43 | 5·5012166 | 6·6813002 | 43 | 5·4908710 | 6·6697693 |
| 44 | 5·4990935 | 6·6744888 | 44 | 5·4888419 | 6·6631134 | 44 | 5·4784963 | 6·6516207 |
| 45 | 5·4865801 | 6·6558167 | 45 | 5·4763285 | 6·6444759 | 45 | 5·4659829 | 6·6330199 |
| 46 | 5·4739208 | 6·6366668 | 46 | 5·4636692 | 6·6253596 | 46 | 5·4533236 | 6·6139396 |
| 47 | 5·4611076 | 6·6170087 | 47 | 5·4508560 | 6·6057345 | 47 | 5·4405104 | 6·5943492 |
| 48 | 5·4481322 | 6·5968093 | 48 | 5·4378806 | 6·5855667 | 48 | 5·4275350 | 6·5742158 |
| 49 | 5·4349857 | 6·5760324 | 49 | 5·4247341 | 6·5648201 | 49 | 5·4143885 | 6·5535018 |
| 50 | 5·4216590 | 6·5546364 | 50 | 5·4114074 | 6·5434544 | 50 | 5·4010618 | 6·5321671 |
| 51 | 5·4081422 | 6·5325768 | 51 | 5·3978906 | 6·5214236 | 51 | 5·3875450 | 6·5101673 |
| 52 | 5·3944251 | 6·5098023 | 52 | 5·3841735 | 6·4986777 | 52 | 5·3738279 | 6·4874510 |
| 53 | 5·3804970 | 6·4862571 | 53 | 5·3702454 | 6·4751595 | 53 | 5·3598998 | 6·4639622 |
| 54 | 5·3663469 | 6·4618765 | 54 | 5·3560953 | 6·4508061 | 54 | 5·3457497 | 6·4396364 |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 21 | | | 22 | | | 23 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,21}$ | $\lambda\ N_{x,\,21}$ | Age of (x) | $\lambda\ D_{x,\,22}$ | $\lambda\ N_{x,\,22}$ | Age of (x) | $\lambda\ D_{x,\,23}$ | $\lambda\ N_{x,\,23}$ |
| 55 | 5·3512998 | 6·4365893 | 55 | 5·3410482 | 6·4255442 | 55 | 5·3307026 | 6·4144022 |
| 56 | 5·3356731 | 6·4103713 | 56 | 5·3254215 | 6·3993518 | 56 | 5·3150759 | 6·3882356 |
| 57 | 5·3194409 | 6·3831674 | 57 | 5·3091893 | 6·3721729 | 57 | 5·2988437 | 6·3610827 |
| 58 | 5·3025662 | 6·3549169 | 58 | 5·2923146 | 6·3439462 | 58 | 5·2819690 | 6·3328814 |
| 59 | 5·2850013 | 6·3255526 | 59 | 5·2747497 | 6·3146049 | 59 | 5·2644041 | 6·3035643 |
| 60 | 5·2666874 | 6·2949996 | 60 | 5·2564358 | 6·2840757 | 60 | 5·2460902 | 6·2730583 |
| 61 | 5·2475546 | 6·2631779 | 61 | 5·2373030 | 6·2522769 | 61 | 5·2269574 | 6·2412835 |
| 62 | 5·2275225 | 6·2300013 | 62 | 5·2172709 | 6·2191223 | 62 | 5·2069253 | 6·2081518 |
| 63 | 5·2064994 | 6·1953757 | 63 | 5·1962478 | 6·1845186 | 63 | 5·1859022 | 6·1735699 |
| 64 | 5·1843827 | 6·1592001 | 64 | 5·1741311 | 6·1483645 | 64 | 5·1637855 | 6·1374380 |
| 65 | 5·1610591 | 6·1213674 | 65 | 5·1508075 | 6·1105523 | 65 | 5·1404619 | 6·0996471 |
| 66 | 5·1364040 | 6·0817616 | 66 | 5·1261524 | 6·0709672 | 66 | 5·1158068 | 6·0600827 |
| 67 | 5·1102821 | 6·0402601 | 67 | 5·1000305 | 6·0294856 | 67 | 5·0896849 | 6·0186219 |
| 68 | 5·0825472 | 5·9967318 | 68 | 5·0722956 | 5·9859767 | 68 | 5·0619500 | 5·9751330 |
| 69 | 5·0530419 | 5·9510367 | 69 | 5·0427903 | 5·9403018 | 69 | 5·0324147 | 5·9294771 |
| 70 | 5·0215982 | 5·9030287 | 70 | 5·0113466 | 5·8923123 | 70 | 5·0010010 | 5·8815068 |
| 71 | 4·9880369 | 5·8525503 | 71 | 4·9777853 | 5·8418524 | 71 | 4·9674397 | 5·8310654 |
| 72 | 4·9521679 | 5·7994367 | 72 | 4·9419163 | 5·7887566 | 72 | 4·9315707 | 5·7779880 |
| 73 | 4·9137903 | 5·7435131 | 73 | 4·9035387 | 5·7328507 | 73 | 4·8931931 | 5·7220995 |
| 74 | 4·8726922 | 5·6845954 | 74 | 4·8624406 | 5·6739500 | 74 | 4·8520950 | 5·6632163 |
| 75 | 4·8286506 | 5·6224894 | 75 | 4·8183990 | 5·6118607 | 75 | 4·8080534 | 5·6011435 |
| 76 | 4·7814317 | 5·5569915 | 76 | 4·7711801 | 5·5463789 | 76 | 4·7608345 | 5·5356780 |
| 77 | 4·7307909 | 5·4878867 | 77 | 4·7205393 | 5·4772901 | 77 | 4·7101937 | 5·4666047 |
| 78 | 4·6764723 | 5·4149506 | 78 | 4·6662207 | 5·4043689 | 78 | 4·6558751 | 5·3936994 |
| 79 | 4·6182094 | 5·3379472 | 79 | 4·6079578 | 5·3273806 | 79 | 4·5976122 | 5·3167252 |
| 80 | 4·5557246 | 5·2566302 | 80 | 4·5454730 | 5·2460776 | 80 | 4·5351274 | 5·2354368 |
| 81 | 4·4887294 | 5·1707413 | 81 | 4·4784778 | 5·1602028 | 81 | 4·4681322 | 5·1495754 |
| 82 | 4·4169243 | 5·0800117 | 82 | 4·4066727 | 5·0694861 | 82 | 4·3963271 | 5·0588722 |
| 83 | 4·3399990 | 4·9841599 | 83 | 4·3297474 | 4·9736478 | 83 | 4·3194018 | 4·9630461 |
| 84 | 4·2576320 | 4·8828938 | 84 | 4·2473804 | 4·8723940 | 84 | 4·2370348 | 4·8618055 |
| 85 | 4·1694913 | 4·7759089 | 85 | 4·1592397 | 4·7654212 | 85 | 4·1488941 | 4·7548442 |
| 86 | 4·0752334 | 4·6628881 | 86 | 4·0649818 | 4·6524126 | 86 | 4·0546362 | 4·6418477 |
| 87 | 3·9745043 | 4·5435049 | 87 | 3·9642527 | 4·5330401 | 87 | 3·9539071 | 4·5224860 |
| 88 | 3·8669389 | 4·4174165 | 88 | 3·8566873 | 4·4069626 | 88 | 3·8463417 | 4·3964189 |
| 89 | 3·7521611 | 4·2842699 | 89 | 3·7419095 | 4·2738258 | 89 | 3·7315639 | 4·2632928 |
| 90 | 3·6297840 | 4·1436976 | 90 | 3·6195324 | 4·1332642 | 90 | 3·6091868 | 4·1227403 |
| 91 | 3·4994097 | 3·9953205 | 91 | 3·4891581 | 3·9848962 | 91 | 3·4788125 | 3·9743822 |
| 92 | 3·3606293 | 3·8387427 | 92 | 3·3503777 | 3·8283280 | 92 | 3·3400321 | 3·8178224 |
| 93 | 3·2130231 | 3·6735536 | 93 | 3·2027715 | 3·6631466 | 93 | 3·1924259 | 3·6526505 |
| 94 | 3·0561602 | 3·4993199 | 94 | 3·0459086 | 3·4889228 | 94 | 3·0355630 | 3·4784337 |
| 95 | 2·8895990 | 3·3155866 | 95 | 2·8793474 | 3·3051969 | 95 | 2·8690018 | 3·2947171 |
| 96 | 2·7128870 | 3·1218588 | 96 | 2·7026354 | 3·1114779 | 96 | 2·6922898 | 3·1010053 |
| 97 | 2·5255605 | 2·9175853 | 97 | 2·5153089 | 2·9072119 | 97 | 2·5049633 | 2·8967483 |
| 98 | 2·3271452 | 2·7021125 | 98 | 2·3168936 | 2·6917479 | 98 | 2·3065480 | 2·6812910 |
| 99 | 2·1171554 | 2·4746008 | 99 | 2·1069038 | 2·4642450 | 99 | 2·0965582 | 2·4537967 |
| 100 | 1·8950949 | 2·2338410 | 100 | 1·8848433 | 2·2234938 | 100 | 1·8744977 | 2·2130554 |
| 101 | 1·6604564 | 1·9778484 | 101 | 1·6502048 | 1·9675119 | 101 | 1·6398592 | 1·9570837 |
| 102 | 1·4127216 | 1·7029102 | 102 | 1·4024700 | 1·6925861 | 102 | 1·3921244 | 1·6821713 |
| 103 | 1·1513613 | 1·4010661 | 103 | 1·1411097 | 1·3907620 | 103 | 1·1307641 | 1·3803614 |
| 104 | 0·8758355 | 1·0521050 | 104 | 0·8655839 | 1·0418229 | 104 | 0·8552383 | 1·0314489 |
| 105 | 0·5855929 | | 105 | 0·5753413 | | 105 | 0·5649957 | |
| 106 | 0·2800717 | | 106 | 0·2698201 | | 106 | 0·2594745 | |
| 107 | 9·9586988 | | 107 | 9·9484472 | | 107 | 9·9381016 | |
| 108 | 9·6208904 | | 108 | 9·6106388 | | 108 | 9·6002932 | |
| 109 | 9·2660516 | | 109 | 9·2558000 | | 109 | 9·2454544 | |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x, y}$ and $N_{x, y}$.

| Age of (y) | 24 | | | 25 | | | 26 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x, 24}$ | λ $N_{x, 24}$ | Age of (x) | λ $D_{x, 25}$ | λ $N_{x, 25}$ | Age of (x) | λ $D_{x, 26}$ | λ $N_{x, 26}$ |
| 0 | 6·0364694 | 7·2154620 | 0 | 6·0259437 | 7·2020536 | 0 | 6·0153310 | 7·1884676 |
| 1 | 5·9672112 | 7·1991390 | 1 | 5·9566855 | 7·1857050 | 1 | 5·9460728 | 7·1720916 |
| 2 | 5·9330336 | 7·1863372 | 2 | 5·9225079 | 7·1729023 | 2 | 5·9118952 | 7·1592868 |
| 3 | 5·9109704 | 7·1748242 | 3 | 5·9004447 | 7·1613977 | 3 | 5·8898320 | 7·1477900 |
| 4 | 5·8939228 | 7·1639121 | 4 | 5·8833971 | 7·1505000 | 4 | 5·8727844 | 7·1369060 |
| 5 | 5·8797564 | 7·1533334 | 5 | 5·8692307 | 7·1399389 | 5 | 5·8586180 | 7·1263623 |
| 6 | 5·8675329 | 7·1429370 | 6 | 5·8570072 | 7·1295629 | 6 | 5·8463945 | 7·1160067 |
| 7 | 5·8565071 | 7·1326202 | 7 | 5·8459814 | 7·1192688 | 7 | 5·8353687 | 7·1057350 |
| 8 | 5·8461276 | 7·1223182 | 8 | 5·8356019 | 7·1089920 | 8 | 5·8249892 | 7·0954821 |
| 9 | 5·8363585 | 7·1119943 | 9 | 5·8258328 | 7·0986942 | 9 | 5·8152201 | 7·0852110 |
| 10 | 5·8270561 | 7·1016113 | 10 | 5·8165304 | 7·0883393 | 10 | 5·8059177 | 7·0748837 |
| 11 | 5·8180889 | 7·0911382 | 11 | 5·8075632 | 7·0778957 | 11 | 5·7969505 | 7·0644692 |
| 12 | 5·8093376 | 7·0805489 | 12 | 5·7988119 | 7·0673376 | 12 | 5·7881992 | 7·0539420 |
| 13 | 5·8006954 | 7·0698241 | 13 | 5·7901697 | 7·0566450 | 13 | 5·7795570 | 7·0432814 |
| 14 | 5·7920675 | 7·0589473 | 14 | 5·7815418 | 7·0458020 | 14 | 5·7709291 | 7·0324717 |
| 15 | 5·7833713 | 7·0479074 | 15 | 5·7728456 | 7·0347972 | 15 | 5·7622329 | 7·0215015 |
| 16 | 5·7745365 | 7·0366971 | 16 | 5·7640108 | 7·0236228 | 16 | 5·7533981 | 7·0103632 |
| 17 | 5·7655051 | 7·0253121 | 17 | 5·7549794 | 7·0122752 | 17 | 5·7443667 | 6·9990531 |
| 18 | 5·7562313 | 7·0137517 | 18 | 5·7457056 | 7·0007537 | 18 | 5·7350929 | 6·9875705 |
| 19 | 5·7466814 | 7·0020174 | 19 | 5·7361557 | 6·9890597 | 19 | 5·7255430 | 6·9759170 |
| 20 | 5·7368340 | 6·9901132 | 20 | 5·7263083 | 6·9771974 | 20 | 5·7156956 | 6·9640964 |
| 21 | 5·7266800 | 6·9780445 | 21 | 5·7161543 | 6·9651721 | 21 | 5·7055416 | 6·9521146 |
| 22 | 5·7164284 | 6·9658183 | 22 | 5·7059027 | 6·9529899 | 22 | 5·6952900 | 6·9399778 |
| 23 | 5·7060828 | 6·9534284 | 23 | 5·6955571 | 6·9406461 | 23 | 5·6849444 | 6·9276800 |
| 24 | 5·6956458 | 6·9408692 | 24 | 5·6851201 | 6·9281340 | 24 | 5·6745074 | 6·9152159 |
| 25 | 5·6851201 | 6·9281340 | 25 | 5·6745944 | 6·9154471 | 25 | 5·6639817 | 6·9025784 |
| 26 | 5·6745074 | 6·9152159 | 26 | 5·6639817 | 6·9025784 | 26 | 5·6533690 | 6·8897602 |
| 27 | 5·6638094 | 6·9021076 | 27 | 5·6532837 | 6·8895203 | 27 | 5·6426710 | 6·8767536 |
| 28 | 5·6530271 | 6·8888014 | 28 | 5·6425014 | 6·8762645 | 28 | 5·6318887 | 6·8635505 |
| 29 | 5·6421610 | 6·8752882 | 29 | 5·6316353 | 6·8628031 | 29 | 5·6210226 | 6·8501419 |
| 30 | 5·6312111 | 6·8615592 | 30 | 5·6206854 | 6·8491261 | 30 | 5·6100727 | 6·8365190 |
| 31 | 5·6201772 | 6·8476050 | 31 | 5·6096515 | 6·8352240 | 31 | 5·5990388 | 6·8226714 |
| 32 | 5·6090584 | 6·8334153 | 32 | 5·5985327 | 6·8210865 | 32 | 5·5879200 | 6·8085884 |
| 33 | 5·5978533 | 6·8189793 | 33 | 5·5873276 | 6·8067028 | 33 | 5·5767149 | 6·7942594 |
| 34 | 5·5865602 | 6·8042854 | 34 | 5·5760345 | 6·7920609 | 34 | 5·5654218 | 6·7796722 |
| 35 | 5·5751768 | 6·7893214 | 35 | 5·5646511 | 6·7771487 | 35 | 5·5540384 | 6·7648145 |
| 36 | 5·5637003 | 6·7740745 | 36 | 5·5531746 | 6·7619529 | 36 | 5·5425619 | 6·7496729 |
| 37 | 5·5521277 | 6·7585303 | 37 | 5·5416020 | 6·7464596 | 37 | 5·5309893 | 6·7342330 |
| 38 | 5·5404552 | 6·7426742 | 38 | 5·5299295 | 6·7306533 | 38 | 5·5193168 | 6·7184800 |
| 39 | 5·5286787 | 6·7264902 | 39 | 5·5181530 | 6·7145185 | 39 | 5·5075403 | 6·7023973 |
| 40 | 5·5167937 | 6·7099616 | 40 | 5·5062680 | 6·6980377 | 40 | 5·4956553 | 6·6859678 |
| 41 | 5·5047950 | 6·6930693 | 41 | 5·4942693 | 6·6811929 | 41 | 5·4836566 | 6·6691731 |
| 42 | 5·4926771 | 6·6757937 | 42 | 5·4821514 | 6·6639633 | 42 | 5·4715387 | 6·6519932 |
| 43 | 5·4804340 | 6·6581140 | 43 | 5·4699083 | 6·6463281 | 43 | 5·4592956 | 6·6344058 |
| 44 | 5·4680593 | 6·6400059 | 44 | 5·4575336 | 6·6282640 | 44 | 5·4469209 | 6·6163883 |
| 45 | 5·4555459 | 6·6214447 | 45 | 5·4450202 | 6·6097452 | 45 | 5·4344075 | 6·5979154 |
| 46 | 5·4428866 | 6·6024027 | 46 | 5·4323609 | 6·5907443 | 46 | 5·4217482 | 6·5789585 |
| 47 | 5·4300734 | 6·5828497 | 47 | 5·4195477 | 6·5712308 | 47 | 5·4089350 | 6·5594882 |
| 48 | 5·4170980 | 6·5627520 | 48 | 5·4065723 | 6·5511722 | 48 | 5·3959596 | 6·5394705 |
| 49 | 5·4039515 | 6·5420735 | 49 | 5·3934258 | 6·5305309 | 49 | 5·3828131 | 6·5188698 |
| 50 | 5·3906248 | 6·5207727 | 50 | 5·3800991 | 6·5092668 | 50 | 5·3694864 | 6·4976443 |
| 51 | 5·3771080 | 6·4988049 | 51 | 5·3665823 | 6·4873342 | 51 | 5·3559696 | 6·4757496 |
| 52 | 5·3633909 | 6·4761208 | 52 | 5·3528652 | 6·4646828 | 52 | 5·3422525 | 6·4531347 |
| 53 | 5·3494628 | 6·4526623 | 53 | 5·3389371 | 6·4412575 | 53 | 5·3283244 | 6·4297431 |
| 54 | 5·3353127 | 6·4283665 | 54 | 5·3247870 | 6·4169928 | 54 | 5·3141743 | 6·4055127 |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 24 | | | 25 | | | 26 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,24}$ | $\lambda\ N_{x,\,24}$ | Age of (x) | $\lambda\ D_{x,\,25}$ | $\lambda\ N_{x,\,25}$ | Age of (x) | $\lambda\ D_{x,\,26}$ | $\lambda\ N_{x,\,26}$ |
| 55 | 5·3202656 | 6·4031603 | 55 | 5·3097399 | 6·3918173 | 55 | 5·2991272 | 6·3803692 |
| 56 | 5·3046389 | 6·3770222 | 56 | 5·2941132 | 6·3657079 | 56 | 5·2835005 | 6.3542910 |
| 57 | 5·2884067 | 6·3498954 | 57 | 5·2778810 | 6·3386102 | 57 | 5·2672683 | 6·3272230 |
| 58 | 5·2715320 | 6·3217206 | 58 | 5·2610063 | 6·3104621 | 58 | 5·2503936 | 6·2991047 |
| 59 | 5·2539671 | 6·2924293 | 59 | 5·2434414 | 6·2811977 | 59 | 5·2328287 | 6·2698677 |
| 60 | 5·2356532 | 6·2619477 | 60 | 5·2251275 | 6·2507425 | 60 | 5·2145148 | 6·2394396 |
| 61 | 5·2165204 | 6·2301965 | 61 | 5·2059947 | 6·2190161 | 61 | 5·1953820 | 6·2077399 |
| 62 | 5·1964883 | 6·1970889 | 62 | 5·1859626 | 6·1859324 | 62 | 5·1753499 | 6·1746815 |
| 63 | 5·1754652 | 6·1625303 | 63 | 5·1649395 | 6·1513980 | 63 | 5·1543268 | 6·1401717 |
| 64 | 5·1533485 | 6·1264205 | 64 | 5·1428228 | 6·1153116 | 64 | 5·1322101 | 6·1041097 |
| 65 | 5·1300249 | 6·0886520 | 65 | 5·1194992 | 6·0775652 | 65 | 5·1088865 | 6·0663867 |
| 66 | 5·1053698 | 6·0491087 | 66 | 5·0948441 | 6·0380444 | 66 | 5·0842314 | 6·0268882 |
| 67 | 5·0792479 | 6·0076680 | 67 | 5·0687222 | 5·9966251 | 67 | 5·0581095 | 5·9854916 |
| 68 | 5·0515130 | 5·9641997 | 68 | 5·0409873 | 5·9531772 | 68 | 5·0303746 | 5·9420646 |
| 69 | 5·0220077 | 5·9185640 | 69 | 5·0114820 | 5·9075618 | 69 | 5·0008693 | 5·8964700 |
| 70 | 4·9905640 | 5·8706127 | 70 | 4·9800383 | 5·8596305 | 70 | 4·9694256 | 5·8485589 |
| 71 | 4·9570027 | 5·8201904 | 71 | 4·9464770 | 5·8092271 | 71 | 4·9358643 | 5·7981755 |
| 72 | 4·9211337 | 5·7671311 | 72 | 4·9106080 | 5·7561866 | 72 | 4·8999953 | 5·7451539 |
| 73 | 4·8827561 | 5·7112607 | 73 | 4·8722304 | 5·7003341 | 73 | 4·8616177 | 5·6893200 |
| 74 | 4·8416580 | 5·6523944 | 74 | 4·8311323 | 5·6414857 | 74 | 4·8205196 | 5·6304891 |
| 75 | 4·7976164 | 5·5903390 | 75 | 4·7870907 | 5·5794468 | 75 | 4·7764780 | 5·5684680 |
| 76 | 4·7503975 | 5·5248893 | 76 | 4·7398718 | 5·5140142 | 76 | 4·7292591 | 5·5030516 |
| 77 | 4·6997567 | 5·4558321 | 77 | 4·6892310 | 5·4449725 | 77 | 4·6786183 | 5·4340267 |
| 78 | 4·6454381 | 5·3829418 | 78 | 4·6349124 | 5·3720977 | 78 | 4·6242997 | 5·3611673 |
| 79 | 4·5871752 | 5·3059832 | 79 | 4·5766495 | 5·2951537 | 79 | 4·5660368 | 5·2842382 |
| 80 | 4·5246904 | 5·2247083 | 80 | 4·5141647 | 5·2138943 | 80 | 4·5035520 | 5·2029929 |
| 81 | 4·4576952 | 5·1388611 | 81 | 4·4471695 | 5·1280599 | 81 | 4·4365568 | 5·1171738 |
| 82 | 4·3858901 | 5·0481710 | 82 | 4·3753644 | 5·0373835 | 82 | 4·3647517 | 5·0265100 |
| 83 | 4·3089648 | 4·9523579 | 83 | 4·2984391 | 4·9415830 | 83 | 4·2878264 | 4·9307230 |
| 84 | 4·2265978 | 4·8511287 | 84 | 4·2160721 | 4·8403665 | 84 | 4·2054594 | 4·8295186 |
| 85 | 4·1384571 | 4·7441803 | 85 | 4·1279314 | 4·7334292 | 85 | 4·1173187 | 4·7225936 |
| 86 | 4·0441992 | 4·6311941 | 86 | 4·0336735 | 4·6204557 | 86 | 4·0230608 | 4·6096307 |
| 87 | 3·9434701 | 4·5118442 | 87 | 3·9329444 | 4·5011161 | 87 | 3·9223317 | 4·4903027 |
| 88 | 3·8359047 | 4·3857877 | 88 | 3·8253790 | 4·3750701 | 88 | 3·8147663 | 4·3642668 |
| 89 | 3·7211269 | 4·2526716 | 89 | 3·7106012 | 4·2419638 | 89 | 3·6999885 | 4·2311710 |
| 90 | 3·5987498 | 4·1121292 | 90 | 3·5882241 | 4·1014311 | 90 | 3·5776114 | 4·0906478 |
| 91 | 3·4683755 | 3·9637798 | 91 | 3·4578498 | 3·9530915 | 91 | 3·4472371 | 3·9423172 |
| 92 | 3·3295951 | 3·8072291 | 92 | 3·3190694 | 3·7965494 | 92 | 3·3084567 | 3·7857845 |
| 93 | 3·1819889 | 3·6420656 | 93 | 3·1714632 | 3·6313940 | 93 | 3·1608505 | 3·6206378 |
| 94 | 3·0251260 | 3·4678581 | 94 | 3·0146003 | 3·4571944 | 94 | 3·0039876 | 3·4464456 |
| 95 | 2·8585648 | 3·2841491 | 95 | 2·8480391 | 3·2734936 | 95 | 2·8374264 | 3·2627529 |
| 96 | 2·6818528 | 3·0904450 | 96 | 2·6713271 | 3·0797983 | 96 | 2·6607144 | 3·0690651 |
| 97 | 2·4945263 | 2·8861945 | 97 | 2·4840006 | 2·8755555 | 97 | 2·4733879 | 2·8648307 |
| 98 | 2·2961110 | 2·6707467 | 98 | 2·2855853 | 2·6601138 | 98 | 2·2749726 | 2·6493972 |
| 99 | 2·0861212 | 2·4432599 | 99 | 2·0755955 | 2·4326358 | 99 | 2·0649828 | 2·4219262 |
| 100 | 1·8640607 | 2·2025276 | 100 | 1·8535350 | 2·1919130 | 100 | 1·8429223 | 2·1812122 |
| 101 | 1·6294222 | 1·9465667 | 101 | 1·6188965 | 1·9359620 | 101 | 1·6082838 | 1·9252718 |
| 102 | 1·3816874 | 1·6716661 | 102 | 1·3711617 | 1·6610750 | 102 | 1·3605490 | 1·6503969 |
| 103 | 1·1203271 | 1·3698724 | 103 | 1·1098014 | 1·3592965 | 103 | 1·0991887 | 1·3486358 |
| 104 | 0·8448013 | 1·0209783 | 104 | 0·8342756 | 1·0104230 | 104 | 0·8236629 | 0·9997828 |
| 105 | 0·5545587 | | 105 | 0·5440330 | | 105 | 0·5334203 | |
| 106 | 0·2490375 | | 106 | 0·2385118 | | 106 | 0·2278991 | |
| 107 | 9·9276646 | | 107 | 9·9171389 | | 107 | 9·9065262 | |
| 108 | 9·5898562 | | 108 | 9·5793305 | | 108 | 9·5687178 | |
| 109 | 9·2350174 | | 109 | 9·2244917 | | 109 | 9·2138790 | |

## JOINT LIVES :—Two Females.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 27 | | | 28 | | | 29 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,27}$ | λ $N_{x,\,27}$ | Age of (x) | λ $D_{x,\,28}$ | λ $N_{x,\,28}$ | Age of (x) | λ $D_{x,\,29}$ | λ $N_{x,\,29}$ |
| 0 | 6·0046330 | 7·1746976 | 0 | 5·9938507 | 7·1607374 | 0 | 5·9829846 | 7·1465795 |
| 1 | 5·9353748 | 7·1582925 | 1 | 5·9245925 | 7·1443004 | 1 | 5·9137264 | 7·1301091 |
| 2 | 5·9011972 | 7·1454845 | 2 | 5·8904149 | 7·1314884 | 2 | 5·8795488 | 7·1172915 |
| 3 | 5·8791340 | 7·1339950 | 3 | 5·8683517 | 7·1200061 | 3 | 5·8574856 | 7·1058149 |
| 4 | 5·8620864 | 7·1231239 | 4 | 5·8513041 | 7·1091474 | 4 | 5·8404380 | 7·0949684 |
| 5 | 5·8479200 | 7·1125974 | 5 | 5·8371377 | 7·0986372 | 5 | 5·8262716 | 7·0844744 |
| 6 | 5·8356965 | 7·1022614 | 6 | 5·8249142 | 7·0883204 | 6 | 5·8140481 | 7·0741769 |
| 7 | 5·8246707 | 7·0920119 | 7 | 5·8138884 | 7·0780931 | 7 | 5·8030223 | 7·0639707 |
| 8 | 5·8142912 | 7·0817832 | 8 | 5·8035089 | 7·0678881 | 8 | 5·7926428 | 7·0537893 |
| 9 | 5·8045221 | 7·0715374 | 9 | 5·7937398 | 7·0576676 | 9 | 5·7828737 | 7·0435941 |
| 10 | 5·7952197 | 7·0612375 | 10 | 5·7844374 | 7·0473948 | 10 | 5·7735713 | 7·0333481 |
| 11 | 5·7862525 | 7·0508521 | 11 | 5·7754702 | 7·0370379 | 11 | 5·7646041 | 7·0230190 |
| 12 | 5·7775012 | 7·0403551 | 12 | 5·7667189 | 7·0265708 | 12 | 5·7558528 | 7·0125821 |
| 13 | 5·7688590 | 7·0297262 | 13 | 5·7580767 | 7·0159734 | 13 | 5·7472106 | 7·0020152 |
| 14 | 5·7602311 | 7·0189495 | 14 | 5·7494488 | 7·0052299 | 14 | 5·7385827 | 6·9913038 |
| 15 | 5·7515349 | 7·0080139 | 15 | 5·7407526 | 6·9943282 | 15 | 5·7298865 | 6·9804360 |
| 16 | 5·7427001 | 6·9969117 | 16 | 5·7319178 | 6·9832613 | 16 | 5·7210517 | 6·9694045 |
| 17 | 5·7336687 | 6·9856390 | 17 | 5·7228864 | 6·9720256 | 17 | 5·7120203 | 6·9582055 |
| 18 | 5·7243949 | 6·9741950 | 18 | 5·7136126 | 6·9606203 | 18 | 5·7027465 | 6·9468385 |
| 19 | 5·7148450 | 6·9625819 | 19 | 5·7040627 | 6·9490474 | 19 | 5·6931966 | 6·9353057 |
| 20 | 5·7049976 | 6·9508034 | 20 | 5·6942153 | 6·9373109 | 20 | 5·6833492 | 6·9236110 |
| 21 | 5·6948436 | 6·9388652 | 21 | 5·6840613 | 6·9254164 | 21 | 5·6731952 | 6·9117602 |
| 22 | 5·6845920 | 6·9267739 | 22 | 5·6738097 | 6·9133706 | 22 | 5·6629436 | 6·8997602 |
| 23 | 5·6742464 | 6·9145234 | 23 | 5·6634641 | 6·9011677 | 23 | 5·6525980 | 6·8876048 |
| 24 | 5·6638094 | 6·9021076 | 24 | 5·6530271 | 6·8888014 | 24 | 5·6421610 | 6·8752882 |
| 25 | 5·6532837 | 6·8895203 | 25 | 5·6425014 | 6·8762645 | 25 | 5·6316353 | 6·8628031 |
| 26 | 5·6426710 | 6·8767536 | 26 | 5·6318887 | 6·8635505 | 26 | 5·6210226 | 6·8501419 |
| 27 | 5·6319730 | 6·8637999 | 27 | 5·6211907 | 6·8506508 | 27 | 5·6103246 | 6·8372972 |
| 28 | 5·6211907 | 6·8506508 | 28 | 5·6104084 | 6·8375570 | 28 | 5·5995423 | 6·8242599 |
| 29 | 5·6103246 | 6·8372972 | 29 | 5·5995423 | 6·8242599 | 29 | 5·5886762 | 6·8110209 |
| 30 | 5·5993747 | 6·8237298 | 30 | 5·5885924 | 6·8107501 | 30 | 5·5777263 | 6·7975702 |
| 31 | 5·5883408 | 6·8099387 | 31 | 5·5775585 | 6·7970171 | 31 | 5·5666924 | 6·7838976 |
| 32 | 5·5772220 | 6·7959128 | 32 | 5·5664397 | 6·7830506 | 32 | 5·5555736 | 6·7699920 |
| 33 | 5·5660169 | 6·7816409 | 33 | 5·5552346 | 6·7688383 | 33 | 5·5443685 | 6·7558420 |
| 34 | 5·5547238 | 6·7671111 | 34 | 5·5439415 | 6·7543684 | 34 | 5·5330754 | 6·7414346 |
| 35 | 5·5433404 | 6·7523106 | 35 | 5·5325581 | 6·7396279 | 35 | 5·5216920 | 6·7267569 |
| 36 | 5·5318639 | 6·7372259 | 36 | 5·5210816 | 6·7246033 | 36 | 5·5102155 | 6·7117952 |
| 37 | 5·5202913 | 6·7218429 | 37 | 5·5095090 | 6·7092798 | 37 | 5·4986429 | 6·6965346 |
| 38 | 5·5086188 | 6·7061457 | 38 | 5·4978365 | 6·6936423 | 38 | 5·4869704 | 6·6809596 |
| 39 | 5·4968423 | 6·6901187 | 39 | 5·4860600 | 6·6776739 | 39 | 5·4751939 | 6·6650537 |
| 40 | 5·4849573 | 6·6737439 | 40 | 5·4741750 | 6·6613574 | 40 | 5·4633089 | 6·6487985 |
| 41 | 5·4729586 | 6·6570028 | 41 | 5·4621763 | 6·6446735 | 41 | 5·4513102 | 6·6321755 |
| 42 | 5·4608407 | 6·6398752 | 42 | 5·4500584 | 6·6276021 | 42 | 5·4391923 | 6·6151643 |
| 43 | 5·4485976 | 6·6223399 | 43 | 5·4378153 | 6·6101214 | 43 | 5·4269492 | 6·5977425 |
| 44 | 5·4362229 | 6·6043724 | 44 | 5·4254406 | 6·5922085 | 44 | 5·4145745 | 6·5798865 |
| 45 | 5·4237095 | 6·5859480 | 45 | 5·4129272 | 6·5738363 | 45 | 5·4020611 | 6·5615715 |
| 46 | 5·4110502 | 6·5670392 | 46 | 5·4002679 | 6·5549782 | 46 | 5·3894018 | 6·5427680 |
| 47 | 5·3982370 | 6·5476147 | 47 | 5·3874547 | 6·5356038 | 47 | 5·3765886 | 6·5234467 |
| 48 | 5·3852616 | 6·5276420 | 48 | 5·3744793 | 6·5156790 | 48 | 5·3636132 | 6·5035743 |
| 49 | 5·3721151 | 6·5070838 | 49 | 5·3613328 | 6·4951677 | 49 | 5·3504667 | 6·4831130 |
| 50 | 5·3587884 | 6·4859006 | 50 | 5·3480061 | 6·4740289 | 50 | 5·3371400 | 6·4620228 |
| 51 | 5·3452716 | 6·4640460 | 51 | 5·3344893 | 6·4522180 | 51 | 5·3236232 | 6·4402583 |
| 52 | 5·3315545 | 6·4414703 | 52 | 5·3207722 | 6·4296839 | 52 | 5·3099061 | 6·4177698 |
| 53 | 5·3176264 | 6·4181164 | 53 | 5·3068441 | 6·4063708 | 53 | 5·2959780 | 6·3945001 |
| 54 | 5·3034763 | 6·3939208 | 54 | 5·2926940 | 6·3822141 | 54 | 5·2818279 | 6·3703854 |

## JOINT LIVES :—Two Females.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of ($y$) | 27 | | 28 | | | 29 | | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$) | $\lambda\ D_{x,\,27}$ | $\lambda\ N_{x,\,27}$ | Age of ($x$) | $\lambda\ D_{x,\,28}$ | $\lambda\ N_{x,\,28}$ | Age of ($x$) | $\lambda\ D_{x,\,29}$ | $\lambda\ N_{x,\,29}$ |
| 55 | 5·2884292 | 6·3688126 | 55 | 5·2776469 | 6·3571417 | 55 | 5·2667808 | 6·3453533 |
| 56 | 5·2728025 | 6·3427674 | 56 | 5·2620202 | 6·3311332 | 56 | 5·2511541 | 6·3193818 |
| 57 | 5·2565703 | 6·3157315 | 57 | 5·2457880 | 6·3041314 | 57 | 5·2349219 | 6·2924175 |
| 58 | 5·2396956 | 6·2876437 | 58 | 5·2289133 | 6·2760763 | 58 | 5·2180472 | 6·2643977 |
| 59 | 5·2221307 | 6·2584371 | 59 | 5·2113484 | 6·2469012 | 59 | 5·2004823 | 6·2352565 |
| 60 | 5·2038168 | 6·2280373 | 60 | 5·1930345 | 6·2165325 | 60 | 5·1821684 | 6·2049203 |
| 61 | 5·1846840 | 6·1963653 | 61 | 5·1739017 | 6·1848896 | 61 | 5·1630356 | 6·1733089 |
| 62 | 5·1646519 | 6·1633341 | 62 | 5·1538696 | 6·1518866 | 62 | 5·1430035 | 6·1403358 |
| 63 | 5·1436288 | 6·1288498 | 63 | 5·1328465 | 6·1174298 | 63 | 5·1219804 | 6·1059082 |
| 64 | 5·1215121 | 6·0928126 | 64 | 5·1107298 | 6·0814186 | 64 | 5·0998637 | 6·0699252 |
| 65 | 5·0981885 | 6·0551144 | 65 | 5·0874062 | 6·0437460 | 65 | 5·0765401 | 6·0322786 |
| 66 | 5·0735334 | 6·0156397 | 66 | 5·0627511 | 6·0042960 | 66 | 5·0518850 | 5·9928552 |
| 67 | 5·0474115 | 5·9742652 | 67 | 5·0366292 | 5·9629458 | 67 | 5·0257631 | 5·9515298 |
| 68 | 5·0196766 | 5·9308615 | 68 | 5·0088943 | 5·9195644 | 68 | 4·9980282 | 5·9081726 |
| 69 | 4·9901713 | 5·8852879 | 69 | 4·9793890 | 5·8740135 | 69 | 4·9685229 | 5·8626448 |
| 70 | 4·9587276 | 5·8373977 | 70 | 4·9479453 | 5·8261448 | 70 | 4·9370792 | 5·8147985 |
| 71 | 4·9251663 | 5·7870341 | 71 | 4·9143840 | 5·7758023 | 71 | 4·9035179 | 5·7644778 |
| 72 | 4·8892973 | 5·7340323 | 72 | 4·8785150 | 5·7228204 | 72 | 4·8676489 | 5·7115170 |
| 73 | 4·8509197 | 5·6782171 | 73 | 4·8401374 | 5·6670251 | 73 | 4·8292713 | 5·6557413 |
| 74 | 4·8098216 | 5·6194048 | 74 | 4·7990393 | 5·6082313 | 74 | 4·7881732 | 5·5969676 |
| 75 | 4·7657800 | 5·5574011 | 75 | 4·7549977 | 5·5462460 | 75 | 4·7441316 | 5·5350007 |
| 76 | 4·7185611 | 5·4920023 | 76 | 4·7077788 | 5·4808643 | 76 | 4·6969127 | 5·4696374 |
| 77 | 4·6679203 | 5·4229934 | 77 | 4·6571380 | 5·4118728 | 77 | 4·6462719 | 5·4006628 |
| 78 | 4·6136017 | 5·3501504 | 78 | 4·6028194 | 5·3390456 | 78 | 4·5919533 | 5·3278528 |
| 79 | 4·5553388 | 5·2732365 | 79 | 4·5445565 | 5·2621479 | 79 | 4·5336904 | 5·2509708 |
| 80 | 4·4928540 | 5·1920060 | 80 | 4·4820717 | 5·1809324 | 80 | 4·4712056 | 5·1697712 |
| 81 | 4·4258588 | 5·1062004 | 81 | 4·4150765 | 5·0951415 | 81 | 4·4042104 | 5·0839951 |
| 82 | 4·3540537 | 5·0155518 | 82 | 4·3432714 | 5·0045058 | 82 | 4·3324053 | 4·9933736 |
| 83 | 4·2771284 | 4·9197766 | 83 | 4·2663461 | 4·9087455 | 83 | 4·2554800 | 4·8976266 |
| 84 | 4·1947614 | 4·8185855 | 84 | 4·1839791 | 4·8075662 | 84 | 4·1731130 | 4·7964612 |
| 85 | 4·1066207 | 4·7116723 | 85 | 4·0958384 | 4·7006657 | 85 | 4·0849723 | 4·6895725 |
| 86 | 4·0123628 | 4·5987216 | 86 | 4·0015805 | 4·5877267 | 86 | 3·9907144 | 4·5766453 |
| 87 | 3·9116337 | 4·4794038 | 87 | 3·9008514 | 4·4684199 | 87 | 3·8899853 | 4·4573504 |
| 88 | 3·8040683 | 4·3533791 | 88 | 3·7932860 | 4·3424059 | 88 | 3·7824199 | 4·3313471 |
| 89 | 3·6892905 | 4·2202930 | 89 | 3·6785082 | 4·2093305 | 89 | 3·6676421 | 4·1982823 |
| 90 | 3·5669134 | 4·0797798 | 90 | 3·5561311 | 4·0688268 | 90 | 3·5452650 | 4·0577889 |
| 91 | 3·4365391 | 3·9314584 | 91 | 3·4257568 | 3·9205151 | 91 | 3·4148907 | 3·9094865 |
| 92 | 3·2977587 | 3·7749343 | 92 | 3·2869764 | 3·7639997 | 92 | 3·2761103 | 3·7529806 |
| 93 | 3·1501525 | 3·6097960 | 93 | 3·1393702 | 3·5988704 | 93 | 3·1285041 | 3·5878590 |
| 94 | 2·9932896 | 3·4356129 | 94 | 2·9825073 | 3·4246955 | 94 | 2·9716412 | 3·4136935 |
| 95 | 2·8267284 | 3·2519279 | 95 | 2·8159461 | 3·2410179 | 95 | 2·8050800 | 3·2300242 |
| 96 | 2·6500164 | 3·0582472 | 96 | 2·6392341 | 3·0473458 | 96 | 2·6283680 | 3·0363590 |
| 97 | 2·4626899 | 2·8540205 | 97 | 2·4519076 | 2·8431262 | 97 | 2·4410415 | 2·8321479 |
| 98 | 2·2642746 | 2·6385961 | 98 | 2·2534923 | 2·6277089 | 98 | 2·2426262 | 2·6167380 |
| 99 | 2·0542848 | 2·4111330 | 99 | 2·0435025 | 2·4002564 | 99 | 2·0326364 | 2·3892920 |
| 100 | 1·8322243 | 2·1704269 | 100 | 1·8214420 | 2·1595576 | 100 | 1·8105759 | 2·1486046 |
| 101 | 1·5975858 | 1·9144965 | 101 | 1·5868035 | 1·9036374 | 101 | 1·5759374 | 1·8926939 |
| 102 | 1·3498510 | 1·6396339 | 102 | 1·3390687 | 1·6287873 | 102 | 1·3282026 | 1·6178566 |
| 103 | 1·0884907 | 1·3378884 | 103 | 1·0777084 | 1·3270584 | 103 | 1·0668423 | 1·3161424 |
| 104 | 0·8129649 | 0·9890581 | 104 | 0·8021826 | 0·9782490 | 104 | 0·7913165 | 0·9673561 |
| 105 | 0·5227223 | | 105 | 0·5119400 | | 105 | 0·5010739 | |
| 106 | 0·2172011 | | 106 | 0·2064188 | | 106 | 0·1955527 | |
| 107 | 9·8958282 | | 107 | 9·8850459 | | 107 | 9·8741798 | |
| 108 | 9·5580198 | | 108 | 9·5472375 | | 108 | 9·5363714 | |
| 109 | 9·2031810 | | 109 | 9·1923987 | | 109 | 9·1815326 | |

## JOINT LIVES :—Two Females.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of ($y$) | 30 | | 31 | | | 32 | | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$) | $\lambda\ D_{x,\,30}$ | $\lambda\ N_{x,\,30}$ | Age of ($x$) | $\lambda\ D_{x,\,31}$ | $\lambda\ N_{x,\,31}$ | Age of ($x$) | $\lambda\ D_{x,\,32}$ | $\lambda\ N_{x,\,32}$ |
| 0 | 5·9720347 | 7·1322165 | 0 | 5·9610008 | 7·1176394 | 0 | 5·9498820 | 7·1028393 |
| 1 | 5·9027765 | 7·1157097 | 1 | 5·8917426 | 7·1010941 | 1 | 5·8806238 | 7·0862526 |
| 2 | 5·8685989 | 7·1028855 | 2 | 5·8575650 | 7·0882623 | 2 | 5·8464462 | 7·0734119 |
| 3 | 5·8465357 | 7·0914144 | 3 | 5·8355018 | 7·0767955 | 3 | 5·8243830 | 7·0619491 |
| 4 | 5·8294881 | 7·0805796 | 4 | 5·8184542 | 7·0659717 | 4 | 5·8073354 | 7·0511355 |
| 5 | 5·8153217 | 7·0701011 | 5 | 5·8042878 | 7·0555087 | 5 | 5·7931690 | 7·0406874 |
| 6 | 5·8030982 | 7·0598227 | 6 | 5·7920643 | 7·0452486 | 6 | 5·7809455 | 7·0304456 |
| 7 | 5·7920724 | 7·0496374 | 7 | 5·7810385 | 7·0350841 | 7 | 5·7699197 | 7·0203020 |
| 8 | 5·7816929 | 7·0394788 | 8 | 5·7706590 | 7·0249485 | 8 | 5·7595402 | 7·0101884 |
| 9 | 5·7719238 | 7·0293087 | 9 | 5·7608899 | 7·0148026 | 9 | 5·7497711 | 7·0000669 |
| 10 | 5·7626214 | 7·0190889 | 10 | 5·7515875 | 7·0046090 | 10 | 5·7404687 | 6·9898988 |
| 11 | 5·7536542 | 7·0087878 | 11 | 5·7426203 | 6·9943354 | 11 | 5·7315015 | 6·9796526 |
| 12 | 5·7449029 | 6·9983797 | 12 | 5·7338690 | 6·9839562 | 12 | 5·7227502 | 6·9693017 |
| 13 | 5·7362607 | 6·9878439 | 13 | 5·7252268 | 6·9734502 | 13 | 5·7141080 | 6·9588256 |
| 14 | 5·7276328 | 6·9771642 | 14 | 5·7165989 | 6·9628022 | 14 | 5·7054801 | 6·9482084 |
| 15 | 5·7189366 | 6·9663297 | 15 | 5·7079027 | 6·9520005 | 15 | 5·6967839 | 6·9374392 |
| 16 | 5·7101018 | 6·9553330 | 16 | 5·6990679 | 6·9410381 | 16 | 5·6879491 | 6·9265106 |
| 17 | 5·7010704 | 6·9441703 | 17 | 5·6900365 | 6·9299113 | 17 | 5·6789177 | 6·9154192 |
| 18 | 5·6917966 | 6·9328414 | 18 | 5·6807627 | 6·9186200 | 18 | 5·6696439 | 6·9041648 |
| 19 | 5·6822467 | 6·9213482 | 19 | 5·6712128 | 6·9071662 | 19 | 5·6600940 | 6·8927500 |
| 20 | 5·6723993 | 6·9096952 | 20 | 5·6613654 | 6·8955543 | 20 | 5·6502466 | 6·8811790 |
| 21 | 5·6622453 | 6·8978880 | 21 | 5·6512114 | 6·8837906 | 21 | 5·6400926 | 6·8694581 |
| 22 | 5·6519937 | 6·8859336 | 22 | 5·6409598 | 6·8718817 | 22 | 5·6298410 | 6·8575945 |
| 23 | 5·6416481 | 6·8738261 | 23 | 5·6306142 | 6·8598219 | 23 | 5·6194954 | 6·8455823 |
| 24 | 5·6312111 | 6·8615592 | 24 | 5·6201772 | 6·8476050 | 24 | 5·6090584 | 6·8334153 |
| 25 | 5·6206854 | 6·8491261 | 25 | 5·6096515 | 6·8352240 | 25 | 5·5985327 | 6·8210865 |
| 26 | 5·6100727 | 6·8365190 | 26 | 5·5990388 | 6·8226714 | 26 | 5·5879200 | 6·8085884 |
| 27 | 5·5993747 | 6·8237298 | 27 | 5·5883408 | 6·8099387 | 27 | 5·5772220 | 6·7959128 |
| 28 | 5·5885924 | 6·8107501 | 28 | 5·5775585 | 6·7970171 | 28 | 5·5664397 | 6·7830506 |
| 29 | 5·5777263 | 6·7975702 | 29 | 5·5666924 | 6·7838976 | 29 | 5·5555736 | 6·7699920 |
| 30 | 5·5667764 | 6·7841804 | 30 | 5·5557425 | 6·7705698 | 30 | 5·5446237 | 6·7567275 |
| 31 | 5·5557425 | 6·7705698 | 31 | 5·5447086 | 6·7570230 | 31 | 5·5335898 | 6·7432457 |
| 32 | 5·5446237 | 6·7567275 | 32 | 5·5335898 | 6·7432457 | 32 | 5·5224710 | 6·7295351 |
| 33 | 5·5334186 | 6·7426413 | 33 | 5·5223847 | 6·7292258 | 33 | 5·5112659 | 6·7155835 |
| 34 | 5·5221255 | 6·7282991 | 34 | 5·5110916 | 6·7149505 | 34 | 5·4999728 | 6·7013779 |
| 35 | 5·5107421 | 6·7136870 | 35 | 5·4997082 | 6·7004069 | 35 | 5·4885894 | 6·6869045 |
| 36 | 5·4992656 | 6·6987911 | 36 | 5·4882317 | 6·6855798 | 36 | 5·4771129 | 6·6721492 |
| 37 | 5·4876930 | 6·6835966 | 37 | 5·4766591 | 6·6704543 | 37 | 5·4655403 | 6·6570959 |
| 38 | 5·4760205 | 6·6680875 | 38 | 5·4649866 | 6·6550146 | 38 | 5·4538678 | 6·6417283 |
| 39 | 5·4642440 | 6·6522470 | 39 | 5·4532101 | 6·6392432 | 39 | 5·4420913 | 6·6260298 |
| 40 | 5·4523590 | 6·6360574 | 40 | 5·4413251 | 6·6231223 | 40 | 5·4302063 | 6·6099815 |
| 41 | 5·4403603 | 6·6194988 | 41 | 5·4293264 | 6·6066325 | 41 | 5·4182076 | 6·5935638 |
| 42 | 5·4282424 | 6·6025514 | 42 | 5·4172085 | 6·5897526 | 42 | 5·4060897 | 6·5767560 |
| 43 | 5·4159993 | 6·5851925 | 43 | 5·4049654 | 6·5724606 | 43 | 5·3938466 | 6·5595348 |
| 44 | 5·4036246 | 6·5673983 | 44 | 5·3925907 | 6·5547324 | 44 | 5·3814719 | 6·5418768 |
| 45 | 5·3911112 | 6·5491431 | 45 | 5·3800773 | 6·5365418 | 45 | 5·3689585 | 6·5237553 |
| 46 | 5·3784519 | 6·5303992 | 46 | 5·3674180 | 6·5178607 | 46 | 5·3562992 | 6·5051421 |
| 47 | 5·3656387 | 6·5111352 | 47 | 5·3546048 | 6·4986590 | 47 | 5·3434860 | 6·4860062 |
| 48 | 5·3526633 | 6·4913182 | 48 | 5·3416294 | 6·4789018 | 48 | 5·3305106 | 6·4663144 |
| 49 | 5·3395168 | 6·4709116 | 49 | 5·3284829 | 6·4585532 | 49 | 5·3173641 | 6·4460283 |
| 50 | 5·3261901 | 6·4498736 | 50 | 5·3151562 | 6·4375725 | 50 | 5·3040374 | 6·4251084 |
| 51 | 5·3126733 | 6·4281601 | 51 | 5·3016394 | 6·4159134 | 51 | 5·2905206 | 6·4035092 |
| 52 | 5·2989562 | 6·4057197 | 52 | 5·2879223 | 6·3935265 | 52 | 5·2768035 | 6·3811788 |
| 53 | 5·2850281 | 6·3824972 | 53 | 5·2739942 | 6·3703539 | 53 | 5·2628754 | 6·3580621 |
| 54 | 5·2708780 | 6·3584277 | 54 | 5·2598441 | 6·3463336 | 54 | 5·2487253 | 6·3340939 |

## JOINT LIVES:—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 30 | | 31 | | | 32 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,30}$ | λ $N_{x,\,30}$ | Age of (x) | λ $D_{x,\,31}$ | λ $N_{x,\,31}$ | Age of (x) | λ $D_{x,\,32}$ | λ $N_{x,\,32}$ |
| 55 | 5·2558309 | 6·3334392 | 55 | 5·2447970 | 6·3213919 | 55 | 5·2336782 | 6·3092034 |
| 56 | 5·2402042 | 6·3075092 | 56 | 5·2291703 | 6·2955073 | 56 | 5·2180515 | 6.2833675 |
| 57 | 5·2239720 | 6·2805836 | 57 | 5·2129381 | 6·2686248 | 57 | 5·2018193 | 6·2565320 |
| 58 | 5·2070973 | 6·2526028 | 58 | 5·1960634 | 6·2406840 | 58 | 5·1849446 | 6·2286360 |
| 59 | 5·1895324 | 6·2234977 | 59 | 5·1784985 | 6·2116191 | 59 | 5·1673797 | 6·1996129 |
| 60 | 5·1712185 | 6·1931964 | 60 | 5·1601846 | 6·1813553 | 60 | 5·1490658 | 6·1693905 |
| 61 | 5·1520857 | 6·1616186 | 61 | 5·1410518 | 6·1498137 | 61 | 5·1299330 | 6·1378878 |
| 62 | 5·1320536 | 6·1286781 | 62 | 5·1210197 | 6·1169075 | 62 | 5·1099009 | 6·1050191 |
| 63 | 5·1110305 | 6·0942810 | 63 | 5·0999966 | 6·0825438 | 63 | 5·0888778 | 6·0706905 |
| 64 | 5·0889138 | 6·0583277 | 64 | 5·0778799 | 6·0466220 | 64 | 5·0667611 | 6·0348028 |
| 65 | 5·0655902 | 6·0207101 | 65 | 5·0545563 | 6·0090346 | 65 | 5·0434375 | 5·9972483 |
| 66 | 5·0409351 | 5·9813129 | 66 | 5·0299012 | 5·9696670 | 66 | 5·0187824 | 5·9579117 |
| 67 | 5·0148132 | 5·9400147 | 67 | 5·0037793 | 5·9283959 | 67 | 4·9926605 | 5·9166704 |
| 68 | 4·9870783 | 5·8966827 | 68 | 4·9760444 | 5·8850911 | 68 | 4·9649256 | 5·8733940 |
| 69 | 4·9575730 | 5·8511792 | 69 | 4·9465391 | 5·8396135 | 69 | 4·9354203 | 5·8279436 |
| 70 | 4·9261293 | 5·8033566 | 70 | 4·9150954 | 5·7918154 | 70 | 4·9039766 | 5·7801716 |
| 71 | 4·8925680 | 5·7530581 | 71 | 4·8815341 | 5·7415409 | 71 | 4·8704153 | 5·7299222 |
| 72 | 4·8566990 | 5·7001191 | 72 | 4·8456651 | 5·6886244 | 72 | 4·8345463 | 5·6770298 |
| 73 | 4·8183214 | 5·6443648 | 73 | 4·8072875 | 5·6328920 | 73 | 4·7961687 | 5·6213201 |
| 74 | 4·7772233 | 5·5856107 | 74 | 4·7661894 | 5·5741593 | 74 | 4·7550706 | 5·5626094 |
| 75 | 4·7331817 | 5·5236637 | 75 | 4·7221478 | 5·5122321 | 75 | 4·7110290 | 5·5007037 |
| 76 | 4·6859628 | 5·4583189 | 76 | 4·6749289 | 5·4469072 | 76 | 4·6638101 | 5·4353987 |
| 77 | 4·6353220 | 5·3893626 | 77 | 4·6242881 | 5·3779693 | 77 | 4·6131693 | 5·3664807 |
| 78 | 4·5810034 | 5·3165694 | 78 | 4·5699695 | 5·3051944 | 78 | 4·5588507 | 5·2937239 |
| 79 | 4·5227405 | 5·2397046 | 79 | 4·5117066 | 5·2283460 | 79 | 4·5005878 | 5·2168942 |
| 80 | 4·4602557 | 5·1585202 | 80 | 4·4492218 | 5·1471790 | 80 | 4·4381030 | 5·1357431 |
| 81 | 4·3932605 | 5·0727600 | 81 | 4·3822266 | 5·0614337 | 81 | 4·3711078 | 5·0500154 |
| 82 | 4·3214554 | 4·9821532 | 82 | 4·3104215 | 4·9708427 | 82 | 4·2993027 | 4·9594392 |
| 83 | 4·2445301 | 4·8864196 | 83 | 4·2334962 | 4·8751238 | 83 | 4·2223774 | 4·8637362 |
| 84 | 4·1621631 | 4·7852679 | 84 | 4·1511292 | 4·7739853 | 84 | 4·1400104 | 4·7626119 |
| 85 | 4·0740224 | 4·6783927 | 85 | 4·0629885 | 4·6671231 | 35 | 4·0518697 | 4·6557635 |
| 86 | 3·9797645 | 4·5654773 | 86 | 3·9687306 | 4·5542208 | 86 | 3·9576118 | 4·5428740 |
| 87 | 3·8790354 | 4·4461943 | 87 | 3·8680015 | 4·4349498 | 87 | 3·8568827 | 4·4236153 |
| 88 | 3·7714700 | 4·3202022 | 88 | 3·7604361 | 4·3089693 | 88 | 3·7493173 | 4·2976467 |
| 89 | 3·6566922 | 4·1871478 | 89 | 3·6456583 | 4·1759259 | 89 | 3·6345395 | 4·1646146 |
| 90 | 3·5343151 | 4·0466645 | 90 | 3·5232812 | 4·0354530 | 90 | 3·5121624 | 4·0241527 |
| 91 | 3·4039408 | 3·8983725 | 91 | 3·3929069 | 3·8871704 | 91 | 3·3817881 | 3·8758805 |
| 92 | 3·2651604 | 3·7418753 | 92 | 3·2541265 | 3·7306846 | 92 | 3·2430077 | 3·7194034 |
| 93 | 3·1175542 | 3·5767640 | 93 | 3·1065203 | 3·5655810 | 93 | 3·0954015 | 3·5543110 |
| 94 | 2·9606913 | 3·4026057 | 94 | 2·9496574 | 3·3914318 | 94 | 2·9385386 | 3·3801698 |
| 95 | 2·7941301 | 3·2189452 | 95 | 2·7830962 | 3·2077795 | 95 | 2·7719774 | 3·1965263 |
| 96 | 2·6174181 | 3·0252883 | 96 | 2·6063842 | 3·0141315 | 96 | 2·5952654 | 3·0028863 |
| 97 | 2·4300916 | 2·8210843 | 97 | 2·4190577 | 2·8099359 | 97 | 2·4079389 | 2·7986997 |
| 98 | 2·2316763 | 2·6056832 | 98 | 2·2206424 | 2·5945417 | 98 | 2·2095236 | 2·5833145 |
| 99 | 2·0216865 | 2·3782452 | 99 | 2·0106526 | 2·3671135 | 99 | 1·9995338 | 2·3558940 |
| 100 | 1·7996260 | 2·1375664 | 100 | 1·7885921 | 2·1264428 | 100 | 1·7774733 | 2·1152333 |
| 101 | 1·5649875 | 1·8816671 | 101 | 1·5539536 | 1·8705543 | 101 | 1·5428348 | 1·8593545 |
| 102 | 1·3172527 | 1·6068402 | 102 | 1·3062188 | 1·5957420 | 102 | 1·2951000 | 1·5845563 |
| 103 | 1·0558924 | 1·3051449 | 103 | 1·0448585 | 1·2940582 | 103 | 1·0337397 | 1·2828916 |
| 104 | 0·7803666 | 0·9563750 | 104 | 0·7693327 | 0·9453159 | 104 | 0·7582139 | 0·9341650 |
| 105 | 0·4901240 | | 105 | 0·4790901 | | 105 | 0·4679713 | |
| 106 | 0·1846028 | | 106 | 0·1735689 | | 106 | 0·1624501 | |
| 107 | 9·8632299 | | 107 | 9·8521960 | | 107 | 9·8410772 | |
| 108 | 9·5254215 | | 108 | 9·5143876 | | 108 | 9·5032688 | |
| 109 | 9·1705827 | | 109 | 9·1595488 | | 109 | 9·1484300 | |

## JOINT LIVES:—Two Females.

### Logarithms of the Series $D_{x, y}$ and $N_{x, y}$.

| Age of ($y$) | 33 | | 34 | | | 35 | | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$) | λ $D_{x, 33}$ | λ $N_{x, 33}$ | Age of ($x$) | λ $D_{x, 34}$ | λ $N_{x, 34}$ | Age of ($x$) | λ $D_{x, 35}$ | λ $N_{x, 35}$ |
| 0 | 5·9386769 | 7·0878063 | 0 | 5·9273838 | 7·0725297 | 0 | 5·9160004 | 7·0569973 |
| 1 | 5·8694187 | 7·0711755 | 1 | 5·8581256 | 7·0558517 | 1 | 5·8467422 | 7·0402692 |
| 2 | 5·8352411 | 7·0583243 | 2 | 5·8239480 | 7·0429888 | 2 | 5·8125646 | 7·0273933 |
| 3 | 5·8131779 | 7·0468645 | 3 | 5·8018848 | 7·0315308 | 3 | 5·7905014 | 7·0159366 |
| 4 | 5·7961303 | 7·0360609 | 4 | 5·7848372 | 7·0207370 | 4 | 5·7734538 | 7·0051518 |
| 5 | 5·7819639 | 7·0256274 | 5 | 5·7706708 | 7·0103179 | 5 | 5·7592874 | 6·9947460 |
| 6 | 5·7697404 | 7·0154034 | 6 | 5·7584473 | 7·0001112 | 6 | 5·7470639 | 6·9845573 |
| 7 | 5·7587146 | 7·0052801 | 7 | 5·7474215 | 6·9900078 | 7 | 5·7360381 | 6·9744737 |
| 8 | 5·7483351 | 6·9951888 | 8 | 5·7370420 | 6·9799388 | 8 | 5·7256586 | 6·9644262 |
| 9 | 5·7385660 | 6·9850913 | 9 | 5·7272729 | 6·9698650 | 9 | 5·7158895 | 6·9543760 |
| 10 | 5·7292636 | 6·9749486 | 10 | 5·7179705 | 6·9597475 | 10 | 5·7065871 | 6·9442838 |
| 11 | 5·7202964 | 6·9647291 | 11 | 5·7090033 | 6·9495545 | 11 | 5·6976199 | 6·9341169 |
| 12 | 5·7115451 | 6·9544063 | 12 | 5·7002520 | 6·9392594 | 12 | 5·6888686 | 6·9238492 |
| 13 | 5·7029029 | 6·9439596 | 13 | 5·6916098 | 6·9288416 | 13 | 5·6802264 | 6·9134598 |
| 14 | 5·6942750 | 6·9333731 | 14 | 5·6829819 | 6·9182852 | 14 | 5·6715985 | 6·9029331 |
| 15 | 5·6855788 | 6·9226356 | 15 | 5·6742857 | 6·9075791 | 15 | 5·6629023 | 6·8922578 |
| 16 | 5·6767440 | 6·9117403 | 16 | 5·6654509 | 6·8967163 | 16 | 5·6540675 | 6·8814272 |
| 17 | 5·6677126 | 6·9006837 | 17 | 5·6564195 | 6·8856940 | 17 | 5·6450361 | 6·8704383 |
| 18 | 5·6584388 | 6·8894658 | 18 | 5·6471457 | 6·8745119 | 18 | 5·6357623 | 6·8592915 |
| 19 | 5·6488889 | 6·8980891 | 19 | 5·6375958 | 6·8631729 | 19 | 5·6262124 | 6·8479896 |
| 20 | 5·6390415 | 6·8665586 | 20 | 5·6277484 | 6·8516820 | 20 | 5·6163650 | 6·8365377 |
| 21 | 5·6288875 | 6·8548803 | 21 | 5·6175944 | 6·8400457 | 21 | 5·6062110 | 6·8249427 |
| 22 | 5·6186359 | 6·8430614 | 22 | 5·6073428 | 6·8282713 | 22 | 5·5959594 | 6·8132120 |
| 23 | 5·6082903 | 6·8310966 | 23 | 5·5969972 | 6·8163532 | 23 | 5·5856138 | 6·8013404 |
| 24 | 5·5978533 | 6·8189793 | 24 | 5·5865602 | 6·8042854 | 24 | 5·5751768 | 6·7893214 |
| 25 | 5·5873276 | 6·8067028 | 25 | 5·5760345 | 6·7920609 | 25 | 5·5646511 | 6·7771487 |
| 26 | 5·5767149 | 6·7942594 | 26 | 5·5654218 | 6·7796722 | 26 | 5·5540384 | 6·7648145 |
| 27 | 5·5660169 | 6·7816409 | 27 | 5·5547238 | 6·7671111 | 27 | 5·5433404 | 6.7523106 |
| 28 | 5·5552346 | 6·7688383 | 28 | 5·5439415 | 6·7543684 | 28 | 5·5325581 | 6·7396279 |
| 29 | 5·5443685 | 6·7558420 | 29 | 5·5330754 | 6·7414346 | 29 | 5·5216920 | 6·7267569 |
| 30 | 5·5334186 | 6·7426413 | 30 | 5·5221255 | 6·7282991 | 30 | 5·5107421 | 6·7136870 |
| 31 | 5·5223847 | 6·7292258 | 31 | 5·5110916 | 6·7149505 | 31 | 5·4997082 | 6·7004069 |
| 32 | 5·5112659 | 6·7155835 | 32 | 5·4999728 | 6·7013779 | 32 | 5·4885894 | 6·6869045 |
| 33 | 5·5000608 | 6·7017019 | 33 | 5·4887677 | 6·6875679 | 33 | 5·4773843 | 6·6731676 |
| 34 | 5·4887677 | 6·6875679 | 34 | 5·4774746 | 6·6735073 | 34 | 5·4660912 | 6·6591822 |
| 35 | 5·4773843 | 6·6731676 | 35 | 5·4660912 | 6·6591822 | 35 | 5·4547078 | 6·6449341 |
| 36 | 5·4659078 | 6·6584860 | 36 | 5·4546147 | 6·6445773 | 36 | 5·4432313 | 6·6304081 |
| 37 | 5·4543352 | 6·6435080 | 37 | 5·4430421 | 6·6296768 | 37 | 5·4316587 | 6·6155882 |
| 38 | 5·4426627 | 6·6282164 | 38 | 5·4313696 | 6·6144643 | 38 | 5·4199862 | 6·6004569 |
| 39 | 5·4308862 | 6·6125936 | 39 | 5·4195931 | 6·5989213 | 39 | 5·4082097 | 6·5849970 |
| 40 | 5·4190012 | 6·5966219 | 40 | 5·4077081 | 6·5830289 | 40 | 5·3963247 | 6·5691884 |
| 41 | 5·4070025 | 6·5802803 | 41 | 5·3957094 | 6·5667676 | 41 | 5·3843260 | 6·5530105 |
| 42 | 5·3948846 | 6·5635480 | 42 | 5·3835915 | 6·5501152 | 42 | 5·3722081 | 6·5364427 |
| 43 | 5·3826415 | 6·5464026 | 43 | 5·3713484 | 6·5330494 | 43 | 5·3599650 | 6·5194606 |
| 44 | 5·3702668 | 6·5288187 | 44 | 5·3589737 | 6·5155451 | 44 | 5·3475903 | 6·5020398 |
| 45 | 5·3577534 | 6·5107710 | 45 | 5·3464603 | 6·4975752 | 45 | 5·3350769 | 6·4841534 |
| 46 | 5·3450941 | 6·4922304 | 46 | 5·3338010 | 6·4791118 | 46 | 5·3224176 | 6·4657718 |
| 47 | 5·3322809 | 6·4731655 | 47 | 5·3209878 | 6·4601233 | 47 | 5·3096044 | 6·4468641 |
| 48 | 5·3193055 | 6·4535428 | 48 | 5·3080124 | 6·4405749 | 48 | 5·2966290 | 6·4273960 |
| 49 | 5·3061590 | 6·4333252 | 49 | 5·2948659 | 6·4204298 | 49 | 5·2834825 | 6·4073289 |
| 50 | 5·2928323 | 6·4124708 | 50 | 5·2815392 | 6·3996470 | 50 | 5·2701558 | 6·3866222 |
| 51 | 5·2793155 | 6·3909349 | 51 | 5·2680224 | 6·3781800 | 51 | 5·2566390 | 6·3652302 |
| 52 | 5·2655984 | 6·3686674 | 52 | 5·2543053 | 6·3559787 | 52 | 5·2429219 | 6·3431008 |
| 53 | 5·2516703 | 6·3456098 | 53 | 5·2403772 | 6·3329867 | 53 | 5·2289938 | 6·3201781 |
| 54 | 5·2375202 | 6·3216998 | 54 | 5·2262271 | 6·3091383 | 54 | 5·2148437 | 6·2963986 |

## JOINT LIVES :—Two Females.

## Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 33 | | | 34 | | | 35 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,33}$ | λ $N_{x,33}$ | Age of (x) | λ $D_{x,34}$ | λ $N_{x,34}$ | Age of (x) | λ $D_{x,35}$ | λ $N_{x,35}$ |
| 55 | 5·2224731 | 6·2968635 | 55 | 5·2111800 | 6·2843626 | 55 | 5·1997966 | 6·2716874 |
| 56 | 5·2068464 | 6·2710808 | 56 | 5·1955533 | 6·2586368 | 56 | 5·1841699 | 6·2460247 |
| 57 | 5·1906142 | 6·2442962 | 57 | 5·1793211 | 6·2319075 | 57 | 5·1679377 | 6·2193547 |
| 58 | 5·1737395 | 6·2164491 | 58 | 5·1624464 | 6·2041134 | 58 | 5·1510630 | 6·1916184 |
| 59 | 5·1561746 | 6·1874724 | 59 | 5·1448815 | 6·1751879 | 59 | 5·1334981 | 6·1627481 |
| 60 | 5·1378607 | 6·1572935 | 60 | 5·1265676 | 6·1450574 | 60 | 5·1151842 | 6·1326707 |
| 61 | 5·1187279 | 6·1258338 | 61 | 5·1074348 | 6·1136426 | 61 | 5·0960514 | 6·1013067 |
| 62 | 5·0986958 | 6·0930054 | 62 | 5·0874027 | 6·0808587 | 62 | 5·0760193 | 6·0685695 |
| 63 | 5·0776727 | 6·0587155 | 63 | 5·0663796 | 6·0466110 | 63 | 5·0549962 | 6·0343682 |
| 64 | 5·0555560 | 6·0228645 | 64 | 5·0442629 | 6·0107997 | 64 | 5·0328795 | 5·9986006 |
| 65 | 5·0322324 | 5·9853447 | 65 | 5·0209393 | 5·9733181 | 65 | 5·0095559 | 5·9611600 |
| 66 | 5·0075773 | 5·9460419 | 66 | 4·9962842 | 5·9340509 | 66 | 4·9849008 | 5·9219320 |
| 67 | 4·9814554 | 5·9048324 | 67 | 4·9701623 | 5·8928759 | 67 | 4·9587789 | 5·8807942 |
| 68 | 4·9537205 | 5·8615865 | 68 | 4·9424274 | 5·8496628 | 68 | 4·9310440 | 5·8376163 |
| 69 | 4·9242152 | 5·8161650 | 69 | 4·9129221 | 5·8042725 | 69 | 4·9015387 | 5·7922599 |
| 70 | 4·8927715 | 5·7684208 | 70 | 4·8814784 | 5·7565579 | 70 | 4·8700950 | 5·7445772 |
| 71 | 4·8592102 | 5·7181979 | 71 | 4·8479171 | 5·7063633 | 71 | 4·8365337 | 5·6944129 |
| 72 | 4·8233412 | 5·6653311 | 72 | 4·8120481 | 5·6535234 | 72 | 4·8006647 | 5·6416019 |
| 73 | 4·7849636 | 5·6096459 | 73 | 4·7736705 | 5·5978641 | 73 | 4·7622871 | 5·5859700 |
| 74 | 4·7438655 | 5·5509580 | 74 | 4·7325724 | 5·5392012 | 74 | 4·7211890 | 5·5273331 |
| 75 | 4·6998239 | 5·4890745 | 75 | 4·6885308 | 5·4773405 | 75 | 4·6771474 | 5·4654980 |
| 76 | 4·6526050 | 5·4237910 | 76 | 4·6413119 | 5·4120795 | 76 | 4·6299285 | 5·4002599 |
| 77 | 4·6019642 | 5·3548930 | 77 | 4·5906711 | 5·3432032 | 77 | 4·5792877 | 5·3314062 |
| 78 | 4·5476456 | 5·2821563 | 78 | 4·5363525 | 5·2704864 | 78 | 4·5249691 | 5·2587115 |
| 79 | 4·4893827 | 5·2053443 | 79 | 4·4780896 | 5·1936949 | 79 | 4·4667062 | 5·1819399 |
| 80 | 4·4268979 | 5·1242123 | 80 | 4·4156048 | 5·1125802 | 80 | 4·4042214 | 5·1008459 |
| 81 | 4·3599027 | 5·0385001 | 81 | 4·3486096 | 5·0268874 | 81 | 4·3372262 | 5·0151703 |
| 82 | 4·2880976 | 4·9479412 | 82 | 4·2768045 | 4·9363443 | 82 | 4·2654211 | 4·9246462 |
| 83 | 4·2111723 | 4·8522530 | 83 | 4·1998792 | 4·8406731 | 83 | 4·1884958 | 4·8289910 |
| 84 | 4·1288053 | 4·7511444 | 84 | 4·1175122 | 4·7395795 | 84 | 4·1061288 | 4·7279144 |
| 85 | 4·0406646 | 4·6443095 | 85 | 4·0293715 | 4·6327599 | 85 | 4·0179881 | 4·6211097 |
| 86 | 3·9464067 | 4·5314339 | 86 | 3·9351136 | 4·5198979 | 86 | 3·9237302 | 4·5082630 |
| 87 | 3·8456776 | 4·4121885 | 87 | 3·8343845 | 4·4006659 | 87 | 3·8230011 | 4·3890445 |
| 88 | 3·7381122 | 4·2862319 | 88 | 3·7268191 | 4·2747225 | 88 | 3·7154357 | 4·2631146 |
| 89 | 3·6233344 | 4·1532116 | 89 | 3·6120413 | 4·1417140 | 89 | 3·6006579 | 4·1301192 |
| 90 | 3·5009573 | 4·0127605 | 90 | 3·4896642 | 4·0012749 | 90 | 3·4782808 | 3·9896914 |
| 91 | 3·3705830 | 3·8644992 | 91 | 3·3592899 | 3·8530237 | 91 | 3·3479065 | 3·8414527 |
| 92 | 3·2318026 | 3·7080324 | 92 | 3·2205095 | 3·6965678 | 92 | 3·2091261 | 3·6850068 |
| 93 | 3·0841964 | 3·5429486 | 93 | 3·0729033 | 3·5314943 | 93 | 3·0615199 | 3·5199448 |
| 94 | 2·9273335 | 3·3688178 | 94 | 2·9160404 | 3·3573732 | 94 | 2·9046570 | 3·3458331 |
| 95 | 2·7607723 | 3·1851831 | 95 | 2·7494792 | 3·1737478 | 95 | 2·7380958 | 3·1622172 |
| 96 | 2·5840603 | 2·9915521 | 96 | 2·5727672 | 2·9801257 | 96 | 2·5613838 | 2·9686048 |
| 97 | 2·3967338 | 2·7873733 | 97 | 2·3854407 | 2·7759562 | 97 | 2·3740573 | 2·7644444 |
| 98 | 2·1983185 | 2·5719975 | 98 | 2·1870254 | 2·5605880 | 98 | 2·1756420 | 2·5490867 |
| 99 | 1·9883287 | 2·3445860 | 99 | 1·9770356 | 2·3331870 | 99 | 1·9656522 | 2·3216941 |
| 100 | 1·7662682 | 2·1039351 | 100 | 1·7549751 | 2·0925459 | 100 | 1·7435917 | 2·0810638 |
| 101 | 1·5316297 | 1·8480678 | 101 | 1·5203366 | 1·8366898 | 101 | 1·5089532 | 1·8252196 |
| 102 | 1·2838949 | 1·5732813 | 102 | 1·2726018 | 1·5619179 | 102 | 1·2612184 | 1·5504607 |
| 103 | 1·0225346 | 1·2716348 | 103 | 1·0112415 | 1·2602861 | 103 | 0·9998581 | 1·2488484 |
| 104 | 0·7470088 | 0·9229330 | 104 | 0·7357157 | 0·9116103 | 104 | 0·7243323 | 0·9001923 |
| 105 | 0·4567662 | | 105 | 0·4454731 | | 105 | 0·4340897 | |
| 106 | 0·1512450 | | 106 | 0·1399519 | | 106 | 0·1285685 | |
| 107 | 9·8298721 | | 107 | 9·8185790 | | 107 | 9·8071956 | |
| 108 | 9·4920637 | | 108 | 9·4807706 | | 108 | 9·4693872 | |
| 109 | 9·1372249 | | 109 | 9·1259318 | | 109 | 9·1145484 | |

## JOINT LIVES:—Two Females.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of ($y$) | 36 | | 37 | | | 38 | | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$) | $\lambda\ D_{x,\,36}$ | $\lambda\ N_{x,\,36}$ | Age of ($x$) | $\lambda\ D_{x,\,37}$ | $\lambda\ N_{x,\,37}$ | Age of ($x$) | $\lambda\ D_{x,\,38}$ | $\lambda\ N_{x,\,38}$ |
| 0 | 5·9045239 | 7·0411976 | 0 | 5·8929513 | 7·0251174 | 0 | 5·8812788 | 7·0087411 |
| 1 | 5·8352657 | 7·0244155 | 1 | 5·8236931 | 7·0082773 | 1 | 5·8120206 | 6·9918397 |
| 2 | 5·8010881 | 7·0115249 | 2 | 5·7895155 | 6·9953702 | 2 | 5·7778430 | 6·9789143 |
| 3 | 5·7790249 | 7·0000691 | 3 | 5·7674523 | 6·9839141 | 3 | 5·7557798 | 6·9674570 |
| 4 | 5·7619773 | 6·9892925 | 4 | 5·7504047 | 6·9731456 | 4 | 5·7387322 | 6·9566958 |
| 5 | 5·7478109 | 6·9789009 | 5 | 5·7362383 | 6·9627671 | 5 | 5·7245658 | 6·9463303 |
| 6 | 5·7355874 | 6·9687288 | 6 | 5·7240148 | 6·9526119 | 6 | 5·7123423 | 6·9361919 |
| 7 | 5·7245616 | 6·9586649 | 7 | 5·7129890 | 6·9425677 | 7 | 5·7013165 | 6·9261671 |
| 8 | 5·7141821 | 6·9486392 | 8 | 5·7026095 | 6·9325634 | 8 | 5·6909370 | 6·9161842 |
| 9 | 5·7044130 | 6·9386120 | 9 | 5·6928404 | 6·9225596 | 9 | 5·6811679 | 6·9062034 |
| 10 | 5·6951106 | 6·9285445 | 10 | 5·6835380 | 6·9125163 | 10 | 5·6718655 | 6·8961850 |
| 11 | 5·6861434 | 6·9184038 | 11 | 5·6745708 | 6·9024015 | 11 | 5·6628983 | 6·8860953 |
| 12 | 5·6773921 | 6·9081632 | 12 | 5·6658195 | 6·8921879 | 12 | 5·6541470 | 6·8759084 |
| 13 | 5·6687499 | 6·8978020 | 13 | 5·6571773 | 6·8818544 | 13 | 5·6455048 | 6·8656027 |
| 14 | 5·6601220 | 6·8873043 | 14 | 5·6485494 | 6·8713855 | 14 | 5·6368769 | 6·8551621 |
| 15 | 5·6514258 | 6·8766594 | 15 | 5·6398532 | 6·8607703 | 15 | 5·6281807 | 6·8445764 |
| 16 | 5·6425910 | 6·8658604 | 16 | 5·6310184 | 6·8500024 | 16 | 5·6193459 | 6·8338386 |
| 17 | 5·6335596 | 6·8549046 | 17 | 5·6219870 | 6·8390788 | 17 | 5·6103145 | 6·8229468 |
| 18 | 5·6242858 | 6·8437921 | 18 | 5·6127132 | 6·8280002 | 18 | 5·6010407 | 6·8119012 |
| 19 | 5·6147359 | 6·8325265 | 19 | 5·6031633 | 6·8167699 | 19 | 5·5914908 | 6·8007058 |
| 20 | 5·6048885 | 6·8211129 | 20 | 5·5933159 | 6·8053940 | 20 | 5·5816434 | 6·7893664 |
| 21 | 5·5947345 | 6·8095583 | 21 | 5·5831619 | 6·7938791 | 21 | 5·5714894 | 6·7778907 |
| 22 | 5·5844829 | 6·7978707 | 22 | 5·5729103 | 6·7822339 | 22 | 5·5612378 | 6·7662868 |
| 23 | 5·5741373 | 6·7860449 | 23 | 5·5625647 | 6·7704528 | 23 | 5·5508922 | 6·7545499 |
| 24 | 5·5637003 | 6·7740745 | 24 | 5·5521277 | 6·7585303 | 24 | 5·5404552 | 6·7426742 |
| 25 | 5·5531746 | 6·7619529 | 25 | 5·5416020 | 6·7464596 | 25 | 5·5299295 | 6·7306533 |
| 26 | 5·5425619 | 6·7496729 | 26 | 5·5309893 | 6·7342330 | 26 | 5·5193168 | 6·7184800 |
| 27 | 5·5318639 | 6·7372259 | 27 | 5·5202913 | 6·7218429 | 27 | 5·5086188 | 6·7061457 |
| 28 | 5·5210816 | 6·7246033 | 28 | 5·5095090 | 6·7092798 | 28 | 5·4978365 | 6·6936423 |
| 29 | 5·5102155 | 6·7117952 | 29 | 5·4986429 | 6·6965346 | 29 | 5·4869704 | 6·6809596 |
| 30 | 5·4992656 | 6·6987911 | 30 | 5·4876930 | 6·6835966 | 30 | 5·4760205 | 6·6680875 |
| 31 | 5·4882317 | 6·6855796 | 31 | 5·4766591 | 6·6704543 | 31 | 5·4649866 | 6·6550146 |
| 32 | 5·4771129 | 6·6721492 | 32 | 5·4655403 | 6·6570959 | 32 | 5·4538678 | 6·6417283 |
| 33 | 5·4659078 | 6·6584860 | 33 | 5·4543352 | 6·6435080 | 33 | 5·4426627 | 6·6282164 |
| 34 | 5·4546147 | 6·6445773 | 34 | 5·4430421 | 6·6296768 | 34 | 5·4313696 | 6·6144643 |
| 35 | 5·4432313 | 6·6304081 | 35 | 5·4316587 | 6·6155882 | 35 | 5·4199862 | 6·6004569 |
| 36 | 5·4317548 | 6·6159632 | 36 | 5·4201822 | 6·6012261 | 36 | 5·4085097 | 6·5861795 |
| 37 | 5·4201822 | 6·6012261 | 37 | 5·4086096 | 6·5865740 | 37 | 5·3969371 | 6·5716145 |
| 38 | 5·4085097 | 6·5861795 | 38 | 5·3969371 | 6·5716145 | 38 | 5·3852646 | 6·5567443 |
| 39 | 5·3967332 | 6·5708050 | 39 | 5·3851606 | 6·5563288 | 39 | 5·3734881 | 6·5415501 |
| 40 | 5·3848482 | 6·5550835 | 40 | 5·3732756 | 6·5406972 | 40 | 5·3616031 | 6·5260117 |
| 41 | 5·3728495 | 6·5389936 | 41 | 5·3612769 | 6·5246989 | 41 | 5·3496044 | 6·5101079 |
| 42 | 5·3607316 | 6·5225133 | 42 | 5·3491590 | 6·5083112 | 42 | 5·3374865 | 6·4938165 |
| 43 | 5·3484885 | 6·5056200 | 43 | 5·3369159 | 6·4915098 | 43 | 5·3252434 | 6·4771124 |
| 44 | 5·3361138 | 6·4882873 | 44 | 5·3245412 | 6·4742704 | 44 | 5·3128687 | 6·4599695 |
| 45 | 5·3236004 | 6·4704887 | 45 | 5·3120278 | 6·4565643 | 45 | 5·3003553 | 6·4423614 |
| 46 | 5·3109411 | 6·4521948 | 46 | 5·2993685 | 6·4383625 | 46 | 5·2876960 | 6·4242571 |
| 47 | 5·2981279 | 6·4333729 | 47 | 5·2865553 | 6·4196328 | 47 | 5·2748828 | 6·4056241 |
| 48 | 5·2851525 | 6·4139897 | 48 | 5·2735799 | 6·4003398 | 48 | 5·2619074 | 6·3864278 |
| 49 | 5·2720060 | 6·3940069 | 49 | 5·2604334 | 6·3804461 | 49 | 5·2487609 | 6·3666288 |
| 50 | 5·2586793 | 6·3733819 | 50 | 5·2471067 | 6·3599094 | 50 | 5·2354342 | 6·3461859 |
| 51 | 5·2451625 | 6·3520696 | 51 | 5·2335899 | 6·3386830 | 51 | 5·2219174 | 6·3250521 |
| 52 | 5·2314454 | 6·3300191 | 52 | 5·2198728 | 6·3167160 | 52 | 5·2082003 | 6·3031752 |
| 53 | 5·2175173 | 6·3071718 | 53 | 5·2059447 | 6·2939512 | 53 | 5·1942722 | 6·2804980 |
| 54 | 5·2033672 | 6·2834645 | 54 | 5·1917946 | 6·2703229 | 54 | 5·1801221 | 6·2569560 |

## JOINT LIVES:—Two Females.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 36 | | 37 | | | 38 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,36}$ | λ $N_{x,\,36}$ | Age of (x) | λ $D_{x,\,37}$ | λ $N_{x,\,37}$ | Age of (x) | λ $D_{x,\,38}$ | λ $N_{x,\,38}$ |
| 55 | 5·1883201 | 6·2588252 | 55 | 5·1767475 | 6·2457591 | 55 | 5·1650750 | 6·2324749 |
| 56 | 5·1726934 | 6·2332300 | 56 | 5·1611208 | 6·2202392 | 56 | 5·1494483 | 6·2070340 |
| 57 | 5·1564612 | 6·2066262 | 57 | 5·1448886 | 6·1937060 | 57 | 5·1332161 | 6·1805798 |
| 58 | 5·1395865 | 6·1789520 | 58 | 5·1280139 | 6·1661011 | 58 | 5·1163414 | 6·1530490 |
| 59 | 5·1220216 | 6·1501419 | 59 | 5·1104490 | 6·1373560 | 59 | 5·0987765 | 6·1243764 |
| 60 | 5·1037077 | 6·1201223 | 60 | 5·0921351 | 6·1073993 | 60 | 5·0804626 | 6·0944879 |
| 61 | 5·0845749 | 6·0888134 | 61 | 5·0730023 | 6·0761509 | 61 | 5·0613298 | 6·0633052 |
| 62 | 5·0645428 | 6·0561293 | 62 | 5·0529702 | 6·0435242 | 62 | 5·0412977 | 6·0307418 |
| 63 | 5·0435197 | 6·0219766 | 63 | 5·0319471 | 6·0094267 | 63 | 5·0202746 | 5·9967043 |
| 64 | 5·0214030 | 5·9862570 | 64 | 5·0098304 | 5·9737581 | 64 | 4·9981579 | 5·9610932 |
| 65 | 4·9980794 | 5·9488615 | 65 | 4·9865068 | 5·9364126 | 65 | 4·9748343 | 5·9238015 |
| 66 | 4·9734243 | 5·9096764 | 66 | 4·9618517 | 5·8972744 | 66 | 4·9501792 | 5·8847149 |
| 67 | 4·9473024 | 5·8685793 | 67 | 4·9357298 | 5·8562217 | 67 | 4·9240573 | 5·8437111 |
| 68 | 4·9195675 | 5·8254399 | 68 | 4·9079949 | 5·8131244 | 68 | 4·8963224 | 5·8006597 |
| 69 | 4·8900622 | 5·7801196 | 69 | 4·8784896 | 5·7678439 | 69 | 4·8668171 | 5·7554231 |
| 70 | 4·8586185 | 5·7324719 | 70 | 4·8470459 | 5·7202336 | 70 | 4·8353734 | 5·7078539 |
| 71 | 4·8250572 | 5·6823403 | 71 | 4·8134846 | 5·6701379 | 71 | 4·8018121 | 5·6577967 |
| 72 | 4·7891882 | 5·6295602 | 72 | 4·7776156 | 5·6173915 | 72 | 4·7659431 | 5·6050874 |
| 73 | 4·7508106 | 5·5739578 | 73 | 4·7392380 | 5·5618208 | 73 | 4·7275655 | 5·5495513 |
| 74 | 4·7097125 | 5·5153491 | 74 | 4·6981399 | 5·5032421 | 74 | 4·6864674 | 5·4910051 |
| 75 | 4·6656709 | 5·4535404 | 75 | 4·6540983 | 5·4414622 | 75 | 4·6424258 | 5·4292560 |
| 76 | 4·6184520 | 5·3883280 | 76 | 4·6068794 | 5·3762769 | 76 | 4·5952069 | 5·3641001 |
| 77 | 4·5678112 | 5·3194976 | 77 | 4·5562386 | 5·3074727 | 77 | 4·5445661 | 5·2953233 |
| 78 | 4·5134926 | 5·2468259 | 78 | 4·5019200 | 5·2348244 | 78 | 4·4902475 | 5·2227019 |
| 79 | 4·4552297 | 5·1700762 | 79 | 4·4436571 | 5·1580982 | 79 | 4·4319846 | 5·1459993 |
| 80 | 4·3927449 | 5·0890024 | 80 | 4·3811723 | 5·0770461 | 80 | 4·3694998 | 5·0649714 |
| 81 | 4·3257497 | 5·0033477 | 81 | 4·3141771 | 4·9914118 | 81 | 4·3025046 | 4·9793585 |
| 82 | 4·2539446 | 4·9128409 | 82 | 4·2423720 | 4·9009262 | 82 | 4·2306995 | 4·8888935 |
| 83 | 4·1770193 | 4·8172043 | 83 | 4·1654467 | 4·8053071 | 83 | 4·1537742 | 4·7932958 |
| 84 | 4·0946523 | 4·7161436 | 84 | 4·0830797 | 4·7042647 | 84 | 4·0714072 | 4·6922713 |
| 85 | 4·0065116 | 4·6093564 | 85 | 3·9949390 | 4·5974937 | 85 | 3·9832665 | 4·5855182 |
| 86 | 3·9122537 | 4·4965243 | 86 | 3·9006811 | 4·4846784 | 86 | 3·8890086 | 4·4727199 |
| 87 | 3·8115246 | 4·3773211 | 87 | 3·7999520 | 4·3654901 | 87 | 3·7882795 | 4·3535480 |
| 88 | 3·7039592 | 4·2514044 | 88 | 3·6923866 | 4·2395888 | 88 | 3·6807141 | 4·2276613 |
| 89 | 3·5891814 | 4·1184225 | 89 | 3·5776088 | 4·1066199 | 89 | 3·5659363 | 4·0947079 |
| 90 | 3·4668043 | 3·9780078 | 90 | 3·4552317 | 3·9662187 | 90 | 3·4435592 | 3·9543197 |
| 91 | 3·3364300 | 3·8297803 | 91 | 3·3248574 | 3·8180047 | 91 | 3·3131849 | 3·8061189 |
| 92 | 3·1976496 | 3·6733463 | 92 | 3·1860770 | 3·6615817 | 92 | 3·1744045 | 3·6497096 |
| 93 | 3·0500434 | 3·5082940 | 93 | 3·0384708 | 3·4965408 | 93 | 3·0267983 | 3·4846798 |
| 94 | 2·8931805 | 3·3341937 | 94 | 2·8816079 | 3·3224514 | 94 | 2·8699354 | 3·3106018 |
| 95 | 2·7266193 | 3·1505882 | 95 | 2·7150467 | 3·1388564 | 95 | 2·7033742 | 3·1270180 |
| 96 | 2·5499073 | 2·9569849 | 96 | 2·5383347 | 2·9452637 | 96 | 2·5266622 | 2·9334357 |
| 97 | 2·3625808 | 2·7528348 | 97 | 2·3510082 | 2·7411225 | 97 | 2·3393357 | 2·7293057 |
| 98 | 2·1641655 | 2·5374867 | 98 | 2·1525929 | 2·5257857 | 98 | 2·1409204 | 2·5139776 |
| 99 | 1·9541757 | 2·3101042 | 99 | 1·9426031 | 2·2984133 | 99 | 1·9309306 | 2·2866177 |
| 100 | 1·7321152 | 2·0694846 | 100 | 1·7205426 | 2·0578053 | 100 | 1·7088701 | 2·0460213 |
| 101 | 1·4974767 | 1·8136531 | 101 | 1·4859041 | 1·8019865 | 101 | 1·4742316 | 1·7902169 |
| 102 | 1·2497419 | 1·5389091 | 102 | 1·2381693 | 1·5272586 | 102 | 1·2264968 | 1·5155042 |
| 103 | 0·9883816 | 1·2373150 | 103 | 0·9768090 | 1·2256840 | 103 | 0·9651365 | 1·2139505 |
| 104 | 0·7128558 | 0·8886848 | 104 | 0·7012832 | 0·8770775 | 104 | 0·6896107 | 0·8653705 |
| 105 | 0·4226132 | | 105 | 0·4110406 | | 105 | 0·3993681 | |
| 106 | 0·1170920 | | 106 | 0·1055194 | | 106 | 0·0938469 | |
| 107 | 9·7957191 | | 107 | 9·7841465 | | 107 | 9·7724740 | |
| 108 | 9·4579107 | | 108 | 9·4463381 | | 108 | 9·4346656 | |
| 109 | 9·1030719 | | 109 | 9·0914993 | | 109 | 9·0798268 | |

## JOINT LIVES:—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 39 | | | 40 | | | 41 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,39}$ | λ $N_{x,\,39}$ | Age of (x) | λ $D_{x,\,40}$ | λ $N_{x,\,40}$ | Age of (x) | λ $D_{x,\,41}$ | λ $N_{x,\,41}$ |
| 0 | 5·8695023 | 6·9920543 | 0 | 5·8576173 | 6·9750399 | 0 | 5·8456186 | 6·9576802 |
| 1 | 5·8002441 | 6·9750869 | 1 | 5·7883591 | 6·9580019 | 1 | 5·7763604 | 6·9405665 |
| 2 | 5·7660665 | 6·9621415 | 2 | 5·7541815 | 6·9450344 | 2 | 5·7421828 | 6·9275744 |
| 3 | 5·7440033 | 6·9506816 | 3 | 5·7321183 | 6·9335712 | 3 | 5·7201196 | 6·9161066 |
| 4 | 5·7269557 | 6·9399275 | 4 | 5·7150707 | 6·9228228 | 4 | 5·7030720 | 6·9053641 |
| 5 | 5·7127893 | 6·9295745 | 5 | 5·7009043 | 6·9124825 | 5 | 5·6889056 | 6·8950353 |
| 6 | 5·7005658 | 6·9194528 | 6 | 5·6886808 | 6·9023771 | 6 | 5·6766821 | 6·8849465 |
| 7 | 5·6895400 | 6·9094471 | 7 | 5·6776550 | 6·8923909 | 7 | 5·6656563 | 6·8749794 |
| 8 | 5·6791605 | 6·8994857 | 8 | 5·6672755 | 6·8824507 | 8 | 5·6552768 | 6·8650607 |
| 9 | 5·6693914 | 6·8895281 | 9 | 5·6575064 | 6·8725162 | 9 | 5·6455077 | 6·8551491 |
| 10 | 5·6600890 | 6·8795339 | 10 | 5·6482040 | 6·8625465 | 10 | 5·6362053 | 6·8452038 |
| 11 | 5·6511218 | 6·8694700 | 11 | 5·6392368 | 6·8525079 | 11 | 5·6272381 | 6·8351908 |
| 12 | 5·6423705 | 6·8593091 | 12 | 5·6304855 | 6·8423734 | 12 | 5·6184868 | 6·8250824 |
| 13 | 5·6337283 | 6·8490306 | 13 | 5·6218433 | 6·8321217 | 13 | 5·6098446 | 6·8148576 |
| 14 | 5·6251004 | 6·8386184 | 14 | 5·6132154 | 6·8217374 | 14 | 5·6012167 | 6·8045004 |
| 15 | 5·6164042 | 6·8280615 | 15 | 5·6045192 | 6·8112091 | 15 | 5·5925205 | 6·7940004 |
| 16 | 5·6075694 | 6·8173538 | 16 | 5·5956844 | 6·8005307 | 16 | 5·5836857 | 6·7833512 |
| 17 | 5·5985380 | 6·8064927 | 17 | 5·5866530 | 6·7897000 | 17 | 5·5746543 | 6·7725503 |
| 18 | 5·5892642 | 6·7954797 | 18 | 5·5773792 | 6·7787185 | 18 | 5·5653805 | 6·7615998 |
| 19 | 5·5797143 | 6·7843182 | 19 | 5·5678293 | 6·7675903 | 19 | 5·5558306 | 6·7505037 |
| 20 | 5·5698669 | 6·7730146 | 20 | 5·5579819 | 6·7563217 | 20 | 5·5459832 | 6·7392693 |
| 21 | 5·5597129 | 6·7615767 | 21 | 5·5478279 | 6·7449211 | 21 | 5·5358292 | 6·7279049 |
| 22 | 5·5494613 | 6·7500136 | 22 | 5·5375763 | 6·7333972 | 22 | 5·5255776 | 6·7164198 |
| 23 | 5·5391157 | 6·7383200 | 23 | 5·5272307 | 6·7217459 | 23 | 5·5152320 | 6·7048095 |
| 24 | 5·5286787 | 6·7264902 | 24 | 5·5167937 | 6·7099616 | 24 | 5·5047950 | 6·6930693 |
| 25 | 5·5181530 | 6·7145185 | 25 | 5·5062680 | 6·6980377 | 25 | 5·4942693 | 6·6811929 |
| 26 | 5·5075403 | 6·7023973 | 26 | 5·4956553 | 6·6859678 | 26 | 5·4836566 | 6·6691731 |
| 27 | 5·4968423 | 6·6901187 | 27 | 5·4849573 | 6·6737439 | 27 | 5·4729586 | 6·6570028 |
| 28 | 5·4860600 | 6·6776739 | 28 | 5·4741750 | 6·6613574 | 28 | 5·4621763 | 6·6446735 |
| 29 | 5·4751939 | 6·6650537 | 29 | 5·4633089 | 6·6487985 | 29 | 5·4513102 | 6·6321755 |
| 30 | 5·4642440 | 6·6522470 | 30 | 5·4523590 | 6·6360574 | 30 | 5·4403603 | 6·6194988 |
| 31 | 5·4532101 | 6·6392432 | 31 | 5·4413251 | 6·6231223 | 31 | 5·4293264 | 6·6066325 |
| 32 | 5·4420913 | 6·6260298 | 32 | 5·4302063 | 6·6099815 | 32 | 5·4182076 | 6·5935638 |
| 33 | 5·4308862 | 6·6125936 | 33 | 5·4190012 | 6·5966219 | 33 | 5·4070025 | 6·5802803 |
| 34 | 5·4195931 | 6·5989213 | 34 | 5·4077081 | 6·5830289 | 34 | 5·3957094 | 6·5667676 |
| 35 | 5·4082097 | 6·5849970 | 35 | 5·3963247 | 6·5691884 | 35 | 5·3843260 | 6·5530105 |
| 36 | 5·3967332 | 6·5708050 | 36 | 5·3848482 | 6·5550835 | 36 | 5·3728495 | 6·5389936 |
| 37 | 5·3851606 | 6·5563288 | 37 | 5·3732756 | 6·5406972 | 37 | 5·3612769 | 6·5246989 |
| 38 | 5·3734881 | 6·5415501 | 38 | 5·3616031 | 6·5260117 | 38 | 5·3496044 | 6·5101079 |
| 39 | 5·3617116 | 6·5264499 | 39 | 5·3498266 | 6·5110076 | 39 | 5·3378279 | 6·4952019 |
| 40 | 5·3498266 | 6·5110076 | 40 | 5·3379416 | 6·4956642 | 40 | 5·3259429 | 6·4799595 |
| 41 | 5·3378279 | 6·4952019 | 41 | 5·3259429 | 6·4799595 | 41 | 5·3139442 | 6·4643587 |
| 42 | 5·3257100 | 6·4790096 | 42 | 5·3138250 | 6·4638703 | 42 | 5·3018263 | 6·4483757 |
| 43 | 5·3134669 | 6·4624067 | 43 | 5·3015819 | 6·4473717 | 43 | 5·2895832 | 6·4319855 |
| 44 | 5·3010922 | 6·4453662 | 44 | 5·2892072 | 6·4304376 | 44 | 5·2772085 | 6·4151610 |
| 45 | 5·2885788 | 6·4278595 | 45 | 5·2766938 | 6·4130384 | 45 | 5·2646951 | 6·3978738 |
| 46 | 5·2759195 | 6·4098580 | 46 | 5·2640345 | 6·3951438 | 46 | 5·2520358 | 6·3800920 |
| 47 | 5·2631063 | 6·3913275 | 47 | 5·2512213 | 6·3767213 | 47 | 5·2392226 | 6·3617820 |
| 48 | 5·2501309 | 6·3722330 | 48 | 5·2382459 | 6·3577344 | 48 | 5·2262472 | 6·3429084 |
| 49 | 5·2369844 | 6·3525356 | 49 | 5·2250994 | 6·3381438 | 49 | 5·2131007 | 6·3234312 |
| 50 | 5·2236577 | 6·3321922 | 50 | 5·2117727 | 6·3179072 | 50 | 5·1997740 | 6·3033067 |
| 51 | 5·2101409 | 6·3111567 | 51 | 5·1982559 | 6·2969764 | 51 | 5·1862572 | 6·2824880 |
| 52 | 5·1964238 | 6·2893772 | 52 | 5·1845388 | 6·2752996 | 52 | 5·1725401 | 6·2609213 |
| 53 | 5·1824957 | 6·2667944 | 53 | 5·1706107 | 6·2528191 | 53 | 5·1586120 | 6·2385487 |
| 54 | 5·1683456 | 6·2433441 | 54 | 5·1564606 | 6·2294682 | 54 | 5·1444619 | 6·2153047 |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x, y}$ and $N_{x, y}$.

| Age of ($y$) | 39 | | 40 | | | 41 | | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$). | λ $D_{x, 39}$ | λ $N_{x, 39}$ | Age of ($x$) | λ $D_{x, 40}$ | λ $N_{x, 40}$ | Age of ($x$) | λ $D_{x, 41}$ | λ $N_{x, 41}$ |
| 55 | 5·1532985 | 6·2189533 | 55 | 5·1414135 | 6·2051735 | 55 | 5·1294148 | 6·1911138 |
| 56 | 5·1376718 | 6·1935993 | 56 | 5·1257868 | 6·1799138 | 56 | 5·1137881 | 6·1659556 |
| 57 | 5·1214396 | 6·1672281 | 57 | 5·1095546 | 6·1536338 | 57 | 5·0975559 | 6·1397743 |
| 58 | 5·1045649 | 6·1397797 | 58 | 5·0926799 | 6·1262727 | 58 | 5·0806812 | 6·1125089 |
| 59 | 5·0870000 | 6·1111849 | 59 | 5·0751150 | 6·0977643 | 59 | 5·0631163 | 6·0840924 |
| 60 | 5·0686861 | 6·0813725 | 60 | 5·0568011 | 6·0680334 | 60 | 5·0448024 | 6·0544518 |
| 61 | 5·0495533 | 6·0502610 | 61 | 5·0376683 | 6·0370020 | 61 | 5·0256696 | 6·0235060 |
| 62 | 5·0295212 | 6·0177669 | 62 | 5·0176362 | 6·0045823 | 62 | 5·0056375 | 5·9911703 |
| 63 | 5·0084981 | 5·9837954 | 63 | 4·9966131 | 5·9706833 | 63 | 4·9846144 | 5·9573501 |
| 64 | 4·9863814 | 5·9482470 | 64 | 4·9744964 | 5·9352042 | 64 | 4·9624977 | 5·9219469 |
| 65 | 4·9630578 | 5·9110152 | 65 | 4·9511728 | 5·8980380 | 65 | 4·9391741 | 5·8848531 |
| 66 | 4·9384027 | 5·8719850 | 66 | 4·9265177 | 5·8590706 | 66 | 4·9145190 | 5·8459544 |
| 67 | 4·9122808 | 5·8310349 | 67 | 4·9003958 | 5·8181794 | 67 | 4·8883971 | 5·8051290 |
| 68 | 4·8845459 | 5·7880346 | 68 | 4·8726609 | 5·7752353 | 68 | 4·8606622 | 5·7622465 |
| 69 | 4·8550406 | 5·7428458 | 69 | 4·8431556 | 5·7300995 | 69 | 4·8311569 | 5·7171696 |
| 70 | 4·8235969 | 5·6953220 | 70 | 4·8117119 | 5·6826257 | 70 | 4·7997132 | 5·6697512 |
| 71 | 4·7900356 | 5·6453075 | 71 | 4·7781506 | 5·6326586 | 71 | 4·7661519 | 5·6198362 |
| 72 | 4·7541666 | 5·5926382 | 72 | 4·7422816 | 5·5800334 | 72 | 4·7302829 | 5·5672605 |
| 73 | 4·7157890 | 5·5371404 | 73 | 4·7039040 | 5·5245771 | 73 | 4·6919053 | 5·5118500 |
| 74 | 4·6746909 | 5·4786300 | 74 | 4·6628059 | 5·4661064 | 74 | 4·6508072 | 5·4534225 |
| 75 | 4·6306493 | 5·4169141 | 75 | 4·6187643 | 5·4044275 | 75 | 4·6067656 | 5·3917849 |
| 76 | 4·5834304 | 5·3517900 | 76 | 4·5715454 | 5·3393376 | 76 | 4·5595467 | 5·3267331 |
| 77 | 4·5327896 | 5·2830433 | 77 | 4·5209046 | 5·2706237 | 77 | 4·5089059 | 5·2580544 |
| 78 | 4·4784710 | 5·2104496 | 78 | 4·4665860 | 5·1980609 | 78 | 4·4545873 | 5·1855255 |
| 79 | 4·4202081 | 5·1337746 | 79 | 4·4083231 | 5·1214141 | 79 | 4·3963244 | 5·1089106 |
| 80 | 4·3577233 | 5·0527706 | 80 | 4·3458383 | 5·0404382 | 80 | 4·3338396 | 5·0279638 |
| 81 | 4·2907281 | 4·9671823 | 81 | 4·2788431 | 4·9548742 | 81 | 4·2668444 | 4·9424287 |
| 82 | 4·2189230 | 4·8767390 | 82 | 4·2070380 | 4·8644559 | 82 | 4·1950393 | 4·8520351 |
| 83 | 4·1419977 | 4·7811620 | 83 | 4·1301127 | 4·7689007 | 83 | 4·1181140 | 4·7565053 |
| 84 | 4·0596307 | 4·6801587 | 84 | 4·0477457 | 4·6679188 | 84 | 4·0357470 | 4·6555456 |
| 85 | 3·9714900 | 4·5734242 | 85 | 3·9596050 | 4·5612050 | 85 | 3·9476063 | 4·5488536 |
| 86 | 3·8772321 | 4·4606435 | 86 | 3·8653471 | 4·4484435 | 86 | 3·8533484 | 4·4361127 |
| 87 | 3·7765030 | 4·3414886 | 87 | 3·7646180 | 4·3293064 | 87 | 3·7526193 | 4·3169949 |
| 88 | 3·6689376 | 4·2156185 | 88 | 3·6570526 | 4·2034534 | 88 | 3·6450539 | 4·1911600 |
| 89 | 3·5541598 | 4·0826795 | 89 | 3·5422748 | 4·0705314 | 89 | 3·5302761 | 4·0582548 |
| 90 | 3·4317827 | 3·9423073 | 90 | 3·4198977 | 3·9301730 | 90 | 3·4078990 | 3·9179139 |
| 91 | 3·3014084 | 3·7941191 | 91 | 3·2895234 | 3·7820008 | 91 | 3·2775247 | 3·7697553 |
| 92 | 3·1626280 | 3·6377228 | 92 | 3·1507430 | 3·6256180 | 92 | 3·1387443 | 3·6133883 |
| 93 | 3·0150218 | 3·4727068 | 93 | 3·0031368 | 3·4606152 | 93 | 2·9911381 | 3·4483985 |
| 94 | 2·8581589 | 3·2986401 | 94 | 2·8462739 | 3·2865608 | 94 | 2·8342752 | 3·2743581 |
| 95 | 2·6915977 | 3·1150674 | 95 | 2·6797127 | 3·1030004 | 95 | 2·6677140 | 3·0908106 |
| 96 | 2·5148857 | 2·9214971 | 96 | 2·5030007 | 2·9094410 | 96 | 2·4910020 | 2·8972636 |
| 97 | 2·3275592 | 2·7173775 | 97 | 2·3156742 | 2·7053342 | 97 | 2·3036755 | 2·6931683 |
| 98 | 2·1291439 | 2·5020609 | 98 | 2·1172589 | 2·4900287 | 98 | 2·1052602 | 2·4778763 |
| 99 | 1·9191541 | 2·2747119 | 99 | 1·9072691 | 2·2626917 | 99 | 1·8952704 | 2·2505518 |
| 100 | 1·6970936 | 2·0341285 | 100 | 1·6852086 | 2·0221211 | 100 | 1·6732099 | 2·0099941 |
| 101 | 1·4624551 | 1·7783372 | 101 | 1·4505701 | 1·7663459 | 101 | 1·4385714 | 1·7542336 |
| 102 | 1·2147203 | 1·5036436 | 102 | 1·2028353 | 1·4916684 | 102 | 1·1908366 | 1·4795767 |
| 103 | 0·9533600 | 1·2021094 | 103 | 0·9414750 | 1·1901608 | 103 | 0·9294763 | 1·1780902 |
| 104 | 0·6778342 | 0·8535583 | 104 | 0·6659492 | 0·8416347 | 104 | 0·6539505 | 0·8295996 |
| 105 | 0·3875916 | | 105 | 0·3757066 | | 105 | 0·3637079 | |
| 106 | 0·0820704 | | 106 | 0·0701854 | | 106 | 0·0581867 | |
| 107 | 9·7606975 | | 107 | 9·7488125 | | 107 | 9·7368138 | |
| 108 | 9·4228891 | | 108 | 9·4110041 | | 108 | 9·3990054 | |
| 109 | 9·0680503 | | 109 | 9·0561653 | | 109 | 9·0441666 | |

## JOINT LIVES:—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 42 | | | 43 | | | 44 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,42}$ | $\lambda\ N_{x,\,42}$ | Age of (x) | $\lambda\ D_{x,\,43}$ | $\lambda\ N_{x,\,43}$ | Age of (x) | $\lambda\ D_{x,\,44}$ | $\lambda\ N_{x,\,44}$ |
| 0 | 5·8335007 | 6·9399556 | 0 | 5·8212576 | 6·9218453 | 0 | 5·8088829 | 6·9033266 |
| 1 | 5·7642425 | 6·9227609 | 1 | 5·7519994 | 6·9045637 | 1 | 5·7396247 | 6·8859514 |
| 2 | 5·7300649 | 6·9097418 | 2 | 5·7178218 | 6·8915148 | 2 | 5·7054471 | 6·8728701 |
| 3 | 5·7080017 | 6·8982679 | 3 | 5·6957586 | 6·8800335 | 3 | 5·6833839 | 6·8613798 |
| 4 | 5·6909541 | 6·8875302 | 4 | 5·6787110 | 6·8692997 | 4 | 5·6663363 | 6·8506490 |
| 5 | 5·6767877 | 6·8772131 | 5 | 5·6645446 | 6·8589939 | 5 | 5·6521699 | 6·8403537 |
| 6 | 5·6645642 | 6·8671403 | 6 | 5·6523211 | 6·8489371 | 6 | 5·6399464 | 6·8303127 |
| 7 | 5·6535384 | 6·8571926 | 7 | 5·6412953 | 6·8390084 | 7 | 5·6289206 | 6·8204034 |
| 8 | 5·6431589 | 6·8472954 | 8 | 5·6309158 | 6·8291329 | 8 | 5·6185411 | 6·8105492 |
| 9 | 5·6333898 | 6·8374070 | 9 | 5·6211467 | 6·8192678 | 9 | 5·6087720 | 6·8007077 |
| 10 | 5·6240874 | 6·8274861 | 10 | 5·6118443 | 6·8093714 | 10 | 5·5994696 | 6·7908361 |
| 11 | 5·6151202 | 6·8174985 | 11 | 5·6028771 | 6·7994092 | 11 | 5·5905024 | 6·7808996 |
| 12 | 5·6063689 | 6·8074163 | 12 | 5·5941258 | 6·7893533 | 12 | 5·5817511 | 6·7708699 |
| 13 | 5·5977267 | 6·7972183 | 13 | 5·5854836 | 6·7791821 | 13 | 5·5731089 | 6·7607253 |
| 14 | 5·5890988 | 6·7868883 | 14 | 5·5768557 | 6·7688792 | 14 | 5·5644810 | 6·7504496 |
| 15 | 5·5804026 | 6·7764159 | 15 | 5·5681595 | 6·7584343 | 15 | 5·5557848 | 6·7400319 |
| 16 | 5·5715678 | 6·7657952 | 16 | 5·5593247 | 6·7478413 | 16 | 5·5469500 | 6·7294667 |
| 17 | 5·5625364 | 6·7550239 | 17 | 5·5502933 | 6·7370988 | 17 | 5·5379186 | 6·7187521 |
| 18 | 5·5532626 | 6·7441035 | 18 | 5·5410195 | 6·7262085 | 18 | 5·5286448 | 6·7078908 |
| 19 | 5·5437127 | 6·7330392 | 19 | 5·5314696 | 6·7151749 | 19 | 5·5190949 | 6·6968878 |
| 20 | 5·5338653 | 6·7218378 | 20 | 5·5216222 | 6·7040061 | 20 | 5·5092475 | 6·6857504 |
| 21 | 5·5237113 | 6·7105086 | 21 | 5·5114682 | 6·6927110 | 21 | 5·4990935 | 6·6744888 |
| 22 | 5·5134597 | 6·6990612 | 22 | 5·5012166 | 6·6813002 | 22 | 5·4888419 | 6·6631134 |
| 23 | 5·5031141 | 6·6874913 | 23 | 5·4908710 | 6·6697693 | 23 | 5·4784963 | 6·6516207 |
| 24 | 5·4926771 | 6·6757937 | 24 | 5·4804340 | 6·6581140 | 24 | 5·4680593 | 6·6400059 |
| 25 | 5·4821514 | 6·6639633 | 25 | 5·4699083 | 6·6463281 | 25 | 5·4575336 | 6·6282640 |
| 26 | 5·4715387 | 6·6519932 | 26 | 5·4592956 | 6·6344058 | 26 | 5·4469209 | 6·6163883 |
| 27 | 5·4608407 | 6·6398752 | 27 | 5·4485976 | 6·6223399 | 27 | 5·4362229 | 6·6043724 |
| 28 | 5·4500584 | 6·6276021 | 28 | 5·4378153 | 6·6101214 | 28 | 5·4254406 | 6·5922085 |
| 29 | 5·4391923 | 6·6151643 | 29 | 5·4269492 | 6·5977425 | 29 | 5·4145745 | 6·5798865 |
| 30 | 5·4282424 | 6·6025514 | 30 | 5·4159993 | 6·5851925 | 30 | 5·4036246 | 6·5673983 |
| 31 | 5·4172085 | 6·5897526 | 31 | 5·4049654 | 6·5724606 | 31 | 5·3925907 | 6·5547324 |
| 32 | 5·4060897 | 6·5767560 | 32 | 5·3938466 | 6·5595348 | 32 | 5·3814719 | 6·5418768 |
| 33 | 5·3948846 | 6·5635480 | 33 | 5·3826415 | 6·5464026 | 33 | 5·3702668 | 6·5288187 |
| 34 | 5·3835915 | 6·5501152 | 34 | 5·3713484 | 6·5330494 | 34 | 5·3589737 | 6·5155451 |
| 35 | 5·3722081 | 6·5364427 | 35 | 5·3599650 | 6·5194606 | 35 | 5·3475903 | 6·5020398 |
| 36 | 5·3607316 | 6·5225133 | 36 | 5·3484885 | 6·5056200 | 36 | 5·3361138 | 6·4882873 |
| 37 | 5·3491590 | 6·5083112 | 37 | 5·3369159 | 6·4915098 | 37 | 5·3245412 | 6·4742704 |
| 38 | 5·3374865 | 6·4938165 | 38 | 5·3252434 | 6·4771124 | 38 | 5·3128687 | 6·4599695 |
| 39 | 5·3257100 | 6·4790096 | 39 | 5·3134669 | 6·4624067 | 39 | 5·3010922 | 6·4453662 |
| 40 | 5·3138250 | 6·4638703 | 40 | 5·3015819 | 6·4473717 | 40 | 5·2892072 | 6·4304376 |
| 41 | 5·3018263 | 6·4483757 | 41 | 5·2895832 | 6·4319855 | 41 | 5·2772085 | 6·4151610 |
| 42 | 5·2897084 | 6·4325019 | 42 | 5·2774653 | 6·4162234 | 42 | 5·2650906 | 6·3995130 |
| 43 | 5·2774653 | 6·4162234 | 43 | 5·2652222 | 6·4000596 | 43 | 5·2528475 | 6·3834667 |
| 44 | 5·2650906 | 6·3995130 | 44 | 5·2528475 | 6·3834667 | 44 | 5·2404728 | 6·3669942 |
| 45 | 5·2525772 | 6·3823411 | 45 | 5·2403341 | 6·3664146 | 45 | 5·2279594 | 6·3500657 |
| 46 | 5·2399179 | 6·3646769 | 46 | 5·2276748 | 6·3488718 | 46 | 5·2153001 | 6·3326487 |
| 47 | 5·2271047 | 6·3464856 | 47 | 5·2148616 | 6·3308041 | 47 | 5·2024869 | 6·3147087 |
| 48 | 5·2141293 | 6·3277303 | 48 | 5·2018862 | 6·3121736 | 48 | 5·1895115 | 6·2962080 |
| 49 | 5·2009828 | 6·3083721 | 49 | 5·1887397 | 6·2929398 | 49 | 5·1763650 | 6·2771054 |
| 50 | 5·1876561 | 6·2883666 | 50 | 5·1754130 | 6·2730594 | 50 | 5·1630383 | 6·2573557 |
| 51 | 5·1741393 | 6·2676656 | 51 | 5·1618962 | 6·2524833 | 51 | 5·1495215 | 6·2369113 |
| 52 | 5·1604222 | 6·2462166 | 52 | 5·1481791 | 6·2311580 | 52 | 5·1358044 | 6·2157172 |
| 53 | 5·1464941 | 6·2239596 | 53 | 5·1342510 | 6·2090242 | 53 | 5·1218763 | 6·1937130 |
| 54 | 5·1323440 | 6·2008286 | 54 | 5·1201009 | 6·1860148 | 54 | 5·1077262 | 6·1708327 |

## JOINT LIVES :—Two Females.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of ($y$) | 42 | | 43 | | | 44 | | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$) | $\lambda\ D_{x,\,42}$ | $\lambda\ N_{x,\,42}$ | Age of ($x$) | $\lambda\ D_{x,\,43}$ | $\lambda\ N_{x,\,43}$ | Age of ($x$) | $\lambda\ D_{x,\,44}$ | $\lambda\ N_{x,\,44}$ |
| 55 | 5·1172969 | 6·1767500 | 55 | 5·1050538 | 6·1620545 | 55 | 5·0926791 | 6·1469998 |
| 56 | 5·1016702 | 6·1517005 | 56 | 5·0894271 | 6·1371227 | 56 | 5·0770524 | 6·1221923 |
| 57 | 5·0854380 | 6·1256257 | 57 | 5·0731949 | 6·1111620 | 57 | 5·0608202 | 6·0963552 |
| 58 | 5·0685633 | 6·0984642 | 58 | 5·0563202 | 6·0841125 | 58 | 5·0439455 | 6·0694254 |
| 59 | 5·0509984 | 6·0701480 | 59 | 5·0387553 | 6·0559051 | 59 | 5·0263806 | 6·0413359 |
| 60 | 5·0326845 | 6·0406043 | 60 | 5·0204414 | 6·0264671 | 60 | 5·0080667 | 6·0120121 |
| 61 | 5·0135517 | 6·0097534 | 61 | 5·0013086 | 5·9957181 | 61 | 4·9889339 | 5·9813741 |
| 62 | 4·9935196 | 5·9775074 | 62 | 4·9812765 | 5·9635713 | 62 | 4·9689018 | 5·9493349 |
| 63 | 4·9724965 | 5·9437747 | 63 | 4·9602534 | 5·9299339 | 63 | 4·9478787 | 5·9158013 |
| 64 | 4·9503798 | 5·9084548 | 64 | 4·9381367 | 5·8947055 | 64 | 4·9257620 | 5·8806731 |
| 65 | 4·9270562 | 5·8714408 | 65 | 4·9148131 | 5·8577790 | 65 | 4·9024384 | 5·8438428 |
| 66 | 4·9024011 | 5·8326181 | 66 | 4·8901580 | 5·8190401 | 66 | 4·8777833 | 5·8051961 |
| 67 | 4·8762792 | 5·7918650 | 67 | 4·8640361 | 5·7783666 | 67 | 4·8516614 | 5·7646108 |
| 68 | 4·8485443 | 5·7490515 | 68 | 4·8363012 | 5·7356291 | 68 | 4·8239265 | 5·7219570 |
| 69 | 4·8190390 | 5·7040391 | 69 | 4·8067959 | 5·6906893 | 69 | 4·7944212 | 5·6770971 |
| 70 | 4·7875953 | 5·6566823 | 70 | 4·7753522 | 5·6434003 | 70 | 4·7629775 | 5·6298844 |
| 71 | 4·7540340 | 5·6068253 | 71 | 4·7417909 | 5·5936080 | 71 | 4·7294162 | 5·5801634 |
| 72 | 4·7181650 | 5·5543042 | 72 | 4·7059219 | 5·5411476 | 72 | 4·6935472 | 5·5277709 |
| 73 | 4·6797874 | 5·4989454 | 73 | 4·6675443 | 5·4858460 | 73 | 4·6551696 | 5·4725334 |
| 74 | 4·6386893 | 5·4405657 | 74 | 4·6264462 | 5·4275205 | 74 | 4·6140715 | 5·4142679 |
| 75 | 4·5946477 | 5·3789728 | 75 | 4·5824046 | 5·3659778 | 75 | 4·5700299 | 5·3527822 |
| 76 | 4·5474288 | 5·3139642 | 76 | 4·5351857 | 5·3010159 | 76 | 4·5228110 | 5·2878729 |
| 77 | 4·4967880 | 5·2453254 | 77 | 4·4845449 | 5 2324221 | 77 | 4·4721702 | 5 2193280 |
| 78 | 4·4424694 | 5·1728329 | 78 | 4·4302263 | 5·1599709 | 78 | 4·4178516 | 5·1469242 |
| 79 | 4·3842065 | 5·0962529 | 79 | 4·3719634 | 5·0834291 | 79 | 4·3595887 | 5·0704254 |
| 80 | 4·3217217 | 5·0153388 | 80 | 4·3094786 | 5·0025514 | 80 | 4·2971039 | 4·9895877 |
| 81 | 4·2547265 | 4·9298336 | 81 | 4·2424834 | 4·9170799 | 81 | 4·2301087 | 4·9041543 |
| 82 | 4·1829214 | 4·8394699 | 82 | 4·1706783 | 4·8267471 | 82 | 4·1583036 | 4·8138564 |
| 83 | 4·1059961 | 4·7439658 | 83 | 4·0937530 | 4·7312736 | 83 | 4·0813783 | 4·7184153 |
| 84 | 4·0236291 | 4·6430320 | 84 | 4·0113860 | 4·6303658 | 84 | 3·9990113 | 4·6175387 |
| 85 | 3·9354884 | 4·5363627 | 85 | 3·9232453 | 4·5237231 | 85 | 3·9108706 | 4·5109240 |
| 86 | 3·8412305 | 4·4236438 | 86 | 3·8289874 | 4·4110279 | 86 | 3·8166127 | 4·3982555 |
| 87 | 3·7405014 | 4·3045468 | 87 | 3·7282583 | 4·2919535 | 87 | 3·7158836 | 4·2792058 |
| 88 | 3·6329360 | 4·1787312 | 88 | 3·6206929 | 4·1661592 | 88 | 3·6083182 | 4·1534347 |
| 89 | 3·5181582 | 4·0458446 | 89 | 3·5059151 | 4·0332922 | 89 | 3·4935404 | 4·0205892 |
| 90 | 3·3957811 | 3·9055202 | 90 | 3·3835380 | 3·8929868 | 90 | 3·3711633 | 3·8803041 |
| 91 | 3·2654068 | 3·7573801 | 91 | 3·2531637 | 3·7448630 | 91 | 3·2407890 | 3·7321991 |
| 92 | 3·1266264 | 3·6010262 | 92 | 3·1143833 | 3·5885283 | 92 | 3·1020086 | 3·5758815 |
| 93 | 2·9790202 | 3·4360524 | 93 | 2·9667771 | 3·4235686 | 93 | 2·9544024 | 3·4109400 |
| 94 | 2·8221573 | 3·2620256 | 94 | 2·8099142 | 3·2495571 | 94 | 2·7975395 | 3·2369441 |
| 95 | 2·6555961 | 3·0784917 | 95 | 2·6433530 | 3·0660370 | 95 | 2·6309783 | 3·0534396 |
| 96 | 2·4788841 | 2·8849578 | 96 | 2·4666410 | 2·8725169 | 96 | 2·4542663 | 2·8599341 |
| 97 | 2·2915576 | 2·6808756 | 97 | 2·2793145 | 2·6684483 | 97 | 2·2669398 | 2·6558795 |
| 98 | 2·0931423 | 2·4655955 | 98 | 2·0808992 | 2·4531822 | 98 | 2·0685245 | 2·4406274 |
| 99 | 1·8831525 | 2·2382846 | 99 | 1·8709094 | 2·2258846 | 99 | 1·8585347 | 2·2133454 |
| 100 | 1·6610920 | 1·9977423 | 100 | 1·6488489 | 1·9853573 | 100 | 1·6364742 | 1·9728335 |
| 101 | 1·4264535 | 1·7419973 | 101 | 1·4142104 | 1·7296313 | 101 | 1·4018357 | 1·7171252 |
| 102 | 1·1787187 | 1·4673595 | 102 | 1·1664756 | 1·4550125 | 102 | 1·1541009 | 1·4425299 |
| 103 | 0·9173584 | 1·1658999 | 103 | 0·9051153 | 1·1535771 | 103 | 0·8927406 | 1·1411204 |
| 104 | 0·6418326 | 0·8174398 | 104 | 0·6295895 | 0·8051541 | 104 | 0·6172148 | 0·7927278 |
| 105 | 0·3515900 | | 105 | 0·3393469 | | 105 | 0·3269722 | |
| 106 | 0·0460688 | | 106 | 0·0338257 | | 106 | 0·0214510 | |
| 107 | 9·7246959 | | 107 | 9·7124528 | | 107 | 9·7000781 | |
| 108 | 9·3868875 | | 108 | 9·3746444 | | 108 | 9·3622697 | |
| 109 | 9·0320487 | | 109 | 9·0198056 | | 109 | 9·0074309 | |

## JOINT LIVES:—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 45 | | 46 | | | 47 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,45}$ | $\lambda\ N_{x,\,45}$ | Age of (x) | $\lambda\ D_{x,\,46}$ | $\lambda\ N_{x,\,46}$ | Age of (x) | $\lambda\ D_{x,\,47}$ | $\lambda\ N_{x,\,47}$ |
| 0 | 5·7963695 | 6·8843752 | 0 | 5·7837102 | 6·8649641 | 0 | 5·7708970 | 6·8450643 |
| 1 | 5·7271113 | 6·8668992 | 1 | 5·7144520 | 6·8473799 | 1 | 5·7016388 | 6·8273634 |
| 2 | 5·6929337 | 6·8537821 | 2 | 5·6802744 | 6·8342230 | 2 | 5·6674612 | 6·8141631 |
| 3 | 5·6708705 | 6·8422810 | 3 | 5·6582112 | 6·8227093 | 3 | 5·6453980 | 6·8026340 |
| 4 | 5·6538229 | 6·8315523 | 4 | 5·6411636 | 6·8119814 | 4 | 5·6283504 | 6·7919060 |
| 5 | 5·6396565 | 6·8212671 | 5 | 5·6269972 | 6·8017058 | 5 | 5·6141840 | 6·7816392 |
| 6 | 5·6274330 | 6·8112415 | 6 | 5·6147737 | 6·7916955 | 6 | 5·6019605 | 6·7716436 |
| 7 | 5·6164072 | 6·8013515 | 7 | 5·6037479 | 6·7818244 | 7 | 5·5909347 | 6·7617915 |
| 8 | 5·6060277 | 6·7915189 | 8 | 5·5933684 | 6·7720137 | 8 | 5·5805552 | 6·7520025 |
| 9 | 5·5962586 | 6·7817008 | 9 | 5·5835993 | 6·7622195 | 9 | 5·5707861 | 6·7422324 |
| 10 | 5·5869562 | 6·7718544 | 10 | 5·5742969 | 6·7523979 | 10 | 5·5614837 | 6·7324363 |
| 11 | 5·5779890 | 6·7619439 | 11 | 5·5653297 | 6·7425135 | 11 | 5·5525165 | 6·7225779 |
| 12 | 5·5692377 | 6·7519404 | 12 | 5·5565784 | 6·7325368 | 12 | 5·5437652 | 6·7126283 |
| 13 | 5·5605955 | 6·7418224 | 13 | 5·5479362 | 6·7224456 | 13 | 5·5351230 | 6·7025641 |
| 14 | 5·5519676 | 6·7315737 | 14 | 5·5393083 | 6·7122238 | 14 | 5·5264951 | 6·6923692 |
| 15 | 5·5432714 | 6·7211834 | 15 | 5·5306121 | 6·7018604 | 15 | 5·5177989 | 6·6820328 |
| 16 | 5·5344366 | 6·7106454 | 16 | 5·5217773 | 6·6913498 | 16 | 5·5089641 | 6·6715492 |
| 17 | 5·5254052 | 6·6999588 | 17 | 5·5127459 | 6·6806906 | 17 | 5·4999327 | 6·6609173 |
| 18 | 5·5161314 | 6·6891257 | 18 | 5·5034721 | 6·6698855 | 18 | 5·4906589 | 6·6501396 |
| 19 | 5·5065815 | 6·6781521 | 19 | 5·4939222 | 6·6589404 | 19 | 5·4811090 | 6·6392228 |
| 20 | 5·4967341 | 6·6670459 | 20 | 5·4840748 | 6·6478642 | 20 | 5·4712616 | 6·6281753 |
| 21 | 5·4865801 | 6·6558167 | 21 | 5·4739208 | 6·6366668 | 21 | 5·4611076 | 6·6170087 |
| 22 | 5·4763285 | 6·6444759 | 22 | 5·4636692 | 6·6253596 | 22 | 5·4508560 | 6·6057345 |
| 23 | 5·4659829 | 6·6330199 | 23 | 5·4533236 | 6·6139396 | 23 | 5·4405104 | 6·5943492 |
| 24 | 5·4555459 | 6·6214447 | 24 | 5·4428866 | 6·6024027 | 24 | 5·4300734 | 6·5828497 |
| 25 | 5·4450202 | 6·6097452 | 25 | 5·4323609 | 6·5907443 | 25 | 5·4195477 | 6·5712308 |
| 26 | 5·4344075 | 6·5979154 | 26 | 5·4217482 | 6·5789585 | 26 | 5·4089350 | 6·5594882 |
| 27 | 5·4237095 | 6·5859480 | 27 | 5·4110502 | 6·5670392 | 27 | 5·3982370 | 6·5476147 |
| 28 | 5·4129272 | 6·5738363 | 28 | 5·4002679 | 6·5549782 | 28 | 5·3874547 | 6·5356038 |
| 29 | 5·4020611 | 6·5615715 | 29 | 5·3894018 | 6·5427680 | 29 | 5·3765886 | 6·5234467 |
| 30 | 5·3911112 | 6·5491431 | 30 | 5·3784519 | 6·5303992 | 30 | 5·3656387 | 6·5111352 |
| 31 | 5·3800773 | 6·5365418 | 31 | 5·3674180 | 6·5178607 | 31 | 5·3546048 | 6·4986590 |
| 32 | 5·3689585 | 6·5237553 | 32 | 5·3562992 | 6·5051421 | 32 | 5·3434860 | 6·4860062 |
| 33 | 5·3577534 | 6·5107710 | 33 | 5·3450941 | 6·4922304 | 33 | 5·3322809 | 6·4731655 |
| 34 | 5·3464603 | 6·4975752 | 34 | 5·3338010 | 6·4791118 | 34 | 5·3209878 | 6·4601233 |
| 35 | 5·3350769 | 6·4841534 | 35 | 5·3224176 | 6·4657718 | 35 | 5·3096044 | 6·4468641 |
| 36 | 5·3236004 | 6·4704887 | 36 | 5·3109411 | 6·4521948 | 36 | 5·2981279 | 6·4333729 |
| 37 | 5·3120278 | 6·4565643 | 37 | 5·2993685 | 6·4383625 | 37 | 5·2865553 | 6·4196328 |
| 38 | 5·3003553 | 6·4423614 | 38 | 5·2876960 | 6·4242571 | 38 | 5·2748828 | 6·4056241 |
| 39 | 5·2885788 | 6·4278595 | 39 | 5·2759195 | 6·4098580 | 39 | 5·2631063 | 6·3913275 |
| 40 | 5·2766938 | 6·4130384 | 40 | 5·2640345 | 6·3951438 | 40 | 5·2512213 | 6·3767213 |
| 41 | 5·2646951 | 6·3978738 | 41 | 5·2520358 | 6·3800920 | 41 | 5·2392226 | 6·3617820 |
| 42 | 5·2525772 | 6·3823411 | 42 | 5·2399179 | 6·3646769 | 42 | 5·2271047 | 6·3464856 |
| 43 | 5·2403341 | 6·3664146 | 43 | 5·2276748 | 6·3488718 | 43 | 5·2148616 | 6·3308041 |
| 44 | 5·2279594 | 6·3500657 | 44 | 5·2153001 | 6·3326487 | 44 | 5·2024869 | 6·3147087 |
| 45 | 5·2154460 | 6·3332641 | 45 | 5·2027867 | 6·3159770 | 45 | 5·1899735 | 6·2981693 |
| 46 | 5·2027867 | 6·3159770 | 46 | 5·1901274 | 6·2988232 | 46 | 5·1773142 | 6·2811521 |
| 47 | 5·1899735 | 6·2981693 | 47 | 5·1773142 | 6·2811521 | 47 | 5·1645010 | 6·2636209 |
| 48 | 5·1769981 | 6·2798029 | 48 | 5·1643388 | 6·2629248 | 48 | 5·1515256 | 6·2455370 |
| 49 | 5·1638516 | 6·2608364 | 49 | 5·1511923 | 6·2440994 | 49 | 5·1383791 | 6·2268581 |
| 50 | 5·1505249 | 6·2412246 | 50 | 5·1378656 | 6·2246306 | 50 | 5·1250524 | 6·2075375 |
| 51 | 5·1370081 | 6·2209174 | 51 | 5·1243488 | 6·2044681 | 51 | 5·1115356 | 6·1875249 |
| 52 | 5·1232910 | 6·1998612 | 52 | 5·1106317 | 6·1835559 | 52 | 5·0978185 | 6·1667648 |
| 53 | 5·1093629 | 6·1779951 | 53 | 5·0967036 | 6·1618347 | 53 | 5·0838904 | 6·1451942 |
| 54 | 5·0952128 | 6·1552506 | 54 | 5·0825535 | 6·1392348 | 54 | 5·0697403 | 6·1227459 |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of $(y)$ | 45 | | 46 | | | 47 | | |
|---|---|---|---|---|---|---|---|---|
| Age of $(x)$ | $\lambda\ D_{x,\,45}$ | $\lambda\ N_{x,\,45}$ | Age of $(x)$ | $\lambda\ D_{x,\,46}$ | $\lambda\ N_{x,\,46}$ | Age of $(x)$ | $\lambda\ D_{x,\,47}$ | $\lambda\ N_{x,\,47}$ |
| 55 | 5·0801657 | 6·1315529 | 55 | 5·0675064 | 6·1156794 | 55 | 5·0546932 | 6·0993419 |
| 56 | 5·0645390 | 6·1068790 | 56 | 5·0518797 | 6·0911473 | 56 | 5·0390665 | 6·0749590 |
| 57 | 5·0483068 | 6·0811726 | 57 | 5·0356475 | 6·0655808 | 57 | 5·0228343 | 6·0495413 |
| 58 | 5·0314321 | 6·0543725 | 58 | 5·0187728 | 6·0389181 | 58 | 5·0059596 | 6·0230256 |
| 59 | 5·0138672 | 6·0264091 | 59 | 5·0012079 | 6·0110906 | 59 | 4·9883947 | 5·9953423 |
| 60 | 4·9955533 | 5·9972086 | 60 | 4·9828940 | 5·9820226 | 60 | 4·9700808 | 5·9664171 |
| 61 | 4·9764205 | 5·9666908 | 61 | 4·9637612 | 5·9516346 | 61 | 4·9509480 | 5·9361683 |
| 62 | 4·9563884 | 5·9347685 | 62 | 4·9437291 | 5·9198386 | 62 | 4·9309159 | 5·9045087 |
| 63 | 4·9353653 | 5·9013479 | 63 | 4·9227060 | 5·8865410 | 63 | 4·9098928 | 5·8713437 |
| 64 | 4·9132486 | 5·8663289 | 64 | 4·9005893 | 5·8516409 | 64 | 4·8877761 | 5·8365727 |
| 65 | 4·8899250 | 5·8296040 | 65 | 4·8772657 | 5·8150309 | 65 | 4·8644525 | 5·8000878 |
| 66 | 4·8652699 | 5·7910584 | 66 | 4·8526106 | 5·7765963 | 66 | 4·8397974 | 5·7617740 |
| 67 | 4·8391480 | 5·7505703 | 67 | 4·8264887 | 5·7362145 | 67 | 4·8136755 | 5·7215090 |
| 68 | 4·8114131 | 5·7080094 | 68 | 4·7987538 | 5·6937557 | 68 | 4·7859406 | 5·6791622 |
| 69 | 4·7819078 | 5·6632375 | 69 | 4·7692485 | 5·6490817 | 69 | 4·7564353 | 5·6345960 |
| 70 | 4·7504641 | 5·6161090 | 70 | 4·7378048 | 5·6020460 | 70 | 4·7249916 | 5·5876633 |
| 71 | 4·7169028 | 5·5664682 | 71 | 4·7042435 | 5·5524940 | 71 | 4·6914303 | 5·5382093 |
| 72 | 4·6810338 | 5·5141509 | 72 | 4·6683745 | 5·5002616 | 72 | 4·6555613 | 5·4860704 |
| 73 | 4·6426562 | 5·4589850 | 73 | 4·6299969 | 5·4451748 | 73 | 4·6171837 | 5·4310733 |
| 74 | 4·6015581 | 5·4007871 | 74 | 4·5888988 | 5·3870524 | 74 | 4·5760856 | 5·3730347 |
| 75 | 4·5575165 | 5·3393645 | 75 | 4·5448572 | 5·3257013 | 75 | 4·5320440 | 5·3117634 |
| 76 | 4·5102976 | 5·2745153 | 76 | 4·4976383 | 5·2609189 | 76 | 4·4848251 | 5·2470567 |
| 77 | 4·4596568 | 5·2060259 | 77 | 4·4469975 | 5·1924930 | 77 | 4·4341843 | 5·1787013 |
| 78 | 4·4053382 | 5·1336736 | 78 | 4·3926789 | 5·1201994 | 78 | 4·3798657 | 5·1064751 |
| 79 | 4·3470753 | 5·0572247 | 79 | 4·3344160 | 5·0438051 | 79 | 4·3216028 | 5·0301430 |
| 80 | 4·2845905 | 4·9764320 | 80 | 4·2719312 | 4·9630650 | 80 | 4·2591180 | 4·9494612 |
| 81 | 4·2175953 | 4·8910410 | 81 | 4·2049360 | 4·8777214 | 81 | 4·1921228 | 4·8641734 |
| 82 | 4·1457902 | 4·8007830 | 82 | 4·1331309 | 4·7875087 | 82 | 4·1203177 | 4·7740108 |
| 83 | 4·0688649 | 4·7053787 | 83 | 4·0562056 | 4·6921460 | 83 | 4·0433924 | 4·6786968 |
| 84 | 3·9864979 | 4·6045361 | 84 | 3·9738386 | 4·5913424 | 84 | 3·9610254 | 4·5779374 |
| 85 | 3·8983572 | 4·4979531 | 85 | 3·8856979 | 4·4847954 | 85 | 3·8728847 | 4·4714318 |
| 86 | 3·8040993 | 4·3853141 | 86 | 3·7914400 | 4·3721900 | 86 | 3·7786268 | 4·3588645 |
| 87 | 3·7033702 | 4·2662922 | 87 | 3·6907109 | 4·2531986 | 87 | 3·6778977 | 4·2399091 |
| 88 | 3·5958048 | 4·1405464 | 88 | 3·5831455 | 4·1274822 | 88 | 3·5703323 | 4·1142252 |
| 89 | 3·4810270 | 4·0077252 | 89 | 3·4683677 | 3·9946875 | 89 | 3·4555545 | 3·9814616 |
| 90 | 3·3586499 | 3·8674622 | 90 | 3·3459906 | 3·8544500 | 90 | 3·3331774 | 3·8412518 |
| 91 | 3·2282756 | 3·7193785 | 91 | 3·2156163 | 3·7063892 | 91 | 3·2028031 | 3·6932185 |
| 92 | 3·9894952 | 3·5630799 | 92 | 3·0768359 | 3·5501133 | 92 | 3·0640227 | 3·5369660 |
| 93 | 2·9418890 | 3·3981571 | 93 | 2·9292297 | 3·3852100 | 93 | 2·9164165 | 3·3720866 |
| 94 | 2·7850261 | 3·2241792 | 94 | 2·7723668 | 3·2112514 | 94 | 2·7595536 | 3·1981494 |
| 95 | 2·6184649 | 3·0406905 | 95 | 2·6058056 | 3·0277816 | 95 | 2·5929924 | 3·0147003 |
| 96 | 2·4417529 | 2·8472018 | 96 | 2·4290936 | 2·8343094 | 96 | 2·4162804 | 2·8212482 |
| 97 | 2·2544264 | 2·6431614 | 97 | 2·2417671 | 2·6302875 | 97 | 2·2289539 | 2·6172447 |
| 98 | 2·0560111 | 2·4279257 | 98 | 2·0433518 | 2·4150653 | 98 | 2·0305386 | 2·4020429 |
| 99 | 1·8460213 | 2·2006585 | 99 | 1·8333620 | 2·1878156 | 99 | 1·8205488 | 2·1748100 |
| 100 | 1·6239608 | 1·9601639 | 100 | 1·6113015 | 1·9473396 | 100 | 1·5984883 | 1·9343515 |
| 101 | 1·3893223 | 1·7044740 | 101 | 1·3766630 | 1·6916702 | 101 | 1·3638498 | 1·6787050 |
| 102 | 1·1415875 | 1·4299008 | 102 | 1·1289282 | 1·4171211 | 102 | 1·1161150 | 1·4041818 |
| 103 | 0·8802272 | 1·1285220 | 103 | 0·8675679 | 1·1157702 | 103 | 0·8547547 | 1·1028623 |
| 104 | 0·6047014 | 0·7801660 | 104 | 0·5920421 | 0·7674601 | 104 | 0·5792289 | 0·7545853 |
| 105 | 0·3144588 | | 105 | 0·3017995 | | 105 | 0·2889863 | |
| 106 | 0·0089376 | | 106 | 9·9962783 | | 106 | 9·9834651 | |
| 107 | 9·6875647 | | 107 | 9·6749054 | | 107 | 9·6620922 | |
| 108 | 9·3497563 | | 108 | 9·3370970 | | 108 | 9·3242838 | |
| 109 | 8 9949175 | | 109 | 8·9822582 | | 109 | 8·9694450 | |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 48 | | | 49 | | | 50 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,48}$ | $\lambda\ N_{x,\,48}$ | Age of (x) | $\lambda\ D_{x,\,49}$ | $\lambda\ N_{x,\,49}$ | Age of (x) | $\lambda\ D_{x,\,50}$ | $\lambda\ N_{x,\,50}$ |
| 0 | 5·7579216 | 6·8246434 | 0 | 5·7447751 | 6·8036666 | 0 | 5·7314484 | 6·7820949 |
| 1 | 5·6886634 | 6·8068170 | 1 | 5·6755169 | 6·7857042 | 1 | 5·6621902 | 6·7639857 |
| 2 | 5·6544858 | 6·7935688 | 2 | 5·6413393 | 6·7724040 | 2 | 5·6280126 | 6·7506276 |
| 3 | 5·6324226 | 6·7820224 | 3 | 5·6192761 | 6·7608375 | 3 | 5·6059494 | 6·7390387 |
| 4 | 5·6153750 | 6·7712921 | 4 | 5·6022285 | 6·7501038 | 4 | 5·5889018 | 6·7282995 |
| 5 | 5·6012086 | 6·7610334 | 5 | 5·5880621 | 6·7398515 | 5 | 5·5747354 | 6·7180531 |
| 6 | 5·5889851 | 6·7510524 | 6 | 5·5758386 | 6·7298846 | 6 | 5·5625119 | 6·7080993 |
| 7 | 5·5779593 | 6·7412191 | 7 | 5·5648128 | 6·7200700 | 7 | 5·5514861 | 6·6983030 |
| 8 | 5·5675798 | 6·7314520 | 8 | 5·5544333 | 6·7103247 | 8 | 5·5411066 | 6·6885796 |
| 9 | 5·5578107 | 6·7217057 | 9 | 5·5446642 | 6·7006026 | 9 | 5·5313375 | 6·6788820 |
| 10 | 5·5485083 | 6·7119355 | 10 | 5·5353618 | 6·6908581 | 10 | 5·5220351 | 6·6691635 |
| 11 | 5·5395411 | 6·7021037 | 11 | 5·5263946 | 6·6810534 | 11 | 5·5130679 | 6·6593858 |
| 12 | 5·5307898 | 6·6921808 | 12 | 5·5176433 | 6·6711578 | 12 | 5·5043166 | 6·6495180 |
| 13 | 5·5221476 | 6·6821441 | 13 | 5·5090011 | 6·6611483 | 13 | 5·4956744 | 6·6395361 |
| 14 | 5·5135197 | 6·6719764 | 14 | 5·5003732 | 6·6510081 | 14 | 5·4870465 | 6·6294232 |
| 15 | 5·5048235 | 6·6616669 | 15 | 5·4916770 | 6·6407257 | 15 | 5·4783503 | 6·6191680 |
| 16 | 5·4959887 | 6·6512102 | 16 | 5·4828422 | 6·6302955 | 16 | 5·4695155 | 6·6087648 |
| 17 | 5·4869573 | 6·6406050 | 17 | 5·4738108 | 6·6197172 | 17 | 5·4604841 | 6·5982126 |
| 18 | 5·4776835 | 6·6298546 | 18 | 5·4645370 | 6·6089933 | 18 | 5·4512103 | 6·5875154 |
| 19 | 5·4681336 | 6·6189652 | 19 | 5·4549871 | 6·5981312 | 19 | 5·4416604 | 6·5766798 |
| 20 | 5·4582862 | 6·6079465 | 20 | 5·4451397 | 6·5871403 | 20 | 5·4318130 | 6·5657162 |
| 21 | 5·4481322 | 6·5968093 | 21 | 5·4349857 | 6·5760324 | 21 | 5·4216590 | 6·5546364 |
| 22 | 5·4378806 | 6·5855667 | 22 | 5·4247341 | 6·5648201 | 22 | 5·4114074 | 6·5434544 |
| 23 | 5·4275350 | 6·5742158 | 23 | 5·4143885 | 6·5535018 | 23 | 5·4010618 | 6·5321671 |
| 24 | 5·4170980 | 6·5627520 | 24 | 5·4039515 | 6·5420735 | 24 | 5·3906248 | 6·5207727 |
| 25 | 5·4065723 | 6·5511722 | 25 | 5·3934258 | 6·5305309 | 25 | 5·3800991 | 6·5092668 |
| 26 | 5·3959596 | 6·5394705 | 26 | 5·3828131 | 6·5188698 | 26 | 5·3694864 | 6·4976443 |
| 27 | 5·3852616 | 6·5276420 | 27 | 5·3721151 | 6·5070838 | 27 | 5·3587884 | 6·4859006 |
| 28 | 5·3744793 | 6·5156790 | 28 | 5·3613328 | 6·4951677 | 28 | 5·3480061 | 6·4740289 |
| 29 | 5·3636132 | 6·5035743 | 29 | 5·3504667 | 6·4831130 | 29 | 5·3371400 | 6·4620228 |
| 30 | 5·3526633 | 6·4913182 | 30 | 5·3395168 | 6·4709116 | 30 | 5·3261901 | 6·4498736 |
| 31 | 5·3416294 | 6·4789018 | 31 | 5·3284829 | 6·4585532 | 31 | 5·3151562 | 6·4375725 |
| 32 | 5·3305106 | 6·4663144 | 32 | 5·3173641 | 6·4460283 | 32 | 5·3040374 | 6·4251084 |
| 33 | 5·3193055 | 6·4535428 | 33 | 5·3061590 | 6·4333252 | 33 | 5·2928323 | 6·4124708 |
| 34 | 5·3080124 | 6·4405749 | 34 | 5·2948659 | 6·4204298 | 34 | 5·2815392 | 6·3996470 |
| 35 | 5·2966290 | 6·4273960 | 35 | 5·2834825 | 6·4073289 | 35 | 5·2701558 | 6·3866222 |
| 36 | 5·2851525 | 6·4139897 | 36 | 5·2720060 | 6·3940069 | 36 | 5·2586793 | 6·3733819 |
| 37 | 5·2735799 | 6·4003398 | 37 | 5·2604334 | 6·3804461 | 37 | 5·2471067 | 6·3599094 |
| 38 | 5·2619074 | 6·3864278 | 38 | 5·2487609 | 6·3666288 | 38 | 5·2354342 | 6·3461859 |
| 39 | 5·2501309 | 6·3722330 | 39 | 5·2369844 | 6·3525356 | 39 | 5·2236577 | 6·3321922 |
| 40 | 5·2382459 | 6·3577344 | 40 | 5·2250994 | 6·3381438 | 40 | 5·2117727 | 6·3179072 |
| 41 | 5·2262472 | 6·3429084 | 41 | 5·2131007 | 6·3234312 | 41 | 5·1997740 | 6·3033067 |
| 42 | 5·2141293 | 6·3277303 | 42 | 5·2009828 | 6·3083721 | 42 | 5·1876561 | 6·2883666 |
| 43 | 5·2018862 | 6·3121736 | 43 | 5·1887397 | 6·2929398 | 43 | 5·1754130 | 6·2730594 |
| 44 | 5·1895115 | 6·2962080 | 44 | 5·1763650 | 6·2771054 | 44 | 5·1630383 | 6·2573557 |
| 45 | 5·1769981 | 6·2798029 | 45 | 5·1638516 | 6·2608364 | 45 | 5·1505249 | 6·2412246 |
| 46 | 5·1643388 | 6·2629248 | 46 | 5·1511923 | 6·2440994 | 46 | 5·1378656 | 6·2246306 |
| 47 | 5·1515256 | 6·2455370 | 47 | 5·1383791 | 6·2268581 | 47 | 5·1250524 | 6·2075375 |
| 48 | 5·1385502 | 6·2276003 | 48 | 5·1254037 | 6·2090720 | 48 | 5·1120770 | 6·1899050 |
| 49 | 5·1254037 | 6·2090720 | 49 | 5·1122572 | 6·1906980 | 49 | 5·0989305 | 6·1716890 |
| 50 | 5·1120770 | 6·1899050 | 50 | 5·0989305 | 6·1716890 | 50 | 5·0856038 | 6·1528422 |
| 51 | 5·0985602 | 6·1700481 | 51 | 5·0854137 | 6·1519931 | 51 | 5·0720870 | 6·1333118 |
| 52 | 5·0848431 | 6·1494451 | 52 | 5·0716966 | 6·1315532 | 52 | 5·0583699 | 6·1130404 |
| 53 | 5·0709150 | 6·1280336 | 53 | 5·0577685 | 6·1103065 | 53 | 5·0444418 | 6·0919643 |
| 54 | 5·0567649 | 6·1057435 | 54 | 5·0436184 | 6·0881826 | 54 | 5·0302917 | 6·0700127 |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 48 | | | 49 | | | 50 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x, 48}$ | λ $N_{x, 48}$ | Age of (x) | λ $D_{x, 49}$ | λ $N_{x, 49}$ | Age of (x) | λ $D_{x, 50}$ | λ $N_{x, 50}$ |
| 55 | 5·0417178 | 6·0824974 | 55 | 5·0285713 | 6·0651023 | 55 | 5·0152446 | 6·0471057 |
| 56 | 5·0260911 | 6·0582733 | 56 | 5·0129446 | 6·0410436 | 56 | 4·9996179 | 6·0232203 |
| 57 | 5·0098589 | 6·0330125 | 57 | 4·9967124 | 6·0159487 | 57 | 4·9833857 | 5·9982989 |
| 58 | 4·9929842 | 6·0066526 | 58 | 4·9798377 | 5·9897531 | 58 | 4·9665110 | 5·9722767 |
| 59 | 4·9754193 | 5·9791234 | 59 | 4·9622728 | 5·9623873 | 59 | 4·9489461 | 5·9450835 |
| 60 | 4·9571054 | 5·9503498 | 60 | 4·9439589 | 5·9337755 | 60 | 4·9306322 | 5·9166426 |
| 61 | 4·9379726 | 5·9202507 | 61 | 4·9248261 | 5·9038354 | 61 | 4·9114994 | 5·8868716 |
| 62 | 4·9179405 | 5·8887371 | 62 | 4·9047940 | 5·8724786 | 62 | 4·8914673 | 5·8556817 |
| 63 | 4·8969174 | 5·8557153 | 63 | 4·8837709 | 5·8396101 | 63 | 4·8704442 | 5·8229776 |
| 64 | 4·8748007 | 5·8210839 | 64 | 4·8616542 | 5·8051289 | 64 | 4·8483275 | 5·7886567 |
| 65 | 4·8514771 | 5·7847346 | 65 | 4·8383306 | 5·7689261 | 65 | 4·8250039 | 5·7526114 |
| 66 | 4·8268220 | 5·7465523 | 66 | 4·8136755 | 5·7308863 | 66 | 4·8003488 | 5·7147250 |
| 67 | 4·8007001 | 5·7064143 | 67 | 4·7875536 | 5·6908864 | 67 | 4·7742269 | 5·6748746 |
| 68 | 4·7729652 | 5·6641905 | 68 | 4·7598187 | 5·6487961 | 68 | 4·7464920 | 5·6329291 |
| 69 | 4·7434599 | 5·6197420 | 69 | 4·7303134 | 5·6044768 | 69 | 4·7169867 | 5·5887500 |
| 70 | 4·7120162 | 5·5729229 | 70 | 4·6988697 | 5·5577818 | 70 | 4·6855430 | 5·5421906 |
| 71 | 4·6784549 | 5·5235775 | 71 | 4·6653084 | 5·5085559 | 71 | 4·6519817 | 5·4930951 |
| 72 | 4·6425859 | 5·4715421 | 72 | 4·6294394 | 5·4566349 | 72 | 4·6161127 | 5·4413000 |
| 73 | 4·6042083 | 5·4166438 | 73 | 4·5910618 | 5·4018457 | 73 | 4·5777351 | 5·3866313 |
| 74 | 4·5631102 | 5·3586999 | 74 | 4·5499637 | 5·3440062 | 74 | 4·5366370 | 5·3289067 |
| 75 | 4·5190686 | 5·2975174 | 75 | 4·5059221 | 5·2829238 | 75 | 4·4925954 | 5·2679345 |
| 76 | 4·4718497 | 5·2328950 | 76 | 4·4587032 | 5·2183955 | 76 | 4·4453765 | 5·2035123 |
| 77 | 4·4212089 | 5·1646202 | 77 | 4·4080624 | 5·1502101 | 77 | 4·3947357 | 5·1354266 |
| 78 | 4·3668903 | 5·0924691 | 78 | 4·3537438 | 5·0781446 | 78 | 4·3404171 | 5·0634558 |
| 79 | 4·3086274 | 5·0162087 | 79 | 4·2954809 | 5·0019642 | 79 | 4·2821542 | 4·9873664 |
| 80 | 4·2461426 | 4·9355929 | 80 | 4·2329961 | 4·9214247 | 80 | 4·2196694 | 4·9069123 |
| 81 | 4·1791474 | 4·8503675 | 81 | 4·1660009 | 4·8362703 | 81 | 4·1526742 | 4·8218390 |
| 82 | 4·1073423 | 4·7602641 | 82 | 4·0941958 | 4·7462340 | 82 | 4·0808691 | 4·7318787 |
| 83 | 4·0304170 | 4·6650037 | 83 | 4·0172705 | 4·6510366 | 83 | 4·0039438 | 4·6367536 |
| 84 | 3·9480500 | 4·5642962 | 84 | 3·9349035 | 4·5503878 | 84 | 3·9215768 | 4·5361723 |
| 85 | 3·8599093 | 4·4578385 | 85 | 3·8467628 | 4·4439852 | 85 | 3·8334361 | 4·4298332 |
| 86 | 3·7656514 | 4·3453157 | 86 | 3·7525049 | 4·3315139 | 86 | 3·7391782 | 4·3174219 |
| 87 | 3·6649223 | 4·2264011 | 87 | 3·6517758 | 4·2126475 | 87 | 3·6384491 | 4·1986115 |
| 88 | 3·5573569 | 4·1007558 | 88 | 3·5442104 | 4·0870468 | 88 | 3·5308837 | 4·0730630 |
| 89 | 3·4425791 | 3·9680269 | 89 | 3·4294326 | 3·9543597 | 89 | 3·4161059 | 3·9404248 |
| 90 | 3·3202020 | 3·8278511 | 90 | 3·3070555 | 3·8142217 | 90 | 3·2937288 | 3·8003328 |
| 91 | 3·1898277 | 3·6798474 | 91 | 3·1766812 | 3·6662549 | 91 | 3·1633545 | 3·6524078 |
| 92 | 3·0510473 | 3·5236242 | 92 | 3·0379008 | 3·5100649 | 92 | 3·0245741 | 3·4962584 |
| 93 | 2·9034411 | 3·3587707 | 93 | 2·8902946 | 3·3452424 | 93 | 2·8769679 | 3·3314730 |
| 94 | 2·7465782 | 3·1848589 | 94 | 2·7334317 | 3·1713593 | 94 | 2·7201050 | 3·1576248 |
| 95 | 2·5800170 | 3·0014330 | 95 | 2·5668705 | 2·9879620 | 95 | 2·5535438 | 2·9742597 |
| 96 | 2·4033050 | 2·8080035 | 96 | 2·3901585 | 2·7945585 | 96 | 2·3768318 | 2·7808888 |
| 97 | 2·2159785 | 2·6040218 | 97 | 2·2028320 | 2·5906023 | 97 | 2·1895053 | 2·5769630 |
| 98 | 2·0175632 | 2·3888416 | 98 | 2·0044167 | 2·3754478 | 98 | 1·9910900 | 2·3618394 |
| 99 | 1·8075734 | 2·1616312 | 99 | 1·7944269 | 2·1482635 | 99 | 1·7811002 | 2·1346867 |
| 100 | 1·5855129 | 1·9211931 | 100 | 1·5723664 | 1·9078530 | 100 | 1·5590397 | 1·8943100 |
| 101 | 1·3508744 | 1·6655669 | 101 | 1·3377279 | 1·6522521 | 101 | 1·3244012 | 1·6387458 |
| 102 | 1·1031396 | 1·3910728 | 102 | 1·0899931 | 1·3777832 | 102 | 1·0766664 | 1·3643089 |
| 103 | 0·8417793 | 1·0897886 | 103 | 0·8286328 | 1·0765385 | 103 | 0·8153061 | 1·0630968 |
| 104 | 0·5662535 | 0·7415534 | 104 | 0·5531070 | 0·7283538 | 104 | 0·5397803 | 0·7149665 |
| 105 | 0·2760109 | | 105 | 0·2628644 | | 105 | 0·2495377 | |
| 106 | 9·9704897 | | 106 | 9·9573432 | | 106 | 9·9440165 | |
| 107 | 9·6491168 | | 107 | 9·6359703 | | 107 | 9·6226436 | |
| 108 | 9·3113084 | | 108 | 9·2981619 | | 108 | 9·2848352 | |
| 109 | 8·9564696 | | 109 | 8·9433231 | | 109 | 8·9299964 | |

## JOINT LIVES:—Two Females.

### Logarithms of the Series $D_{x, y}$ and $N_{x, y}$.

| Age of (y) | 51 | | | 52 | | | 53 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x, 51}$ | λ $N_{x, 51}$ | Age of (x) | λ $D_{x, 52}$ | λ $N_{x, 52}$ | Age of (x) | λ $D_{x, 53}$ | λ $N_{x, 53}$ |
| 0 | 5·7179316 | 6·7598846 | 0 | 5·7042145 | 6·7369872 | 0 | 5·6902864 | 6·7133473 |
| 1 | 5·6486734 | 6·7416168 | 1 | 5·6349563 | 6·7185479 | 1 | 5·6210282 | 6·6947230 |
| 2 | 5·6144958 | 6·7281958 | 2 | 5·6007787 | 6·7050580 | 2 | 5·5868506 | 6·6811580 |
| 3 | 5·5924326 | 6·7165803 | 3 | 5·5787155 | 6·6934133 | 3 | 5·5647874 | 6·6694807 |
| 4 | 5·5753850 | 6·7058346 | 4 | 5·5616679 | 6·6826579 | 4 | 5·5477398 | 6·6587141 |
| 5 | 5·5612186 | 6·6955927 | 5 | 5·5475015 | 6·6724200 | 5 | 5·5335734 | 6·6484779 |
| 6 | 5·5489951 | 6·6856515 | 6 | 5·5352780 | 6·6624906 | 6 | 5·5213499 | 6·6385601 |
| 7 | 5·5379693 | 6·6758730 | 7 | 5·5242522 | 6·6527296 | 7 | 5·5103241 | 6·6288162 |
| 8 | 5·5275898 | 6·6661713 | 8 | 5·5138727 | 6·6430492 | 8 | 5·4999446 | 6·6191570 |
| 9 | 5·5178207 | 6·6564983 | 9 | 5·5041036 | 6·6334006 | 9 | 5·4901755 | 6·6095327 |
| 10 | 5·5085183 | 6·6468061 | 10 | 5·4948012 | 6·6237351 | 10 | 5·4808731 | 6·5998938 |
| 11 | 5·4995511 | 6·6370556 | 11 | 5·4858340 | 6·6140124 | 11 | 5·4719059 | 6·5901992 |
| 12 | 5·4907998 | 6·6272157 | 12 | 5·4770827 | 6·6042004 | 12 | 5·4631546 | 6·5804157 |
| 13 | 5·4821576 | 6·6172619 | 13 | 5·4684405 | 6·5942749 | 13 | 5·4545124 | 6·5705184 |
| 14 | 5·4735297 | 6·6071765 | 14 | 5·4598126 | 6·5842176 | 14 | 5·4458845 | 6·5604891 |
| 15 | 5·4648335 | 6·5969486 | 15 | 5·4511164 | 6·5740168 | 15 | 5·4371883 | 6·5503159 |
| 16 | 5·4559987 | 6·5865723 | 16 | 5·4422816 | 6·5636669 | 16 | 5·4283535 | 6·5399928 |
| 17 | 5·4469673 | 6·5760464 | 17 | 5·4332502 | 6·5531677 | 17 | 5·4193221 | 6·5295193 |
| 18 | 5·4376935 | 6·5653750 | 18 | 5·4239764 | 6·5425222 | 18 | 5·4100483 | 6·5188998 |
| 19 | 5·4281436 | 6·5545659 | 19 | 5·4144265 | 6·5317384 | 19 | 5·4004984 | 6·5081415 |
| 20 | 5·4182962 | 6·5436286 | 20 | 5·4045791 | 6·5208277 | 20 | 5·3906510 | 6·4972559 |
| 21 | 5·4081422 | 6·5325768 | 21 | 5·3944251 | 6·5098023 | 21 | 5·3804970 | 6·4862571 |
| 22 | 5·3978906 | 6·5214236 | 22 | 5·3841735 | 6·4986777 | 22 | 5·3702454 | 6·4751595 |
| 23 | 5·3875450 | 6·5101673 | 23 | 5·3738279 | 6·4874510 | 23 | 5·3598998 | 6·4639622 |
| 24 | 5·3771080 | 6·4988049 | 24 | 5·3633909 | 6·4761208 | 24 | 5·3494628 | 6·4526623 |
| 25 | 5·3665823 | 6·4873342 | 25 | 5·3528652 | 6·4646828 | 25 | 5·3389371 | 6·4412575 |
| 26 | 5·3559696 | 6·4757496 | 26 | 5·3422525 | 6·4531347 | 26 | 5·3283244 | 6·4297431 |
| 27 | 5·3452716 | 6·4640460 | 27 | 5·3315545 | 6·4414703 | 27 | 5·3176264 | 6·4181164 |
| 28 | 5·3344893 | 6·4522180 | 28 | 5·3207722 | 6·4296839 | 28 | 5·3068441 | 6·4063708 |
| 29 | 5·3236232 | 6·4402583 | 29 | 5·3099061 | 6·4177698 | 29 | 5·2959780 | 6·3945001 |
| 30 | 5·3126733 | 6·4281601 | 30 | 5·2989562 | 6·4057197 | 30 | 5·2850281 | 6·3824972 |
| 31 | 5·3016394 | 6·4159134 | 31 | 5·2879223 | 6·3935265 | 31 | 5·2739942 | 6·3703539 |
| 32 | 5·2905206 | 6·4035092 | 32 | 5·2768035 | 6·3811788 | 32 | 5·2628754 | 6·3580621 |
| 33 | 5·2793155 | 6·3909349 | 33 | 5·2655984 | 6·3686674 | 33 | 5·2516703 | 6·3456098 |
| 34 | 5·2680224 | 6·3781800 | 34 | 5·2543053 | 6·3559787 | 34 | 5·2403772 | 6·3329867 |
| 35 | 5·2566390 | 6·3652302 | 35 | 5·2429219 | 6·3431008 | 35 | 5·2289938 | 6·3201781 |
| 36 | 5·2451625 | 6·3520696 | 36 | 5·2314454 | 6·3300191 | 36 | 5·2175173 | 6·3071718 |
| 37 | 5·2335899 | 6·3386830 | 37 | 5·2198728 | 6·3167160 | 37 | 5·2059447 | 6·2939512 |
| 38 | 5·2219174 | 6·3250521 | 38 | 5·2082003 | 6·3031752 | 38 | 5·1942722 | 6·2804980 |
| 39 | 5·2101409 | 6·3111567 | 39 | 5·1964238 | 6·2893772 | 39 | 5·1824957 | 6·2667944 |
| 40 | 5·1982559 | 6·2969764 | 40 | 5·1845388 | 6·2752996 | 40 | 5·1706107 | 6·2528191 |
| 41 | 5·1862572 | 6·2824880 | 41 | 5·1725401 | 6·2609213 | 41 | 5·1586120 | 6·2385487 |
| 42 | 5·1741393 | 6·2676656 | 42 | 5·1604222 | 6·2462166 | 42 | 5·1464941 | 6·2239596 |
| 43 | 5·1618962 | 6·2524833 | 43 | 5·1481791 | 6·2311580 | 43 | 5·1342510 | 6·2090242 |
| 44 | 5·1495215 | 6·2369113 | 44 | 5·1358044 | 6·2157172 | 44 | 5·1218763 | 6·1937130 |
| 45 | 5·1370081 | 6·2209174 | 45 | 5·1232910 | 6·1998612 | 45 | 5·1093629 | 6·1779951 |
| 46 | 5·1243488 | 6·2044681 | 46 | 5·1106317 | 6·1835559 | 46 | 5·0967036 | 6·1618347 |
| 47 | 5·1115356 | 6·1875249 | 47 | 5·0978185 | 6·1667648 | 47 | 5·0838904 | 6·1451942 |
| 48 | 5·0985602 | 6·1700481 | 48 | 5·0848431 | 6·1494451 | 48 | 5·0709150 | 6·1280336 |
| 49 | 5·0854137 | 6·1519931 | 49 | 5·0716966 | 6·1315532 | 49 | 5·0577685 | 6·1103065 |
| 50 | 5·0720870 | 6·1333118 | 50 | 5·0583699 | 6·1130404 | 50 | 5·0444418 | 6·0919643 |
| 51 | 5·0585702 | 6·1139514 | 51 | 5·0448531 | 6·0938534 | 51 | 5·0309250 | 6·0729535 |
| 52 | 5·0448531 | 6·0938534 | 52 | 5·0311360 | 6·0739331 | 52 | 5·0172079 | 6·0532141 |
| 53 | 5·0309250 | 6·0729535 | 53 | 5·0172079 | 6·0532141 | 53 | 5·0032798 | 6·0326804 |
| 54 | 5·0167749 | 6·0511799 | 54 | 5·0030578 | 6·0316245 | 54 | 4·9891297 | 6·0112789 |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 51 | | | 52 | | | 53 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,51}$ | λ $N_{x,51}$ | Age of (x) | λ $D_{x,52}$ | λ $N_{x,52}$ | Age of (x) | λ $D_{x,53}$ | λ $N_{x,53}$ |
| 55 | 5·0017278 | 6·0284525 | 55 | 4·9880107 | 6·0090824 | 55 | 4·9740826 | 5·9889281 |
| 56 | 4·9861011 | 6·0047482 | 56 | 4·9723840 | 5·9855654 | 56 | 4·9584559 | 5·9656043 |
| 57 | 4·9698689 | 5·9800079 | 57 | 4·9561518 | 5·9610139 | 57 | 4·9422237 | 5·9412481 |
| 58 | 4·9529942 | 5·9541673 | 58 | 4·9392771 | 5·9353625 | 58 | 4·9253490 | 5·9157933 |
| 59 | 4·9354293 | 5·9271552 | 59 | 4·9217122 | 5·9085399 | 59 | 4·9077841 | 5·8891679 |
| 60 | 4·9171154 | 5·8988947 | 60 | 4·9033983 | 5·8804685 | 60 | 4·8894702 | 5·8612939 |
| 61 | 4·8979826 | 5·8693025 | 61 | 4·8842655 | 5·8510646 | 61 | 4·8703374 | 5·8320870 |
| 62 | 4·8779505 | 5·8382895 | 62 | 4·8642334 | 5·8202382 | 62 | 4·8503053 | 5·8014564 |
| 63 | 4·8569274 | 5·8057596 | 63 | 4·8432103 | 5·7878930 | 63 | 4·8292822 | 5·7693055 |
| 64 | 4·8348107 | 5·7716108 | 64 | 4·8210936 | 5·7539261 | 64 | 4·8071655 | 5·7355305 |
| 65 | 4·8114871 | 5·7357333 | 65 | 4·7977700 | 5·7182279 | 65 | 4·7838419 | 5·7000215 |
| 66 | 4·7868320 | 5·6980117 | 66 | 4·7731149 | 5·6806813 | 66 | 4·7591868 | 5·6626614 |
| 67 | 4·7607101 | 5·6583218 | 67 | 4·7469930 | 5·6411631 | 67 | 4·7330649 | 5·6233251 |
| 68 | 4·7329752 | 5·6165325 | 68 | 4·7192581 | 5·5995415 | 68 | 4·7053300 | 5·5818819 |
| 69 | 4·7034699 | 5·5725052 | 69 | 4·6897528 | 5·5556771 | 69 | 4·6758247 | 5·5381914 |
| 70 | 4·6720262 | 5·5260924 | 70 | 4·6583091 | 5·5094227 | 70 | 4·6443810 | 5·4921064 |
| 71 | 4·6384649 | 5·4771392 | 71 | 4·6247478 | 5·4606227 | 71 | 4·6108197 | 5·4434704 |
| 72 | 4·6025959 | 5·4254806 | 72 | 4·5888788 | 5·4091125 | 72 | 4·5749507 | 5·3921193 |
| 73 | 4·5642183 | 5·3709441 | 73 | 4·5505012 | 5·3547184 | 73 | 4·5365731 | 5·3378796 |
| 74 | 4·5231202 | 5·3133462 | 74 | 4·5094031 | 5·2972588 | 74 | 4·4954750 | 5·2805679 |
| 75 | 4·4790786 | 5·2524950 | 75 | 4·4653615 | 5·2365401 | 75 | 4·4514334 | 5·2199928 |
| 76 | 4·4318597 | 5·1881886 | 76 | 4·4181426 | 5·1723606 | 76 | 4·4042145 | 5·1559506 |
| 77 | 4·3812189 | 5·1202149 | 77 | 4·3675018 | 5·1045083 | 77 | 4·3535737 | 5·0882303 |
| 78 | 4·3269003 | 5·0483494 | 78 | 4·3131832 | 5·0327602 | 78 | 4·2992551 | 5·0166088 |
| 79 | 4·2686374 | 4·9723602 | 79 | 4·2549203 | 4·9568818 | 79 | 4·2409922 | 4·9408525 |
| 80 | 4·2061526 | 4·8920027 | 80 | 4·1924355 | 4·8766306 | 80 | 4·1785074 | 4·8607164 |
| 81 | 4·1391574 | 4·8070206 | 81 | 4·1254403 | 4·7917496 | 81 | 4·1115122 | 4·7759467 |
| 82 | 4·0673523 | 4·7171468 | 82 | 4·0536352 | 4·7019727 | 82 | 4·0397071 | 4·6862760 |
| 83 | 3·9904270 | 4·6221030 | 83 | 3·9767099 | 4·6070205 | 83 | 3·9627818 | 4·5914249 |
| 84 | 3·9080600 | 4·5215992 | 84 | 3·8943429 | 4·5066039 | 84 | 3·8804148 | 4·4911045 |
| 85 | 3·8199193 | 4·4153331 | 85 | 3·8062022 | 4·4004204 | 85 | 3·7922741 | 4·3850130 |
| 86 | 3·7256614 | 4·3029903 | 86 | 3·7119443 | 4·2881560 | 86 | 3·6980162 | 4·2728359 |
| 87 | 3·6249323 | 4·1842450 | 87 | 3·6112152 | 4·1694849 | 87 | 3·5972871 | 4·1542474 |
| 88 | 3·5173669 | 4·0587577 | 88 | 3·5036498 | 4·0440681 | 88 | 3·4897217 | 4·0289098 |
| 89 | 3·4025891 | 3·9261773 | 89 | 3·3888720 | 3·9115539 | 89 | 3·3749439 | 3·8964711 |
| 90 | 3·2802120 | 3·7861386 | 90 | 3·2664949 | 3·7715786 | 90 | 3·2525668 | 3·7565677 |
| 91 | 3·1498377 | 3·6382646 | 91 | 3·1361206 | 3·6237639 | 91 | 3·1221925 | 3·6088212 |
| 92 | 3·0110573 | 3·4821616 | 92 | 2·9973402 | 3·4677174 | 92 | 2·9834121 | 3·4528388 |
| 93 | 2·8634511 | 3·3174219 | 93 | 2·8497340 | 3·3030306 | 93 | 2·8358059 | 3·2882146 |
| 94 | 2·7065882 | 3·1436161 | 94 | 2·6928711 | 3·1292754 | 94 | 2·6789430 | 3·1145183 |
| 95 | 2·5400270 | 2·9602909 | 95 | 2·5263099 | 2·9459990 | 95 | 2·5123818 | 2·9312987 |
| 96 | 2·3633150 | 2·7669576 | 96 | 2·3495979 | 2·7527121 | 96 | 2·3356698 | 2·7380675 |
| 97 | 2·1759885 | 2·5630704 | 97 | 2·1622714 | 2·5488695 | 97 | 2·1483433 | 2·5342787 |
| 98 | 1·9775732 | 2·3479834 | 98 | 1·9638561 | 2·3338288 | 98 | 1·9499280 | 2·3192922 |
| 99 | 1·7675834 | 2·1208692 | 99 | 1·7538663 | 2·1067616 | 99 | 1·7399382 | 2·0922816 |
| 100 | 1·5455229 | 1·8805341 | 100 | 1·5318058 | 1·8664776 | 100 | 1·5178777 | 1·8520583 |
| 101 | 1·3108844 | 1·6250170 | 101 | 1·2971673 | 1·6110187 | 101 | 1·2832392 | 1·5966697 |
| 102 | 1·0631496 | 1·3506337 | 102 | 1·0494325 | 1·3367058 | 102 | 1·0355044 | 1·3224426 |
| 103 | 0·8017893 | 1·0494661 | 103 | 0·7880722 | 1·0356218 | 103 | 0·7741441 | 1·0214704 |
| 104 | 0·5262635 | 0·7013780 | 104 | 0·5125464 | 0·6876003 | 104 | 0·4986183 | 0·6735922 |
| 105 | 0·2360209 | | 105 | 0·2223038 | | 105 | 0·2083757 | |
| 106 | 9·9304997 | | 106 | 9·9167826 | | 106 | 9·9028545 | |
| 107 | 9·6091268 | | 107 | 9·5954097 | | 107 | 9·5814816 | |
| 108 | 9·2713184 | | 108 | 9·2576013 | | 108 | 9·2436732 | |
| 109 | 8·9164796 | | 109 | 8·9027625 | | 109 | 8·8888344 | |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 54 | | | 55 | | | 56 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,54}$ | λ $N_{x,\,54}$ | Age of (x) | λ $D_{x,\,55}$ | λ $N_{x,\,55}$ | Age of (x) | λ $D_{x,\,56}$ | λ $N_{x,\,56}$ |
| 0 | 5·6761363 | 6·6888997 | 0 | 5·6610892 | 6·6635652 | 0 | 5·6454625 | 6·6373279 |
| 1 | 5·6068781 | 6·6700782 | 1 | 5·5918310 | 6·6445376 | 1 | 5·5762043 | 6·6180820 |
| 2 | 5·5727005 | 6·6564323 | 2 | 5·5576534 | 6·6308072 | 2 | 5·5420267 | 6·6042603 |
| 3 | 5·5506373 | 6·6447188 | 3 | 5·5355902 | 6·6190550 | 3 | 5·5199635 | 6·5924665 |
| 4 | 5·5335897 | 6·6339388 | 4 | 5·5185426 | 6·6082598 | 4 | 5·5029159 | 6·5816538 |
| 5 | 5·5194233 | 6·6237036 | 5 | 5·5043762 | 6·5980243 | 5 | 5·4887495 | 6·5714165 |
| 6 | 5·5071998 | 6·6137958 | 6 | 5·4921527 | 6·5881265 | 6 | 5·4765260 | 6·5615273 |
| 7 | 5·4961740 | 6·6040692 | 7 | 5·4811269 | 6·5784157 | 7 | 5·4655002 | 6·5518328 |
| 8 | 5·4857945 | 6·5944310 | 8 | 5·4707474 | 6·5687992 | 8 | 5·4551207 | 6·5422365 |
| 9 | 5·4760254 | 6·5848312 | 9 | 5·4609783 | 6·5592237 | 9 | 5·4453516 | 6·5326862 |
| 10 | 5·4667230 | 6·5752188 | 10 | 5·4516759 | 6·5496381 | 10 | 5·4360492 | 6·5231275 |
| 11 | 5·4577558 | 6·5655521 | 11 | 5·4427087 | 6·5399997 | 11 | 5·4270820 | 6·5135174 |
| 12 | 5·4490045 | 6·5557976 | 12 | 5·4339574 | 6·5302737 | 12 | 5·4183307 | 6·5038206 |
| 13 | 5·4403623 | 6·5459289 | 13 | 5·4253152 | 6·5204342 | 13 | 5·4096885 | 6·4940099 |
| 14 | 5·4317344 | 6·5359277 | 14 | 5·4166872 | 6·5104614 | 14 | 5·4010606 | 6·4840660 |
| 15 | 5·4230382 | 6·5257821 | 15 | 5·4079911 | 6·5003432 | 15 | 5·3923644 | 6·4739754 |
| 16 | 5·4142034 | 6·5154858 | 16 | 5·3991563 | 6·4900736 | 16 | 5·3835296 | 6·4637324 |
| 17 | 5·4051720 | 6·5050381 | 17 | 5·3901249 | 6·4796519 | 17 | 5·3744982 | 6·4533363 |
| 18 | 5·3958982 | 6·4944434 | 18 | 5·3808511 | 6·4690821 | 18 | 5·3652244 | 6·4427918 |
| 19 | 5·3863483 | 6·4837106 | 19 | 5·3713012 | 6·4583733 | 19 | 5·3556745 | 6·4321068 |
| 20 | 5·3765009 | 6·4728502 | 20 | 5·3614538 | 6·4475377 | 20 | 5·3458271 | 6·4212951 |
| 21 | 5·3663469 | 6·4618765 | 21 | 5·3512998 | 6·4365893 | 21 | 5·3356731 | 6·4103713 |
| 22 | 5·3560953 | 6·4508061 | 22 | 5·3410482 | 6·4255442 | 22 | 5·3254215 | 6·3993518 |
| 23 | 5·3457497 | 6·4396364 | 23 | 5·3307026 | 6·4144022 | 23 | 5·3150759 | 6·3882356 |
| 24 | 5·3353127 | 6·4283665 | 24 | 5·3202656 | 6·4031603 | 24 | 5·3046389 | 6·3770222 |
| 25 | 5·3247870 | 6·4169928 | 25 | 5·3097399 | 6·3918173 | 25 | 5·2941132 | 6·3657079 |
| 26 | 5·3141743 | 6·4055127 | 26 | 5·2991272 | 6·3803692 | 26 | 5·2835005 | 6·3542910 |
| 27 | 5·3034763 | 6·3939208 | 27 | 5·2884292 | 6·3688126 | 27 | 5·2728025 | 6·3427674 |
| 28 | 5·2926940 | 6·3822141 | 28 | 5·2776469 | 6·3571417 | 28 | 5·2620202 | 6·3311332 |
| 29 | 5·2818279 | 6·3703854 | 29 | 5·2667808 | 6·3453533 | 29 | 5·2511541 | 6·3193818 |
| 30 | 5·2708780 | 6·3584277 | 30 | 5·2558309 | 6·3334392 | 30 | 5·2402042 | 6·3075092 |
| 31 | 5·2598441 | 6·3463336 | 31 | 5·2447970 | 6·3213919 | 31 | 5·2291703 | 6·2955073 |
| 32 | 5·2487253 | 6·3340939 | 32 | 5·2336782 | 6·3092034 | 32 | 5·2180515 | 6·2833675 |
| 33 | 5·2375202 | 6·3216998 | 33 | 5·2224731 | 6·2968635 | 33 | 5·2068464 | 6·2710808 |
| 34 | 5·2262271 | 6·3091383 | 34 | 5·2111800 | 6·2843626 | 34 | 5·1955533 | 6·2586368 |
| 35 | 5·2148437 | 6·2963986 | 35 | 5·1997966 | 6·2716874 | 35 | 5·1841699 | 6·2460247 |
| 36 | 5·2033672 | 6·2834645 | 36 | 5·1883201 | 6·2588252 | 36 | 5·1726934 | 6·2332300 |
| 37 | 5·1917946 | 6·2703229 | 37 | 5·1767475 | 6·2457591 | 37 | 5·1611208 | 6·2202392 |
| 38 | 5·1801221 | 6·2569560 | 38 | 5·1650750 | 6·2324749 | 38 | 5·1494483 | 6·2070340 |
| 39 | 5·1683456 | 6·2433441 | 39 | 5·1532985 | 6·2189533 | 39 | 5·1376718 | 6·1935993 |
| 40 | 5·1564606 | 6·2294682 | 40 | 5·1414135 | 6·2051735 | 40 | 5·1257868 | 6·1799138 |
| 41 | 5·1444619 | 6·2153047 | 41 | 5·1294148 | 6·1911138 | 41 | 5·1137881 | 6·1659556 |
| 42 | 5·1323440 | 6·2008286 | 42 | 5·1172969 | 6·1767500 | 42 | 5·1016702 | 6·1517005 |
| 43 | 5·1201009 | 6·1860148 | 43 | 5·1050538 | 6·1620545 | 43 | 5·0894271 | 6·1371227 |
| 44 | 5·1077262 | 6·1708327 | 44 | 5·0926791 | 6·1469998 | 44 | 5·0770524 | 6·1221923 |
| 45 | 5·0952128 | 6·1552506 | 45 | 5·0801657 | 6·1315529 | 45 | 5·0645390 | 6·1068790 |
| 46 | 5·0825535 | 6·1392348 | 46 | 5·0675064 | 6·1156794 | 46 | 5·0518797 | 6·0911473 |
| 47 | 5·0697403 | 6·1227459 | 47 | 5·0546932 | 6·0993419 | 47 | 5·0390665 | 6·0749590 |
| 48 | 5·0567649 | 6·1057435 | 48 | 5·0417178 | 6·0824974 | 48 | 5·0260911 | 6·0582733 |
| 49 | 5·0436184 | 6·0881826 | 49 | 5·0285713 | 6·0651023 | 49 | 5·0129446 | 6·0410436 |
| 50 | 5·0302917 | 6·0700127 | 50 | 5·0152446 | 6·0471057 | 50 | 4·9996179 | 6·0232203 |
| 51 | 5·0167749 | 6·0511799 | 51 | 5·0017278 | 6·0284525 | 51 | 4·9861011 | 6·0047482 |
| 52 | 5·0030578 | 6·0316245 | 52 | 4·9880107 | 6·0090824 | 52 | 4·9723840 | 5·9855654 |
| 53 | 4·9891297 | 6·0112789 | 53 | 4·9740826 | 5·9889281 | 53 | 4·9584559 | 5·9656043 |
| 54 | 4·9749796 | 5·9900703 | 54 | 4·9599325 | 5·9679144 | 54 | 4·9443058 | 5·9447891 |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 54 | | 55 | | | 56 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,54}$ | λ $N_{x,\,54}$ | Age of (x) | λ $D_{x,\,55}$ | λ $N_{x,\,55}$ | Age of (x) | λ $D_{x,\,56}$ | λ $N_{x,\,56}$ |
| 55 | 4·9599325 | 5·9679144 | 55 | 4·9448854 | 5·9459577 | 55 | 4·9292587 | 5·9230348 |
| 56 | 4·9443058 | 5·9447891 | 56 | 4·9292587 | 5·9230348 | 56 | 4·9136320 | 5·9003192 |
| 57 | 4·9280736 | 5·9206339 | 57 | 4·9130265 | 5·8990853 | 57 | 4·8973998 | 5·8765802 |
| 58 | 4·9111989 | 5·8953820 | 58 | 4·8961518 | 5·8740417 | 58 | 4·8805251 | 5·8517508 |
| 59 | 4·8936340 | 5·8689610 | 59 | 4·8785869 | 5·8478310 | 59 | 4·8629602 | 5·8257567 |
| 60 | 4·8753201 | 5·8412917 | 60 | 4·8602730 | 5·8203735 | 60 | 4·8446463 | 5·7985177 |
| 61 | 4·8561873 | 5·8122898 | 61 | 4·8411402 | 5·7915834 | 61 | 4·8255135 | 5·7699476 |
| 62 | 4·8361552 | 5·7818637 | 62 | 4·8211081 | 5·7613692 | 62 | 4·8054814 | 5·7399536 |
| 63 | 4·8151321 | 5·7499159 | 63 | 4·8000850 | 5·7296327 | 63 | 4·7844583 | 5·7084370 |
| 64 | 4·7930154 | 5·7163424 | 64 | 4·7779683 | 5·6962686 | 64 | 4·7623416 | 5·6752922 |
| 65 | 4·7696918 | 5·6810322 | 65 | 4·7546447 | 5·6611660 | 65 | 4·7390180 | 5·6404068 |
| 66 | 4·7450367 | 5·6438677 | 66 | 4·7299896 | 5·6242062 | 66 | 4·7143629 | 5·6036619 |
| 67 | 4·7189148 | 5·6047243 | 67 | 4·7038677 | 5·5852640 | 67 | 4·6882410 | 5·5649317 |
| 68 | 4·6911799 | 5·5634689 | 68 | 4·6761328 | 5·5442066 | 68 | 4·6605061 | 5·5240825 |
| 69 | 4·6616746 | 5·5199629 | 69 | 4·6466275 | 5·5008931 | 69 | 4·6310008 | 5·4809737 |
| 70 | 4·6302309 | 5·4740571 | 70 | 4·6151838 | 5·4551760 | 70 | 4·5995571 | 5·4354556 |
| 71 | 4·5966696 | 5·4255958 | 71 | 4·5816225 | 5·4068980 | 71 | 4·5659958 | 5·3873724 |
| 72 | 4·5608006 | 5·3744140 | 72 | 4·5457535 | 5·3558942 | 72 | 4·5301268 | 5·3365578 |
| 73 | 4·5224230 | 5·3203378 | 73 | 4·5073759 | 5·3019904 | 73 | 4·4917492 | 5·2828375 |
| 74 | 4·4813249 | 5·2631848 | 74 | 4·4662778 | 5·2450036 | 74 | 4·4506511 | 5·2260283 |
| 75 | 4·4372833 | 5·2027618 | 75 | 4·4222362 | 5·1847414 | 75 | 4·4066095 | 5·1659372 |
| 76 | 4·3900644 | 5·1388674 | 76 | 4·3750173 | 5·1210011 | 76 | 4·3593906 | 5·1023620 |
| 77 | 4·3394236 | 5·0712879 | 77 | 4·3243765 | 5·0535709 | 77 | 4·3087498 | 5·0350902 |
| 78 | 4·2851050 | 4·9998019 | 78 | 4·2700579 | 4·9822265 | 78 | 4·2544312 | 4·9638992 |
| 79 | 4·2268421 | 4·9241759 | 79 | 4·2117950 | 4·9067363 | 79 | 4·1961683 | 4·8885541 |
| 80 | 4·1643573 | 4·8441645 | 80 | 4·1493102 | 4·8268558 | 80 | 4·1336835 | 4·8088130 |
| 81 | 4·0973621 | 4·7595130 | 81 | 4·0823150 | 4·7423291 | 81 | 4·0666883 | 4·7244200 |
| 82 | 4·0255570 | 4·6699562 | 82 | 4·0105099 | 4·6528891 | 82 | 3·9948832 | 4·6351081 |
| 83 | 3·9486317 | 4·5752139 | 83 | 3·9335846 | 4·5582604 | 83 | 3·9179579 | 4·5405997 |
| 84 | 3·8662647 | 4·4749976 | 84 | 3·8512176 | 4·4581511 | 84 | 3·8355909 | 4·4406059 |
| 85 | 3·7781240 | 4·3690047 | 85 | 3·7630769 | 4·3522605 | 85 | 3·7474502 | 4·3348247 |
| 86 | 3·6838661 | 4·2569223 | 86 | 3·6688190 | 4·2402746 | 86 | 3·6531923 | 4·2229435 |
| 87 | 3·5831370 | 4·1384237 | 87 | 3·5680899 | 4·1218686 | 87 | 3·5524632 | 4·1046356 |
| 88 | 3·4755716 | 4·0131710 | 88 | 3·4605245 | 3·9967030 | 88 | 3·4448978 | 3·9795648 |
| 89 | 3·3607938 | 3·8808142 | 89 | 3·3457467 | 3·8644286 | 89 | 3·3301200 | 3·8473783 |
| 90 | 3·2384167 | 3·7409884 | 90 | 3·2233696 | 3·7246813 | 90 | 3·2077429 | 3·7077158 |
| 91 | 3·1080424 | 3·5933171 | 91 | 3·0929953 | 3·5770838 | 91 | 3·0773686 | 3·5601985 |
| 92 | 2·9692620 | 3·4374057 | 92 | 2·9542149 | 3·4212443 | 92 | 2·9385882 | 3·4044350 |
| 93 | 2·8216558 | 3·2728486 | 93 | 2·8066087 | 3·2567550 | 93 | 2·7909820 | 3·2400178 |
| 94 | 2·6647929 | 3·0992188 | 94 | 2·6497458 | 3·0831886 | 94 | 2·6341191 | 3·0665208 |
| 95 | 2·4982317 | 2·9160616 | 95 | 2·4831846 | 2·9000950 | 95 | 2·4675579 | 2·8834922 |
| 96 | 2·3215197 | 2·7228921 | 96 | 2·3064726 | 2·7069839 | 96 | 2·2908459 | 2·6904477 |
| 97 | 2·1341932 | 2·5191649 | 97 | 2·1191461 | 2·5033166 | 97 | 2·1035194 | 2·4868412 |
| 98 | 1·9357779 | 2·3042386 | 98 | 1·9207308 | 2·2884498 | 98 | 1·9051041 | 2·2720390 |
| 99 | 1·7257881 | 2·0772920 | 99 | 1·7107410 | 2·0615633 | 99 | 1·6951143 | 2·0452181 |
| 100 | 1·5037276 | 1·8371375 | 100 | 1·4886805 | 1·8214755 | 100 | 1·4730538 | 1·8051997 |
| 101 | 1·2690891 | 1·5818268 | 101 | 1·2540420 | 1·5662395 | 101 | 1·2384153 | 1·5500448 |
| 102 | 1·0213543 | 1·3076949 | 102 | 1·0063072 | 1·2921963 | 102 | 0·9906805 | 1·2760963 |
| 103 | 0·7599940 | 1·0068467 | 103 | 0·7449469 | 0·9914609 | 103 | 0·7293202 | 0·9754778 |
| 104 | 0·4844682 | 0·6591458 | 104 | 0·4694211 | 0·6439065 | 104 | 0·4537944 | 0·6280720 |
| 105 | 0·1942256 | | 105 | 0·1791785 | | 105 | 0·1635518 | |
| 106 | 9·8887044 | | 106 | 9·8736573 | | 106 | 9·8580306 | |
| 107 | 9·5673315 | | 107 | 9·5522844 | | 107 | 9·5366577 | |
| 108 | 9·2295231 | | 108 | 9·2144760 | | 108 | 9·1988493 | |
| 109 | 8·8746843 | | 109 | 8·8596372 | | 109 | 8·8440105 | |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 57 | | | 58 | | | 59 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,57}$ | $\lambda\ N_{x,\,57}$ | Age of (x) | $\lambda\ D_{x,\,58}$ | $\lambda\ N_{x,\,58}$ | Age of (x) | $\lambda\ D_{x,\,59}$ | $\lambda\ N_{x,\,59}$ |
| 0 | 5·6292303 | 6·6101346 | 0 | 5·6123556 | 6·5819266 | 0 | 5·5947907 | 6·5526390 |
| 1 | 5·5599721 | 6·5906570 | 1 | 5·5430974 | 6·5622027 | 1 | 5·5255325 | 6·5326526 |
| 2 | 5·5257945 | 6·5767378 | 2 | 5·5089198 | 6·5481789 | 2 | 5·4913549 | 6·5185169 |
| 3 | 5·5037313 | 6·5648976 | 3 | 5·4868566 | 6·5362887 | 3 | 5·4692917 | 6·5065723 |
| 4 | 5·4866837 | 6·5540657 | 4 | 5·4698090 | 6·5254337 | 4 | 5·4522441 | 6·4956918 |
| 5 | 5·4725173 | 6·5438249 | 5 | 5·4556426 | 6·5151883 | 5 | 5·4380777 | 6·4854389 |
| 6 | 5·4602938 | 6·5339434 | 6 | 5·4434191 | 6·5053135 | 6 | 5·4258542 | 6·4755699 |
| 7 | 5·4492680 | 6·5242641 | 7 | 5·4323933 | 6·4956485 | 7 | 5·4148284 | 6·4659187 |
| 8 | 5·4388885 | 6·5146885 | 8 | 5·4220138 | 6·4860930 | 8 | 5·4044489 | 6·4563827 |
| 9 | 5·4291194 | 6·5051620 | 9 | 5·4122447 | 6·4765913 | 9 | 5·3946798 | 6·4469052 |
| 10 | 5·4198170 | 6·4956314 | 10 | 5·4029423 | 6·4670871 | 10 | 5·3853774 | 6·4374285 |
| 11 | 5·4108498 | 6·4860497 | 11 | 5·3939751 | 6·4575354 | 11 | 5·3764102 | 6·4279055 |
| 12 | 5·4020985 | 6·4763823 | 12 | 5·3852238 | 6·4478975 | 12 | 5·3676589 | 6·4182985 |
| 13 | 5·3934563 | 6·4666010 | 13 | 5·3765816 | 6·4381458 | 13 | 5·3590167 | 6·4085766 |
| 14 | 5·3848284 | 6·4566857 | 14 | 5·3679537 | 6·4282595 | 14 | 5·3503888 | 6·3987197 |
| 15 | 5·3761322 | 6·4466234 | 15 | 5·3592575 | 6·4182252 | 15 | 5·3416926 | 6·3887137 |
| 16 | 5·3672974 | 6·4364071 | 16 | 5·3504227 | 6·4080361 | 16 | 5·3328578 | 6·3785516 |
| 17 | 5·3582660 | 6·4260365 | 17 | 5·3413913 | 6·3976912 | 17 | 5·3238264 | 6·3682328 |
| 18 | 5·3489922 | 6·4155167 | 18 | 5·3321175 | 6·3871956 | 18 | 5·3145526 | 6·3577615 |
| 19 | 5·3394423 | 6·4048562 | 19 | 5·3225676 | 6·3765591 | 19 | 5·3050027 | 6·3471481 |
| 20 | 5·3295949 | 6·3940676 | 20 | 5·3127202 | 6·3657943 | 20 | 5·2951553 | 6·3364065 |
| 21 | 5·3194409 | 6·3831674 | 21 | 5·3025662 | 6·3549169 | 21 | 5·2850013 | 6·3255526 |
| 22 | 5·3091893 | 6·3721729 | 22 | 5·2923146 | 6·3439462 | 22 | 5·2747497 | 6·3146049 |
| 23 | 5·2988437 | 6·3610827 | 23 | 5·2819690 | 6·3328814 | 23 | 5·2644041 | 6·3035643 |
| 24 | 5·2884067 | 6·3498954 | 24 | 5·2715320 | 6·3217206 | 24 | 5·2539671 | 6·2924293 |
| 25 | 5·2778810 | 6·3386102 | 25 | 5·2610063 | 6·3104621 | 25 | 5·2434414 | 6·2811977 |
| 26 | 5·2672683 | 6·3272230 | 26 | 5·2503936 | 6·2991047 | 26 | 5·2328287 | 6·2698677 |
| 27 | 5·2565703 | 6·3157315 | 27 | 5·2396956 | 6·2876437 | 27 | 5·2221307 | 6·2584371 |
| 28 | 5·2457880 | 6·3041314 | 28 | 5·2289133 | 6·2760763 | 28 | 5·2113484 | 6·2469012 |
| 29 | 5·2349219 | 6·2924175 | 29 | 5·2180472 | 6·2643977 | 29 | 5·2004823 | 6·2352565 |
| 30 | 5·2239720 | 6·2805836 | 30 | 5·2070973 | 6·2526028 | 30 | 5·1895324 | 6·2234977 |
| 31 | 5·2129381 | 6·2686248 | 31 | 5·1960634 | 6·2406840 | 31 | 5·1784985 | 6·2116191 |
| 32 | 5·2018193 | 6·2565320 | 32 | 5·1849446 | 6·2286360 | 32 | 5·1673797 | 6·1996129 |
| 33 | 5·1906142 | 6·2442962 | 33 | 5·1737395 | 6·2164491 | 33 | 5·1561746 | 6·1874724 |
| 34 | 5·1793211 | 6·2319075 | 34 | 5·1624464 | 6·2041134 | 34 | 5·1448815 | 6·1751879 |
| 35 | 5·1679377 | 6·2193547 | 35 | 5·1510630 | 6·1916184 | 35 | 5·1334981 | 6·1627481 |
| 36 | 5·1564612 | 6·2066262 | 36 | 5·1395865 | 6·1789520 | 36 | 5·1220216 | 6·1501419 |
| 37 | 5·1448886 | 6·1937060 | 37 | 5·1280139 | 6·1661011 | 37 | 5·1104490 | 6·1373560 |
| 38 | 5·1332161 | 6·1805798 | 38 | 5·1163414 | 6·1530490 | 38 | 5·0987765 | 6·1243764 |
| 39 | 5·1214396 | 6·1672281 | 39 | 5·1045649 | 6·1397797 | 39 | 5·0870000 | 6·1111849 |
| 40 | 5·1095546 | 6·1536338 | 40 | 5·0926799 | 6·1262727 | 40 | 5·0751150 | 6·0977643 |
| 41 | 5·0975559 | 6·1397743 | 41 | 5·0806812 | 6·1125089 | 41 | 5·0631163 | 6·0840924 |
| 42 | 5·0854380 | 6·1256257 | 42 | 5·0685633 | 6·0984642 | 42 | 5·0509984 | 6·0701480 |
| 43 | 5·0731949 | 6·1111620 | 43 | 5·0563202 | 6·0841125 | 43 | 5·0387553 | 6·0559051 |
| 44 | 5·0608202 | 6·0963552 | 44 | 5·0439455 | 6·0694254 | 44 | 5·0263806 | 6·0413359 |
| 45 | 5·0483068 | 6·0811726 | 45 | 5·0314321 | 6·0543725 | 45 | 5·0138672 | 6·0264091 |
| 46 | 5·0356475 | 6·0655808 | 46 | 5·0187728 | 6·0389181 | 46 | 5·0012079 | 6·0110906 |
| 47 | 5·0228343 | 6·0495413 | 47 | 5·0059596 | 6·0230256 | 47 | 4·9883947 | 5·9953423 |
| 48 | 5·0098589 | 6·0330125 | 48 | 4·9929842 | 6·0066526 | 48 | 4·9754193 | 5·9791234 |
| 49 | 4·9967124 | 6·0159487 | 49 | 4·9798377 | 5·9897531 | 49 | 4·9622728 | 5·9623873 |
| 50 | 4·9833857 | 5·9982989 | 50 | 4·9665110 | 5·9722767 | 50 | 4·9489461 | 5·9450835 |
| 51 | 4·9698689 | 5·9800079 | 51 | 4·9529942 | 5·9541673 | 51 | 4·9354293 | 5·9271552 |
| 52 | 4·9561518 | 5·9610139 | 52 | 4·9392771 | 5·9353625 | 52 | 4·9217122 | 5·9085399 |
| 53 | 4·9422237 | 5·9412481 | 53 | 4·9253190 | 5·9157933 | 53 | 4·9077841 | 5·8891679 |
| 54 | 4·9280736 | 5·9206339 | 54 | 4·9111989 | 5·8953820 | 54 | 4·8936340 | 5·8689610 |

## JOINT LIVES:—TWO FEMALES.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 57 | | | 58 | | | 59 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,57}$ | $\lambda\ N_{x,\,57}$ | Age of (x) | $\lambda\ D_{x,\,58}$ | $\lambda\ N_{x,\,58}$ | Age of (x) | $\lambda\ D_{x,\,59}$ | $\lambda\ N_{x,\,59}$ |
| 55 | 4·9130265 | 5·8990853 | 55 | 4·8961518 | 5·8740417 | 55 | 4·8785869 | 5·8478310 |
| 56 | 4·8973998 | 5·8765802 | 56 | 4·8805251 | 5·8517508 | 56 | 4·8629602 | 5·8257567 |
| 57 | 4·8811676 | 5·8530570 | 57 | 4·8642929 | 5·8284466 | 57 | 4·8467280 | 5·8026752 |
| 58 | 4·8642929 | 5·8284466 | 58 | 4·8474182 | 5·8040606 | 58 | 4·8298533 | 5·7785172 |
| 59 | 4·8467280 | 5·8026752 | 59 | 4·8298533 | 5·7785172 | 59 | 4·8122884 | 5·7532072 |
| 60 | 4·8284141 | 5·7756616 | 60 | 4·8115394 | 5·7517353 | 60 | 4·7939745 | 5·7266623 |
| 61 | 4·8092813 | 5·7473188 | 61 | 4·7924066 | 5·7236267 | 61 | 4·7748417 | 5·6987947 |
| 62 | 4·7892492 | 5·7175533 | 62 | 4·7723745 | 5·6940974 | 62 | 4·7548096 | 5·6695086 |
| 63 | 4·7682261 | 5·6862653 | 63 | 4·7513514 | 5·6630467 | 63 | 4·7337865 | 5·6387033 |
| 64 | 4·7461094 | 5·6533488 | 64 | 4·7292347 | 5·6303675 | 64 | 4·7116698 | 5·6062704 |
| 65 | 4·7227858 | 5·6186907 | 65 | 4·7059111 | 5·5959464 | 65 | 4·6883462 | 5·5720953 |
| 66 | 4·6981307 | 5·5821712 | 66 | 4·6812560 | 5·5596625 | 66 | 4·6636911 | 5·5360571 |
| 67 | 4·6720088 | 5·5436638 | 67 | 4·6551341 | 5·5213884 | 67 | 4·6375692 | 5·4980270 |
| 68 | 4·6442739 | 5·5030339 | 68 | 4·6273992 | 5·4809893 | 68 | 4·6098343 | 5·4578695 |
| 69 | 4·6147686 | 5·4601404 | 69 | 4·5978939 | 5·4383229 | 69 | 4·5803290 | 5·4154418 |
| 70 | 4·5833249 | 5·4148340 | 70 | 4·5664502 | 5·3932393 | 70 | 4·5488853 | 5·3705931 |
| 71 | 4·5497636 | 5·3669565 | 71 | 4·5328889 | 5·3455806 | 71 | 4·5153240 | 5·3231644 |
| 72 | 4·5138946 | 5·3163430 | 72 | 4·4970199 | 5·2951795 | 72 | 4·4794550 | 5·2729895 |
| 73 | 4·4755170 | 5·2628181 | 73 | 4·4586423 | 5·2418621 | 73 | 4·4410774 | 5·2198917 |
| 74 | 4·4344189 | 5·2061980 | 74 | 4·4175442 | 5·1854439 | 74 | 4·3999793 | 5·1636875 |
| 75 | 4·3903773 | 5·1462902 | 75 | 4·3735026 | 5·1257310 | 75 | 4·3559377 | 5·1041828 |
| 76 | 4·3431584 | 5·0828912 | 76 | 4·3262837 | 5·0625215 | 76 | 4·3087188 | 5·0411743 |
| 77 | 4·2925176 | 5·0157893 | 77 | 4·2756429 | 4·9956010 | 77 | 4·2580780 | 4·9744490 |
| 78 | 4·2381990 | 4·9447615 | 78 | 4·2213243 | 4·9247480 | 78 | 4·2037594 | 4·9037832 |
| 79 | 4·1799361 | 4·8695743 | 79 | 4·1630614 | 4·8497289 | 79 | 4·1454965 | 4·8289446 |
| 80 | 4·1174513 | 4·7899824 | 80 | 4·1005766 | 4·7702996 | 80 | 4·0830117 | 4·7496876 |
| 81 | 4·0504561 | 4·7057329 | 81 | 4·0335814 | 4·6862035 | 81 | 4·0160165 | 4·6657592 |
| 82 | 3·9786510 | 4·6165579 | 82 | 3·9617763 | 4·5971762 | 82 | 3·9442114 | 4·5768899 |
| 83 | 3·9017257 | 4·5221804 | 83 | 3·8848510 | 4·5029396 | 83 | 3·8672861 | 4·4828053 |
| 84 | 3·8193587 | 4·4223104 | 84 | 3·8024840 | 4·4032041 | 84 | 3·7849191 | 4·3832149 |
| 85 | 3·7312180 | 4·3166477 | 85 | 3·7143433 | 4·2976686 | 85 | 3·6967784 | 4·2778177 |
| 86 | 3·6369601 | 4·2048785 | 86 | 3·6200854 | 4·1860210 | 86 | 3·6025205 | 4·1663011 |
| 87 | 3·5362310 | 4·0866779 | 87 | 3·5193563 | 4·0679355 | 87 | 3·5017914 | 4·0483408 |
| 88 | 3·4286656 | 3·9617077 | 88 | 3·4117909 | 3·9430754 | 88 | 3·3942260 | 3·9235989 |
| 89 | 3·3138878 | 3·8296183 | 89 | 3·2970131 | 3·8110895 | 89 | 3·2794482 | 3·7917264 |
| 90 | 3·1915107 | 3·6900454 | 90 | 3·1746360 | 3·6716162 | 90 | 3·1570711 | 3·6523595 |
| 91 | 3·0611364 | 3·5426151 | 91 | 3·0442617 | 3·5242780 | 91 | 3·0266968 | 3·5051242 |
| 92 | 2·9223560 | 3·3869334 | 92 | 2·9054813 | 3·3686860 | 92 | 2·8879164 | 3·3496280 |
| 93 | 2·7747498 | 3·2225947 | 93 | 2·7578751 | 3·2044317 | 93 | 2·7403102 | 3·1854657 |
| 94 | 2·6178869 | 3·0491719 | 94 | 2·6010122 | 3·0310904 | 94 | 2·5834473 | 3·0122119 |
| 95 | 2·4513257 | 2·8662152 | 95 | 2·4344510 | 2·8482107 | 95 | 2·4168861 | 2·8294177 |
| 96 | 2·2746137 | 2·6732384 | 96 | 2·2577390 | 2·6553094 | 96 | 2·2401741 | 2·6365972 |
| 97 | 2·0872872 | 2·4697027 | 97 | 2·0704125 | 2·4518463 | 97 | 2·0528476 | 2·4332144 |
| 98 | 1·8888719 | 2·2549667 | 98 | 1·8719972 | 2·2371857 | 98 | 1·8544323 | 2·2186344 |
| 99 | 1·6788821 | 2·0282177 | 99 | 1·6620074 | 2·0105120 | 99 | 1·6444425 | 1·9920447 |
| 100 | 1·4568216 | 1·7882752 | 100 | 1·4399469 | 1·7706539 | 100 | 1·4223820 | 1·7522744 |
| 101 | 1·2221831 | 1·5332050 | 101 | 1·2053084 | 1·5156765 | 101 | 1·1877435 | 1·4974024 |
| 102 | 0·9744183 | 1·2593621 | 102 | 0·9575736 | 1·2419422 | 102 | 0·9400087 | 1·2237892 |
| 103 | 0·7130880 | 0·9588695 | 103 | 0·6962133 | 0·9415959 | 103 | 0·6786484 | 0·9235859 |
| 104 | 0·4375622 | 0·6116277 | 104 | 0·4206875 | 0·5945251 | 104 | 0·4031226 | 0·5767213 |
| 105 | 0·1473196 | | 105 | 0·1304449 | | 105 | 0·1128800 | |
| 106 | 9·8417984 | | 106 | 9·8249237 | | 106 | 9·8073588 | |
| 107 | 9·5204255 | | 107 | 9·5035508 | | 107 | 9·4859859 | |
| 108 | 9·1826171 | | 108 | 9·1657424 | | 108 | 9·1481775 | |
| 109 | 8·8277783 | | 109 | 8·8109036 | | 109 | 8·7933387 | |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 60 | | | 61 | | | 62 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,60}$ | λ $N_{x,60}$ | Age of (x) | λ $D_{x,61}$ | λ $N_{x,61}$ | Age of (x) | λ $D_{x,62}$ | λ $N_{x,62}$ |
| 0 | 5·5764768 | 6·5221999 | 0 | 5·5573440 | 6·4905319 | 0 | 5·5373119 | 6·4575506 |
| 1 | 5·5072186 | 6·5019352 | 1 | 5·4880858 | 6·4699705 | 1 | 5·4680537 | 6·4366744 |
| 2 | 5·4730410 | 6·4876791 | 2 | 5·4539082 | 6·4555866 | 2 | 5·4338761 | 6·4221529 |
| 3 | 5·4509778 | 6·4756753 | 3 | 5·4318450 | 6·4435180 | 3 | 5·4118129 | 6·4100152 |
| 4 | 5·4339302 | 6·4647662 | 4 | 5·4147974 | 6·4325771 | 4 | 5·3947653 | 6·3990385 |
| 5 | 5·4197638 | 6·4545042 | 5 | 5·4006310 | 6·4223037 | 5 | 5·3805989 | 6·3887509 |
| 6 | 5·4075403 | 6·4446386 | 6 | 5·3884075 | 6·4124405 | 6 | 5·3683754 | 6·3788888 |
| 7 | 5·3965145 | 6·4350009 | 7 | 5·3773817 | 6·4028141 | 7 | 5·3573496 | 6·3692732 |
| 8 | 5·3861350 | 6·4254840 | 8 | 5·3670022 | 6·3933165 | 8 | 5·3469701 | 6·3597929 |
| 9 | 5·3763659 | 6·4160302 | 9 | 5·3572331 | 6·3838864 | 9 | 5·3372010 | 6·3503868 |
| 10 | 5·3670635 | 6·4065810 | 10 | 5·3479307 | 6·3744645 | 10 | 5·3278986 | 6·3409919 |
| 11 | 5·3580963 | 6·3970875 | 11 | 5·3389635 | 6·3650004 | 11 | 5·3189314 | 6·3315575 |
| 12 | 5·3493450 | 6·3875102 | 12 | 5·3302122 | 6·3554538 | 12 | 5·3101801 | 6·3220418 |
| 13 | 5·3407028 | 6·3778196 | 13 | 5·3215700 | 6·3457933 | 13 | 5·3015379 | 6·3124124 |
| 14 | 5·3320749 | 6·3679922 | 14 | 5·3129421 | 6·3359970 | 14 | 5·2929100 | 6·3026459 |
| 15 | 5·3233787 | 6·3580146 | 15 | 5·3042459 | 6·3260482 | 15 | 5·2842138 | 6·2927271 |
| 16 | 5·3145439 | 6·3478800 | 16 | 5·2954111 | 6·3159406 | 16 | 5·2753790 | 6·2826471 |
| 17 | 5·3055125 | 6·3375867 | 17 | 5·2863797 | 6·3056733 | 17 | 5·2663476 | 6·2724053 |
| 18 | 5·2962387 | 6·3271402 | 18 | 5·2771059 | 6·2952510 | 18 | 5·2570738 | 6·2620075 |
| 19 | 5·2866888 | 6·3165501 | 19 | 5·2675560 | 6·2846842 | 19 | 5·2475239 | 6·2514635 |
| 20 | 5·2768414 | 6·3058306 | 20 | 5·2577086 | 6·2739874 | 20 | 5·2376765 | 6·2407888 |
| 21 | 5·2666874 | 6·2949996 | 21 | 5·2475546 | 6·2631779 | 21 | 5·2275225 | 6·2300013 |
| 22 | 5·2564358 | 6·2840757 | 22 | 5·2373030 | 6·2522769 | 22 | 5·2172709 | 6·2191223 |
| 23 | 5·2460902 | 6·2730583 | 23 | 5·2269574 | 6·2412835 | 23 | 5·2069253 | 6·2081518 |
| 24 | 5·2356532 | 6·2619477 | 24 | 5·2165204 | 6·2301965 | 24 | 5·1964883 | 6·1970889 |
| 25 | 5·2251275 | 6·2507425 | 25 | 5·2059947 | 6·2190161 | 25 | 5·1859626 | 6·1859324 |
| 26 | 5·2145148 | 6·2394396 | 26 | 5·1953820 | 6·2077399 | 26 | 5·1753499 | 6·1746815 |
| 27 | 5·2038168 | 6·2280373 | 27 | 5·1846840 | 6·1963653 | 27 | 5·1646519 | 6·1633341 |
| 28 | 5 1930345 | 6·2165325 | 28 | 5·1739017 | 6·1848896 | 28 | 5·1538696 | 6·1518866 |
| 29 | 5·1821684 | 6·2049203 | 29 | 5·1630356 | 6·1733089 | 29 | 5·1430035 | 6·1403358 |
| 30 | 5·1712185 | 6·1931964 | 30 | 5·1520857 | 6·1616186 | 30 | 5·1320536 | 6·1286781 |
| 31 | 5·1601846 | 6·1813553 | 31 | 5·1410518 | 6·1498137 | 31 | 5·1210197 | 6·1169075 |
| 32 | 5·1490658 | 6·1693905 | 32 | 5·1299330 | 6·1378878 | 32 | 5·1099009 | 6·1050191 |
| 33 | 5·1378607 | 6·1572935 | 33 | 5·1187279 | 6·1258338 | 33 | 5·0986958 | 6·0930054 |
| 34 | 5·1265676 | 6·1450574 | 34 | 5·1074348 | 6·1136426 | 34 | 5·0874027 | 6·0808587 |
| 35 | 5·1151842 | 6·1326707 | 35 | 5·0960514 | 6·1013067 | 35 | 5·0760193 | 6·0685695 |
| 36 | 5·1037077 | 6·1201223 | 36 | 5·0845749 | 6·0888134 | 36 | 5·0645428 | 6·0561293 |
| 37 | 5·0921351 | 6·1073993 | 37 | 5·0730023 | 6·0761509 | 37 | 5·0529702 | 6·0435242 |
| 38 | 5·0804626 | 6·0944879 | 38 | 5·0613298 | 6·0633052 | 38 | 5·0412977 | 6·0307418 |
| 39 | 5·0686861 | 6·0813725 | 39 | 5·0495533 | 6·0502610 | 39 | 5·0295212 | 6·0177669 |
| 40 | 5·0568011 | 6·0680334 | 40 | 5·0376683 | 6·0370020 | 40 | 5·0176362 | 6·0045823 |
| 41 | 5·0448024 | 6·0544518 | 41 | 5·0256696 | 6·0235060 | 41 | 5·0056375 | 5·9911703 |
| 42 | 5·0326845 | 6·0406043 | 42 | 5·0135517 | 6·0097534 | 42 | 4·9935196 | 5·9775074 |
| 43 | 5·0204414 | 6·0264671 | 43 | 5·0013086 | 5·9957181 | 43 | 4·9812765 | 5·9635713 |
| 44 | 5·0080667 | 6·0120121 | 44 | 4·9889339 | 5·9813741 | 44 | 4·9689018 | 5·9493349 |
| 45 | 4·9955533 | 5·9972086 | 45 | 4·9764205 | 5·9666908 | 45 | 4·9563884 | 5·9347685 |
| 46 | 4·9828940 | 5·9820226 | 46 | 4·9637612 | 5·9516346 | 46 | 4·9437291 | 5·9198386 |
| 47 | 4·9700808 | 5·9664171 | 47 | 4·9509480 | 5·9361683 | 47 | 4·9309159 | 5·9045087 |
| 48 | 4·9571054 | 5·9503498 | 48 | 4·9379726 | 5·9202507 | 48 | 4·9179405 | 5·8887371 |
| 49 | 4·9439589 | 5·9337755 | 49 | 4·9248261 | 5·9038354 | 49 | 4·9047940 | 5·8724786 |
| 50 | 4·9306322 | 5·9166426 | 50 | 4·9114994 | 5·8868716 | 50 | 4·8914673 | 5·8556817 |
| 51 | 4·9171154 | 5·8988947 | 51 | 4·8979826 | 5·8693025 | 51 | 4·8779505 | 5·8382895 |
| 52 | 4·9033983 | 5·8804685 | 52 | 4·8842655 | 5·8510646 | 52 | 4·8642334 | 5·8202382 |
| 53 | 4·8894702 | 5·8612939 | 53 | 4·8703374 | 5·8320870 | 53 | 4·8503053 | 5·8014564 |
| 54 | 4·8753201 | 5·8412917 | 54 | 4·8561873 | 5·8122898 | 54 | 4·8361552 | 5·7818637 |

## JOINT LIVES:—Two Females.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 60 | | 61 | | | 62 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,60}$ | λ $N_{x,\,60}$ | Age of (x) | λ $D_{x,\,61}$ | λ $N_{x,\,61}$ | Age of (x) | λ $D_{x,\,62}$ | λ $N_{x,\,62}$ |
| 55 | 4·8602730 | 5·8203735 | 55 | 4·8411402 | 5·7915834 | 55 | 4·8211081 | 5·7613692 |
| 56 | 4·8446463 | 5·7985177 | 56 | 4·8255135 | 5·7699476 | 56 | 4·8054814 | 5·7399536 |
| 57 | 4·8284141 | 5·7756616 | 57 | 4·8092813 | 5·7473188 | 57 | 4·7892492 | 5·7175533 |
| 58 | 4·8115394 | 5·7517353 | 58 | 4·7924066 | 5·7236267 | 58 | 4·7723745 | 5·6940974 |
| 59 | 4·7939745 | 5·7266623 | 59 | 4·7748417 | 5·6987947 | 59 | 4·7548096 | 5·6695086 |
| 60 | 4·7756606 | 5·7003601 | 60 | 4·7565278 | 5·6727386 | 60 | 4·7364957 | 5·6437029 |
| 61 | 4·7565278 | 5·6727386 | 61 | 4·7373950 | 5·6453693 | 61 | 4·7173629 | 5·6165890 |
| 62 | 4·7364957 | 5·6437029 | 62 | 4·7173629 | 5·6165890 | 62 | 4·6973308 | 5·5880706 |
| 63 | 4·7154726 | 5·6131500 | 63 | 4·6963398 | 5·5862959 | 63 | 4·6763077 | 5·5580423 |
| 64 | 4·6933559 | 5·5809716 | 64 | 4·6742231 | 5·5543793 | 64 | 4·6541910 | 5·5263949 |
| 65 | 4·6700323 | 5·5470519 | 65 | 4·6508995 | 5·5207233 | 65 | 4·6308674 | 5·4930099 |
| 66 | 4·6453772 | 5·5112687 | 66 | 4·6262444 | 5·4852045 | 66 | 4·6062123 | 5·4577640 |
| 67 | 4·6192553 | 5·4734930 | 67 | 4·6001225 | 5·4476929 | 67 | 4·5800904 | 5·4205258 |
| 68 | 4·5915204 | 5·4335882 | 68 | 4·5723876 | 5·4080509 | 68 | 4·5523555 | 5·3811568 |
| 69 | 4·5620151 | 5·3914103 | 69 | 4·5428823 | 5·3661343 | 69 | 4·5228502 | 5·3395117 |
| 70 | 4·5305714 | 5·3468082 | 70 | 4·5114386 | 5·3217901 | 70 | 4·4914065 | 5·2954371 |
| 71 | 4·4970101 | 5·2996223 | 71 | 4·4778773 | 5·2748591 | 71 | 4·4578452 | 5·2487722 |
| 72 | 4·4611411 | 5·2496850 | 72 | 4·4420083 | 5·2251722 | 72 | 4·4219762 | 5·1993479 |
| 73 | 4·4227635 | 5·1968206 | 73 | 4·4036307 | 5·1725527 | 73 | 4·3835986 | 5·1469868 |
| 74 | 4·3816654 | 5·1408429 | 74 | 4·3625326 | 5·1168158 | 74 | 4·3425005 | 5·0915021 |
| 75 | 4·3376238 | 5·0815590 | 75 | 4·3184910 | 5·0577654 | 75 | 4·2984589 | 5·0326993 |
| 76 | 4·2904049 | 5·0187650 | 76 | 4·2712721 | 4·9951989 | 76 | 4·2512400 | 4·9703729 |
| 77 | 4·2397641 | 4·9522474 | 77 | 4·2206313 | 4·9289021 | 77 | 4·2005992 | 4·9043102 |
| 78 | 4·1854455 | 4·8817823 | 78 | 4·1663127 | 4·8586509 | 78 | 4·1462806 | 4·8342866 |
| 79 | 4·1271826 | 4·8071364 | 79 | 4·1080498 | 4·7842113 | 79 | 4·0880177 | 4·7600672 |
| 80 | 4·0646978 | 4·7280655 | 80 | 4·0455650 | 4·7053393 | 80 | 4·0255329 | 4·6814068 |
| 81 | 3·9977026 | 4·6443146 | 81 | 3·9785698 | 4·6217796 | 81 | 3·9585377 | 4·5980514 |
| 82 | 3·9258975 | 4·5556173 | 82 | 3·9067647 | 4·5332657 | 82 | 3·8867326 | 4·5097344 |
| 83 | 3·8489722 | 4·4616959 | 83 | 3·8298394 | 4·4395204 | 83 | 3·8098073 | 4·4161775 |
| 84 | 3·7666052 | 4·3622619 | 84 | 3·7474724 | 4·3402543 | 84 | 3·7274403 | 4·3170927 |
| 85 | 3·6784645 | 4·2570141 | 85 | 3·6593317 | 4·2351675 | 85 | 3·6392996 | 4·2121783 |
| 86 | 3·5842066 | 4·1456398 | 86 | 3·5650738 | 4·1239470 | 86 | 3·5450417 | 4·1011234 |
| 87 | 3·4831775 | 4·0278142 | 87 | 3·4643447 | 4·0062679 | 87 | 3·4443126 | 3·9836024 |
| 88 | 3·3759121 | 3·9032013 | 88 | 3·3567793 | 3·8817937 | 88 | 3·3367472 | 3·8592788 |
| 89 | 3·2611343 | 3·7714508 | 89 | 3·2420015 | 3·7501758 | 89 | 3·2219694 | 3·7278039 |
| 90 | 3·1387572 | 3·6322011 | 90 | 3·1196244 | 3·6110517 | 90 | 3·0995923 | 3·5888160 |
| 91 | 3·0083829 | 3·4850752 | 91 | 2·9892501 | 3·4640461 | 91 | 2·9692180 | 3·4419407 |
| 92 | 2·8696025 | 3·3296842 | 92 | 2·8504697 | 3·3087694 | 92 | 2·8304376 | 3·2867876 |
| 93 | 2·7219963 | 3·1656218 | 93 | 2·7028635 | 3·1448158 | 93 | 2·6828314 | 3·1229524 |
| 94 | 2·5651334 | 2·9924633 | 94 | 2·5460006 | 2·9717614 | 94 | 2·5259685 | 2·9500108 |
| 95 | 2·3985722 | 2·8097610 | 95 | 2·3794394 | 2·7891582 | 95 | 2·3594073 | 2·7675165 |
| 96 | 2·2218602 | 2·6170308 | 96 | 2·2027274 | 2·5965256 | 96 | 2·1826953 | 2·5749880 |
| 97 | 2·0345337 | 2·4137338 | 97 | 2·0154009 | 2·3933260 | 97 | 1·9953688 | 2·3718924 |
| 98 | 1·8361184 | 2·1992425 | 98 | 1·8169856 | 2·1789283 | 98 | 1·7969535 | 2·1576006 |
| 99 | 1·6261286 | 1·9727437 | 99 | 1·6069958 | 1·9525290 | 99 | 1·5869637 | 1·9313094 |
| 100 | 1·4040681 | 1·7330728 | 100 | 1·3849353 | 1·7129652 | 100 | 1·3649032 | 1·6918627 |
| 101 | 1·1694296 | 1·4783081 | 101 | 1·1502968 | 1·4583235 | 101 | 1·1302647 | 1·4373541 |
| 102 | 0·9216948 | 1·2048332 | 102 | 0·9025620 | 1·1849866 | 102 | 0·8825299 | 1·1641803 |
| 103 | 0·6603345 | 0·9047967 | 103 | 0·6412017 | 0·8851406 | 103 | 0·6211696 | 0·8645170 |
| 104 | 0·3848087 | 0·5581323 | 104 | 0·3656759 | 0·5387119 | 104 | 0·3456438 | 0·5183560 |
| 105 | 0·0945661 | | 105 | 0·0754333 | | 105 | 0·0554012 | |
| 106 | 9·7890449 | | 106 | 9·7699121 | | 106 | 9·7498800 | |
| 107 | 9·4676720 | | 107 | 9·4485392 | | 107 | 9·4285071 | |
| 108 | 9·1298636 | | 108 | 9·1107308 | | 108 | 9·0906987 | |
| 109 | 8·7750248 | | 109 | 8·7558920 | | 109 | 8·7358599 | |

## JOINT LIVES:—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 63 | | | 64 | | | 65 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,63}$ | λ $N_{x,\,63}$ | Age of (x) | λ $D_{x,\,64}$ | λ $N_{x,\,64}$ | Age of (x) | λ $D_{x,\,65}$ | λ $N_{x,\,65}$ |
| 0 | 5·5162888 | 6·4231646 | 0 | 5·4941721 | 6·3872750 | 0 | 5·4708485 | 6·3497765 |
| 1 | 5·4470306 | 6·4019541 | 1 | 5·4249139 | 6·3657107 | 1 | 5·4015903 | 6·3278373 |
| 2 | 5·4128530 | 6·3872862 | 2 | 5·3907363 | 6·3508867 | 2 | 5·3674127 | 6·3128478 |
| 3 | 5·3907898 | 6·3750732 | 3 | 5·3686731 | 6·3385927 | 3 | 5·3453495 | 6·3004670 |
| 4 | 5·3737422 | 6·3640576 | 4 | 5·3516255 | 6·3275336 | 4 | 5·3283019 | 6·2893606 |
| 5 | 5·3595758 | 6·3537532 | 5 | 5·3374591 | 6·3172104 | 5 | 5·3141355 | 6·2790148 |
| 6 | 5·3473523 | 6·3438899 | 6 | 5·3252356 | 6·3073439 | 6 | 5·3019120 | 6·2691436 |
| 7 | 5·3363265 | 6·3342839 | 7 | 5·3142098 | 6·2977461 | 7 | 5·2908862 | 6·2595521 |
| 8 | 5·3259470 | 6·3248206 | 8 | 5·3038303 | 6·2882989 | 8 | 5·2805067 | 6·2501200 |
| 9 | 5·3161779 | 6·3154369 | 9 | 5·2940612 | 6·2789378 | 9 | 5·2707376 | 6·2407808 |
| 10 | 5·3068755 | 6·3060700 | 10 | 5·2847588 | 6·2695970 | 10 | 5·2614352 | 6·2314671 |
| 11 | 5·2979083 | 6·2966652 | 11 | 5·2757916 | 6·2602229 | 11 | 5·2524680 | 6·2221218 |
| 12 | 5·2891570 | 6·2871806 | 12 | 5·2670403 | 6·2507692 | 12 | 5·2437167 | 6·2127004 |
| 13 | 5·2805148 | 6·2775826 | 13 | 5·2583981 | 6·2412030 | 13 | 5·2350745 | 6·2031657 |
| 14 | 5·2718869 | 6·2678467 | 14 | 5·2497702 | 6·2314982 | 14 | 5·2264466 | 6·1934923 |
| 15 | 5·2631907 | 6·2579568 | 15 | 5·2410740 | 6·2216380 | 15 | 5·2177504 | 6·1836622 |
| 16 | 5·2543559 | 6·2479053 | 16 | 5·2322392 | 6·2116138 | 16 | 5·2089156 | 6·1736663 |
| 17 | 5·2453245 | 6·2376898 | 17 | 5·2232078 | 6·2014252 | 17 | 5·1998842 | 6·1635031 |
| 18 | 5·2360507 | 6·2273159 | 18 | 5·2139340 | 6·1910756 | 18 | 5·1906104 | 6·1531787 |
| 19 | 5·2265008 | 6·2167949 | 19 | 5·2043841 | 6·1805769 | 19 | 5·1810605 | 6·1427022 |
| 20 | 5·2166534 | 6·2061416 | 20 | 5·1945367 | 6·1699453 | 20 | 5·1712131 | 6·1320918 |
| 21 | 5·2064994 | 6·1953757 | 21 | 5·1843827 | 6·1592001 | 21 | 5·1610591 | 6·1213674 |
| 22 | 5·1962478 | 6·1845186 | 22 | 5·1741311 | 6·1483645 | 22 | 5·1508075 | 6·1105523 |
| 23 | 5·1859022 | 6·1735699 | 23 | 5·1637855 | 6·1374380 | 23 | 5·1404619 | 6·0996471 |
| 24 | 5·1754652 | 6·1625303 | 24 | 5·1533485 | 6·1264205 | 24 | 5·1300249 | 6·0886520 |
| 25 | 5·1649395 | 6·1513980 | 25 | 5·1428228 | 6·1153116 | 25 | 5·1194992 | 6·0775652 |
| 26 | 5·1543268 | 6·1401717 | 26 | 5·1322101 | 6·1041097 | 26 | 5·1088865 | 6·0663867 |
| 27 | 5·1436288 | 6·1288498 | 27 | 5·1215121 | 6·0928126 | 27 | 5·0981885 | 6·0551144 |
| 28 | 5·1328465 | 6·1174298 | 28 | 5·1107298 | 6·0814186 | 28 | 5·0874062 | 6·0437460 |
| 29 | 5·1219804 | 6·1059082 | 29 | 5·0998637 | 6·0699252 | 29 | 5·0765401 | 6·0322786 |
| 30 | 5·1110305 | 6·0942810 | 30 | 5·0889138 | 6·0583277 | 30 | 5·0655902 | 6·0207101 |
| 31 | 5·0999966 | 6·0825438 | 31 | 5·0778799 | 6·0466220 | 31 | 5·0545563 | 6·0090346 |
| 32 | 5·0888778 | 6·0706905 | 32 | 5·0667611 | 6·0348028 | 32 | 5·0434375 | 5·9972483 |
| 33 | 5·0776727 | 6·0587155 | 33 | 5·0555560 | 6·0228645 | 33 | 5·0322324 | 5·9853447 |
| 34 | 5·0663796 | 6·0466110 | 34 | 5·0442629 | 6·0107997 | 34 | 5·0209393 | 5·9733181 |
| 35 | 5·0549962 | 6·0343682 | 35 | 5·0328795 | 5·9986006 | 35 | 5·0095559 | 5·9611600 |
| 36 | 5·0435197 | 6·0219766 | 36 | 5·0214030 | 5·9862570 | 36 | 4·9980794 | 5·9488615 |
| 37 | 5·0319471 | 6·0094267 | 37 | 5·0098304 | 5·9737581 | 37 | 4·9865068 | 5·9364126 |
| 38 | 5·0202746 | 5·9967043 | 38 | 4·9981579 | 5·9610932 | 38 | 4·9748343 | 5·9238015 |
| 39 | 5·0084981 | 5·9837954 | 39 | 4·9863814 | 5·9482470 | 39 | 4·9630578 | 5·9110152 |
| 40 | 4·9966131 | 5·9706833 | 40 | 4·9744964 | 5·9352042 | 40 | 4·9511728 | 5·8980380 |
| 41 | 4·9846144 | 5·9573501 | 41 | 4·9624977 | 5·9219469 | 41 | 4·9391741 | 5·8848531 |
| 42 | 4·9724965 | 5·9437747 | 42 | 4·9503798 | 5·9084548 | 42 | 4·9270562 | 5·8714408 |
| 43 | 4·9602534 | 5·9299339 | 43 | 4·9381367 | 5·8947055 | 43 | 4·9148131 | 5·8577790 |
| 44 | 4·9478787 | 5·9158013 | 44 | 4·9257620 | 5·8806731 | 44 | 4·9024384 | 5·8438428 |
| 45 | 4·9353653 | 5·9013479 | 45 | 4·9132486 | 5·8663289 | 45 | 4·8899250 | 5·8296040 |
| 46 | 4·9227060 | 5·8865410 | 46 | 4·9005893 | 5·8516409 | 46 | 4·8772657 | 5·8150309 |
| 47 | 4·9098928 | 5·8713437 | 47 | 4·8877761 | 5·8365727 | 47 | 4·8644525 | 5·8000878 |
| 48 | 4·8969174 | 5·8557153 | 48 | 4·8748007 | 5·8210839 | 48 | 4·8514771 | 5·7847346 |
| 49 | 4·8837709 | 5·8396101 | 49 | 4·8616542 | 5·8051289 | 49 | 4·8383306 | 5·7689261 |
| 50 | 4·8704442 | 5·8229776 | 50 | 4·8483275 | 5·7886567 | 50 | 4·8250039 | 5·7526114 |
| 51 | 4·8569274 | 5·8057596 | 51 | 4·8348107 | 5·7716108 | 51 | 4·8114871 | 5·7357333 |
| 52 | 4·8432103 | 5·7878930 | 52 | 4·8210936 | 5·7539261 | 52 | 4·7977700 | 5·7182279 |
| 53 | 4·8292822 | 5·7693055 | 53 | 4·8071655 | 5·7355305 | 53 | 4·7838419 | 5·7000215 |
| 54 | 4·8151321 | 5·7499159 | 54 | 4·7930154 | 5·7163424 | 54 | 4·7696918 | 5·6810322 |

## JOINT LIVES :—Two Females.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 63 | | | 64 | | | 65 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,63}$ | $\lambda\ N_{x,\,63}$ | Age of (x) | $\lambda\ D_{x,\,64}$ | $\lambda\ N_{x,\,64}$ | Age of (x) | $\lambda\ D_{x,\,65}$ | $\lambda\ N_{x,\,65}$ |
| 55 | 4·8000850 | 5·7296327 | 55 | 4·7779683 | 5·6962686 | 55 | 4·7546447 | 5·6611660 |
| 56 | 4·7844583 | 5·7084370 | 56 | 4·7623416 | 5·6752922 | 56 | 4·7390180 | 5·6404068 |
| 57 | 4·7682261 | 5·6862653 | 57 | 4·7461094 | 5·6533488 | 57 | 4·7227858 | 5·6186907 |
| 58 | 4·7513514 | 5·6630467 | 58 | 4·7292347 | 5·6303675 | 58 | 4·7059111 | 5·5959464 |
| 59 | 4·7337865 | 5·6387033 | 59 | 4·7116698 | 5·6062704 | 59 | 4·6883462 | 5·5720953 |
| 60 | 4·7154726 | 5·6131500 | 60 | 4·6933559 | 5·5809716 | 60 | 4·6700323 | 5·5470519 |
| 61 | 4·6963398 | 5·5862959 | 61 | 4·6742231 | 5·5543793 | 61 | 4·6508995 | 5·5207233 |
| 62 | 4·6763077 | 5·5580423 | 62 | 4·6541910 | 5·5263949 | 62 | 4·6308674 | 5·4930099 |
| 63 | 4·6552846 | 5·5282853 | 63 | 4·6331679 | 5·4969121 | 63 | 4·6098443 | 5·4638057 |
| 64 | 4·6331679 | 5·4969121 | 64 | 4·6110512 | 5·4658196 | 64 | 4·5877276 | 5·4329967 |
| 65 | 4·6098443 | 5·4638057 | 65 | 4·5877276 | 5·4329967 | 65 | 4·5644040 | 5·4004637 |
| 66 | 4·5851892 | 5·4288400 | 66 | 4·5630725 | 5·3983187 | 66 | 4·5397489 | 5·3660784 |
| 67 | 4·5590673 | 5·3918835 | 67 | 4·5369506 | 5·3616515 | 67 | 4·5136270 | 5·3297080 |
| 68 | 4·5313324 | 5·3527969 | 68 | 4·5092157 | 5·3228556 | 68 | 4·4858921 | 5·2912101 |
| 69 | 4·5018271 | 5·3114335 | 69 | 4·4797104 | 5·2817831 | 69 | 4·4563868 | 5·2504368 |
| 70 | 4·4703834 | 5·2676392 | 70 | 4·4482667 | 5·2382788 | 70 | 4·4249431 | 5·2072319 |
| 71 | 4·4368221 | 5·2212517 | 71 | 4·4147054 | 5·1921798 | 71 | 4·3913818 | 5·1614312 |
| 72 | 4·4009531 | 5·1721016 | 72 | 4·3788364 | 5·1433152 | 72 | 4·3555128 | 5·1128630 |
| 73 | 4·3625755 | 5·1200107 | 73 | 4·3404588 | 5·0915059 | 73 | 4·3171352 | 5·0613473 |
| 74 | 4·3214774 | 5·0647919 | 74 | 4·2993607 | 5·0365651 | 74 | 4·2760371 | 5·0066948 |
| 75 | 4·2774358 | 5·0062487 | 75 | 4·2553191 | 4·9782947 | 75 | 4·2319955 | 4·9487097 |
| 76 | 4·2302169 | 4·9441771 | 76 | 4·2081002 | 4·9164897 | 76 | 4·1847766 | 4·8871845 |
| 77 | 4·1795761 | 4·8783609 | 77 | 4·1574594 | 4·8509352 | 77 | 4·1341358 | 4·8219031 |
| 78 | 4·1252575 | 4·8085775 | 78 | 4·1031408 | 4·7814049 | 78 | 4·0798172 | 4·7526407 |
| 79 | 4·0669946 | 4·7345918 | 79 | 4·0448779 | 4·7076655 | 79 | 4·0215543 | 4·6791607 |
| 80 | 4·0045098 | 4·6561576 | 80 | 3·9823931 | 4·6294705 | 80 | 3·9590695 | 4·6012185 |
| 81 | 3·9375146 | 4·5730197 | 81 | 3·9153979 | 4·5465643 | 81 | 3·8920743 | 4·5185571 |
| 82 | 3·8657095 | 4·4849123 | 82 | 3·8435928 | 4·4586807 | 82 | 3·8202692 | 4·4309100 |
| 83 | 3·7887842 | 4·3915577 | 83 | 3·7666675 | 4·3655406 | 83 | 3·7433439 | 4·3379991 |
| 84 | 3·7064172 | 4·2926660 | 84 | 3·6843005 | 4·2668566 | 84 | 3·6609769 | 4·2395342 |
| 85 | 3·6182765 | 4·1879379 | 85 | 3·5961598 | 4·1623263 | 85 | 3·5728362 | 4·1352170 |
| 86 | 3·5240186 | 4·0770600 | 86 | 3·5019019 | 4·0516395 | 86 | 3·4785783 | 4·0247323 |
| 87 | 3·4232895 | 3·9597090 | 87 | 3·4011728 | 3·9344702 | 87 | 3·3778492 | 3·9077584 |
| 88 | 3·3157241 | 3·8355485 | 88 | 3·2936074 | 3·8104832 | 88 | 3·2702838 | 3·7839579 |
| 89 | 3·2009463 | 3·7042278 | 89 | 3·1788296 | 3·6793306 | 89 | 3·1555060 | 3·6529827 |
| 90 | 3·0785692 | 3·5653873 | 90 | 3·0564525 | 3·5406486 | 90 | 3·0331289 | 3·5144734 |
| 91 | 2·9481949 | 3·4186525 | 91 | 2·9260782 | 3·3940652 | 91 | 2·9027546 | 3·3680517 |
| 92 | 2·8094145 | 3·2636335 | 92 | 2·7872978 | 3·2391906 | 92 | 2·7639742 | 3·2133337 |
| 93 | 2·6618083 | 3·0999261 | 93 | 2·6396916 | 3·0756217 | 93 | 2·6163680 | 3·0499134 |
| 94 | 2·5049454 | 2·9271075 | 94 | 2·4828287 | 2·9029358 | 94 | 2·4595051 | 2·8773707 |
| 95 | 2·3383842 | 2·7447310 | 95 | 2·3162675 | 2·7206876 | 95 | 2·2929439 | 2·6952601 |
| 96 | 2·1616722 | 2·5523177 | 96 | 2·1395555 | 2·5283973 | 96 | 2·1162319 | 2·5031053 |
| 97 | 1·9743457 | 2·3493345 | 97 | 1·9522290 | 2·3255364 | 97 | 1·9289054 | 2·3003761 |
| 98 | 1·7759304 | 2·1351560 | 98 | 1·7538137 | 2·1114820 | 98 | 1·7304901 | 2·0864538 |
| 99 | 1·5659406 | 1·9089829 | 99 | 1·5438239 | 1·8854364 | 99 | 1·5205003 | 1·8605488 |
| 100 | 1·3438801 | 1·6696636 | 100 | 1·3217634 | 1·6462566 | 100 | 1·2984398 | 1·6215190 |
| 101 | 1·1092416 | 1·4153006 | 101 | 1·0871249 | 1·3920512 | 101 | 1·0638013 | 1·3674864 |
| 102 | 0·8615068 | 1·1422987 | 102 | 0·8393901 | 1·1192427 | 102 | 0·8160665 | 1·0948832 |
| 103 | 0·6001465 | 0·8428650 | 103 | 0·5780298 | 0·8200437 | 103 | 0·5547062 | 0·7959495 |
| 104 | 0·3246207 | 0·4969573 | 104 | 0·3025040 | 0·4744639 | 104 | 0·2791804 | 0·4506955 |
| 105 | 0·0343781 | | 105 | 0·0122614 | | 105 | 9·9889378 | |
| 106 | 9·7288569 | | 106 | 9·7067402 | | 106 | 9·6834166 | |
| 107 | 9·4074840 | | 107 | 9·3853673 | | 107 | 9·3620437 | |
| 108 | 9·0696756 | | 108 | 9·0475589 | | 108 | 9·0242353 | |
| 109 | 8·7148368 | | 109 | 8·6927201 | | 109 | 8·6693965 | |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 66 | | | 67 | | | 68 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,66}$ | λ $N_{x,\,66}$ | Age of (x) | λ $D_{x,\,67}$ | λ $N_{x,\,67}$ | Age of (x) | λ $D_{x,\,68}$ | λ $N_{x,\,68}$ |
| 0 | 5·4461934 | 6·3105559 | 0 | 5·4200715 | 6·2694915 | 0 | 5·3923366 | 6·2264542 |
| 1 | 5·3769352 | 6·2882204 | 1 | 5·3508133 | 6·2467383 | 1 | 5·3230784 | 6·2032609 |
| 2 | 5·3427576 | 6·2730551 | 2 | 5·3166357 | 6·2313868 | 2 | 5·2889008 | 6·1877131 |
| 3 | 5·3206944 | 6·2605817 | 3 | 5·2945725 | 6·2188142 | 3 | 5·2668376 | 6·1750355 |
| 4 | 5·3036468 | 6·2494237 | 4 | 5·2775249 | 6·2076009 | 4 | 5·2497900 | 6·1637617 |
| 5 | 5·2894804 | 6·2390526 | 5 | 5·2633585 | 6·1972012 | 5 | 5·2356236 | 6·1533310 |
| 6 | 5·2772569 | 6·2291738 | 6 | 5·2511350 | 6·1873129 | 6 | 5·2234001 | 6·1434298 |
| 7 | 5·2662311 | 6·2195876 | 7 | 5·2401092 | 6·1777298 | 7 | 5·2123743 | 6·1338485 |
| 8 | 5·2558516 | 6·2101691 | 8 | 5·2297297 | 6·1683242 | 8 | 5·2019948 | 6·1244540 |
| 9 | 5·2460825 | 6·2008511 | 9 | 5·2199606 | 6·1590261 | 9 | 5·1922257 | 6·1151754 |
| 10 | 5·2367801 | 6·1915636 | 10 | 5·2106582 | 6·1497643 | 10 | 5·1829233 | 6·1059385 |
| 11 | 5·2278129 | 6·1822486 | 11 | 5·2016910 | 6·1404788 | 11 | 5·1739561 | 6·0966820 |
| 12 | 5·2190616 | 6·1728580 | 12 | 5·1929397 | 6·1311203 | 12 | 5·1652048 | 6·0873551 |
| 13 | 5·2104194 | 6·1633558 | 13 | 5·1842975 | 6·1216498 | 13 | 5·1565626 | 6·0779174 |
| 14 | 5·2017915 | 6·1537136 | 14 | 5·1756696 | 6·1120397 | 14 | 5·1479347 | 6·0683391 |
| 15 | 5·1930953 | 6·1439137 | 15 | 5·1669734 | 6·1022704 | 15 | 5·1392385 | 6·0586006 |
| 16 | 5·1842605 | 6·1339464 | 16 | 5·1581386 | 6·0923315 | 16 | 5·1304037 | 6·0486903 |
| 17 | 5·1752291 | 6·1238095 | 17 | 5·1491072 | 6·0822211 | 17 | 5·1213723 | 6·0386063 |
| 18 | 5·1659553 | 6·1135085 | 18 | 5·1398334 | 6·0719438 | 18 | 5·1120985 | 6·0283536 |
| 19 | 5·1564054 | 6·1030555 | 19 | 5·1302835 | 6·0615125 | 19 | 5·1025486 | 6·0179441 |
| 20 | 5·1465580 | 6·0924659 | 20 | 5·1204361 | 6·0509444 | 20 | 5·0927012 | 6·0073957 |
| 21 | 5·1364040 | 6·0817616 | 21 | 5·1102821 | 6·0402601 | 21 | 5·0825472 | 5·9967318 |
| 22 | 5·1261524 | 6·0709672 | 22 | 5·1000305 | 6·0294856 | 22 | 5·0722956 | 5·9859767 |
| 23 | 5·1158068 | 6·0600827 | 23 | 5·0896849 | 6·0186219 | 23 | 5·0619500 | 5·9751330 |
| 24 | 5·1053698 | 6·0491087 | 24 | 5·0792479 | 6·0076680 | 24 | 5·0515130 | 5·9641997 |
| 25 | 5·0948441 | 6·0380444 | 25 | 5·0687222 | 5·9966251 | 25 | 5·0409873 | 5·9531772 |
| 26 | 5·0842314 | 6·0268882 | 26 | 5·0581095 | 5·9854916 | 26 | 5·0303746 | 5·9420646 |
| 27 | 5·0735334 | 6·0156397 | 27 | 5·0474115 | 5·9742652 | 27 | 5·0196766 | 5·9308615 |
| 28 | 5·0627511 | 6·0042960 | 28 | 5·0366292 | 5·9629458 | 28 | 5·0088943 | 5·9195644 |
| 29 | 5·0518850 | 5·9928552 | 29 | 5·0257631 | 5·9515298 | 29 | 4·9980282 | 5·9081726 |
| 30 | 5·0409351 | 5·9813129 | 30 | 5·0148132 | 5·9400147 | 30 | 4·9870783 | 5·8966827 |
| 31 | 5·0299012 | 5·9696670 | 31 | 5·0037793 | 5·9283959 | 31 | 4·9760444 | 5·8850911 |
| 32 | 5·0187824 | 5·9579117 | 32 | 4·9926605 | 5·9166704 | 32 | 4·9649256 | 5·8733940 |
| 33 | 5·0075773 | 5·9460419 | 33 | 4·9814554 | 5·9048324 | 33 | 4·9537205 | 5·8615865 |
| 34 | 4·9962842 | 5·9340509 | 34 | 4·9701623 | 5·8928759 | 34 | 4·9424274 | 5·8496628 |
| 35 | 4·9849008 | 5·9219320 | 35 | 4·9587789 | 5·8807942 | 35 | 4·9310440 | 5·8376163 |
| 36 | 4·9734243 | 5·9096764 | 36 | 4·9473024 | 5·8685793 | 36 | 4·9195675 | 5·8254399 |
| 37 | 4·9618517 | 5·8972744 | 37 | 4·9357298 | 5·8562217 | 37 | 4·9079949 | 5·8131244 |
| 38 | 4·9501792 | 5·8847149 | 38 | 4·9240573 | 5·8437111 | 38 | 4·8963224 | 5·8006597 |
| 39 | 4·9384027 | 5·8719850 | 39 | 4·9122808 | 5·8310349 | 39 | 4·8845459 | 5·7880346 |
| 40 | 4·9265177 | 5·8590706 | 40 | 4·9003958 | 5·8181794 | 40 | 4·8726609 | 5·7752353 |
| 41 | 4·9145190 | 5·8459544 | 41 | 4·8883971 | 5·8051290 | 41 | 4·8606622 | 5·7622465 |
| 42 | 4·9024011 | 5·8326181 | 42 | 4·8762792 | 5·7918650 | 42 | 4·8485443 | 5·7490515 |
| 43 | 4·8901580 | 5·8190401 | 43 | 4·8640361 | 5·7783666 | 43 | 4·8363012 | 5·7356291 |
| 44 | 4·8777833 | 5·8051961 | 44 | 4·8516614 | 5·7646108 | 44 | 4·8239265 | 5·7219570 |
| 45 | 4·8652699 | 5·7910584 | 45 | 4·8391480 | 5·7505703 | 45 | 4·8114131 | 5·7080094 |
| 46 | 4·8526106 | 5·7765963 | 46 | 4·8264887 | 5·7362145 | 46 | 4·7987538 | 5·6937557 |
| 47 | 4·8397974 | 5·7617740 | 47 | 4·8136755 | 5·7215090 | 47 | 4·7859406 | 5·6791622 |
| 48 | 4·8268220 | 5·7465523 | 48 | 4·8007001 | 5·7064143 | 48 | 4·7729652 | 5·6641905 |
| 49 | 4·8136755 | 5·7308863 | 49 | 4·7875536 | 5·6908864 | 49 | 4·7598187 | 5·6487961 |
| 50 | 4·8003488 | 5·7147250 | 50 | 4·7742269 | 5·6748746 | 50 | 4·7464920 | 5·6329291 |
| 51 | 4·7868320 | 5·6980117 | 51 | 4·7607101 | 5·6583218 | 51 | 4·7329752 | 5·6165325 |
| 52 | 4·7731149 | 5·6806813 | 52 | 4·7469930 | 5·6411631 | 52 | 4·7192581 | 5·5995415 |
| 53 | 4·7591868 | 5·6626614 | 53 | 4·7330649 | 5·6233251 | 53 | 4·7053300 | 5·5818819 |
| 54 | 4·7450367 | 5·6438677 | 54 | 4·7189148 | 5·6047243 | 54 | 4·6911799 | 5·5634689 |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 66 | | 67 | | | 68 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,66}$ | λ $N_{x,\,66}$ | Age of (x) | λ $D_{x,\,67}$ | λ $N_{x,\,67}$ | Age of (x) | λ $D_{x,\,68}$ | λ $N_{x,\,68}$ |
| 55 | 4·7299896 | 5·6242062 | 55 | 4·7038677 | 5·5852640 | 55 | 4·6761328 | 5·5442066 |
| 56 | 4·7143629 | 5·6036619 | 56 | 4·6882410 | 5·5649317 | 56 | 4·6605061 | 5·5240825 |
| 57 | 4·6981307 | 5·5821712 | 57 | 4·6720088 | 5·5436638 | 57 | 4·6442739 | 5·5030339 |
| 58 | 4·6812560 | 5·5596625 | 58 | 4·6551341 | 5·5213884 | 58 | 4·6273992 | 5·4809893 |
| 59 | 4·6636911 | 5·5360571 | 59 | 4·6375692 | 5·4980270 | 59 | 4·6098343 | 5·4578695 |
| 60 | 4·6453772 | 5·5112687 | 60 | 4·6192553 | 5·4734930 | 60 | 4·5915204 | 5·4335882 |
| 61 | 4·6262444 | 5·4852045 | 61 | 4·6001225 | 5·4476929 | 61 | 4·5723876 | 5·4080509 |
| 62 | 4·6062123 | 5·4577640 | 62 | 4·5800904 | 5·4205258 | 62 | 4·5523555 | 5·3811568 |
| 63 | 4·5851892 | 5·4288400 | 63 | 4·5590673 | 5·3918835 | 63 | 4·5313324 | 5·3527969 |
| 64 | 4·5630725 | 5·3983187 | 64 | 4·5369506 | 5·3616515 | 64 | 4·5092157 | 5·3228556 |
| 65 | 4·5397489 | 5·3660784 | 65 | 4·5136270 | 5·3297080 | 65 | 4·4858921 | 5·2912101 |
| 66 | 4·5150938 | 5·3319920 | 66 | 4·4889719 | 5·2959232 | 66 | 4·4612370 | 5·2577309 |
| 67 | 4·4889719 | 5·2959232 | 67 | 4·4628500 | 5·2601620 | 67 | 4·4351151 | 5·2222796 |
| 68 | 4·4612370 | 5·2577309 | 68 | 4·4351151 | 5·2222796 | 68 | 4·4073802 | 5·1847136 |
| 69 | 4·4317317 | 5·2172641 | 69 | 4 4056098 | 5·1821270 | 69 | 4·3778749 | 5·1448789 |
| 70 | 4·4002880 | 5·1743667 | 70 | 4·3741661 | 5·1395442 | 70 | 4·3464312 | 5·1026182 |
| 71 | 4·3667267 | 5·1288734 | 71 | 4·3406048 | 5·0943663 | 71 | 4·3128699 | 5·0577627 |
| 72 | 4·3308577 | 5·0806114 | 72 | 4·3047358 | 5·0464191 | 72 | 4·2770009 | 5·0101383 |
| 73 | 4·2924801 | 5·0293993 | 73 | 4·2663582 | 4·9955207 | 73 | 4·2386233 | 4·9595618 |
| 74 | 4·2513820 | 4·9750479 | 74 | 4·2252601 | 4·9414801 | 74 | 4·1975252 | 4·9058417 |
| 75 | 4·2073404 | 4·9173584 | 75 | 4·1812185 | 4·8840983 | 75 | 4·1534836 | 4·8487776 |
| 76 | 4·1601215 | 4·8561250 | 76 | 4·1339996 | 4·8231670 | 76 | 4·1062647 | 4·7881606 |
| 77 | 4·1094807 | 4·7911297 | 77 | 4·0833588 | 4·7584706 | 77 | 4·0556239 | 4·7237716 |
| 78 | 4·0551621 | 4·7221467 | 78 | 4·0290402 | 4·6897793 | 78 | 4·0013053 | 4·6553853 |
| 79 | 3·9968992 | 4·6489402 | 79 | 3·9707773 | 4·6168585 | 79 | 3·9430424 | 4·5827616 |
| 80 | 3·9344144 | 4·5712640 | 80 | 3·9082925 | 4·5394605 | 80 | 3·8805576 | 4·5056548 |
| 81 | 3·8674192 | 4·4888604 | 81 | 3·8412973 | 4·4573288 | 81 | 3·8135624 | 4·4238065 |
| 82 | 3·7956141 | 4·4014633 | 82 | 3·7694922 | 4·3701946 | 82 | 3·7417573 | 4·3369490 |
| 83 | 3·7186888 | 4·3087942 | 83 | 3·6925669 | 4·2777804 | 83 | 3·6648320 | 4·2448021 |
| 84 | 3·6363218 | 4·2105636 | 84 | 3·6101999 | 4·1797965 | 84 | 3·5824650 | 4·1470778 |
| 85 | 3·5481811 | 4·1064700 | 85 | 3·5220592 | 4·0759416 | 85 | 3·4943243 | 4·0434739 |
| 86 | 3·4539232 | 3·9962029 | 86 | 3·4278013 | 3·9659027 | 86 | 3·4000664 | 3·9336781 |
| 87 | 3·3531941 | 3·8794359 | 87 | 3·3270722 | 3·8493574 | 87 | 3·2993373 | 3·8173650 |
| 88 | 3·2456287 | 3·7558353 | 88 | 3·2195068 | 3·7259672 | 88 | 3·1917719 | 3·6942005 |
| 89 | 3·1308509 | 3·6250510 | 89 | 3·1047290 | 3·5953871 | 89 | 3·0769941 | 3·5638345 |
| 90 | 3·0084738 | 3·4867223 | 90 | 2·9823519 | 3·4572537 | 90 | 2·9546170 | 3·4259089 |
| 91 | 2·8780995 | 3·3404768 | 91 | 2·8519776 | 3·3111944 | 91 | 2·8242427 | 3·2800484 |
| 92 | 2·7393191 | 3·1859256 | 92 | 2·7131972 | 3·1568216 | 92 | 2·6854623 | 3·1258663 |
| 93 | 2·5917129 | 3·0226663 | 93 | 2·5655910 | 2·9937333 | 93 | 2·5378561 | 2·9629604 |
| 94 | 2·4348500 | 2·8502767 | 94 | 2·4087281 | 2·8215096 | 94 | 2·3809932 | 2·7909126 |
| 95 | 2·2682888 | 2·6683151 | 95 | 2·2421669 | 2·6397066 | 95 | 2·2144320 | 2·6092806 |
| 96 | 2·0915768 | 2·4763040 | 96 | 2·0654549 | 2·4478523 | 96 | 2·0377200 | 2·4175912 |
| 97 | 1·9042503 | 2·2737180 | 97 | 1·8781284 | 2·2454182 | 97 | 1·8503935 | 2·2153216 |
| 98 | 1·7058350 | 2·0599404 | 98 | 1·6797131 | 2·0317949 | 98 | 1·6519782 | 2·0018639 |
| 99 | 1·4958452 | 1·8341828 | 99 | 1·4697233 | 1·8062003 | 99 | 1·4419884 | 1·7764419 |
| 100 | 1·2737847 | 1·5953187 | 100 | 1·2476628 | 1·5675074 | 100 | 1·2199279 | 1·5379412 |
| 101 | 1·0391462 | 1·3414721 | 101 | 1·0130243 | 1·3138672 | 101 | 0·9852894 | 1·2845120 |
| 102 | 0·7914114 | 1·0690944 | 102 | 0·7652895 | 1·0417361 | 102 | 0·7375546 | 1·0126517 |
| 103 | 0·5300511 | 0·7704396 | 103 | 0·5039292 | 0·7433922 | 103 | 0·4761943 | 0·7146482 |
| 104 | 0·2545253 | 0·4255668 | 104 | 0·2284034 | 0·3989117 | 104 | 0·2006685 | 0·3706056 |
| 105 | 9·9642827 | | 105 | 9·9381608 | | 105 | 9·9104259 | |
| 106 | 9·6587615 | | 106 | 9·6326296 | | 106 | 9·6049047 | |
| 107 | 9·3373886 | | 107 | 9·3112667 | | 107 | 9·2835318 | |
| 108 | 8·9995802 | | 108 | 8·9734583 | | 108 | 8·9457234 | |
| 109 | 8·6447414 | | 109 | 8·6186195 | | 109 | 8·5908846 | |

## JOINT LIVES:—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 69 | | | 70 | | | 71 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,69}$ | $\lambda\ N_{x,\,69}$ | Age of (x) | $\lambda\ D_{x,\,70}$ | $\lambda\ N_{x,\,70}$ | Age of (x) | $\lambda\ D_{x,\,71}$ | $\lambda\ N_{x,\,71}$ |
| 0 | 5·3628313 | 6·1813070 | 0 | 5·3313876 | 6·1339022 | 0 | 5·2978263 | 6·0840853 |
| 1 | 5·2935731 | 6·1576502 | 1 | 5·2621294 | 6·1097600 | 1 | 5·2285681 | 6·0594339 |
| 2 | 5·2593955 | 6·1418954 | 2 | 5·2279518 | 6·0937876 | 2 | 5·1943905 | 6·0432338 |
| 3 | 5·2373323 | 6·1291064 | 3 | 5·2058886 | 6·0808807 | 3 | 5·1723273 | 6·0302029 |
| 4 | 5·2202847 | 6·1177683 | 4 | 5·1888410 | 6·0694735 | 4 | 5·1552797 | 6·0187221 |
| 5 | 5·2061183 | 6·1073022 | 5 | 5·1746746 | 6·0589694 | 5 | 5·1411133 | 6·0081763 |
| 6 | 5·1938948 | 6·0973875 | 6 | 5·1624511 | 6·0490373 | 6 | 5·1288898 | 5·9982245 |
| 7 | 5·1828690 | 6·0878048 | 7 | 5·1514253 | 6·0394530 | 7 | 5·1178640 | 5·9886357 |
| 8 | 5·1724895 | 6·0784206 | 8 | 5·1410458 | 6·0300760 | 8 | 5·1074845 | 5·9792660 |
| 9 | 5·1627204 | 6·0691599 | 9 | 5·1312767 | 6·0208330 | 9 | 5·0977154 | 5·9700380 |
| 10 | 5·1534180 | 6·0599480 | 10 | 5·1219743 | 6·0116444 | 10 | 5·0884130 | 5·9608730 |
| 11 | 5·1444508 | 6·0507200 | 11 | 5·1130071 | 6·0024452 | 11 | 5·0794458 | 5·9517012 |
| 12 | 5·1356995 | 6·0414243 | 12 | 5·1042558 | 5·9931804 | 12 | 5·0706945 | 5·9424674 |
| 13 | 5·1270573 | 6·0320188 | 13 | 5·0956136 | 5·9838075 | 13 | 5·0620523 | 5·9331268 |
| 14 | 5·1184294 | 6·0224733 | 14 | 5·0869857 | 5·9742938 | 14 | 5·0534244 | 5·9236455 |
| 15 | 5·1097332 | 6·0127651 | 15 | 5·0782895 | 5·9646174 | 15 | 5·0447282 | 5·9139997 |
| 16 | 5·1008984 | 6·0028841 | 16 | 5·0694547 | 5·9547648 | 16 | 5·0358934 | 5·9041771 |
| 17 | 5·0918670 | 5·9928265 | 17 | 5·0604233 | 5·9447343 | 17 | 5·0268620 | 5·8941726 |
| 18 | 5·0825932 | 5·9825977 | 18 | 5·0511495 | 5·9345292 | 18 | 5·0175882 | 5·8839923 |
| 19 | 5·0730433 | 5·9722103 | 19 | 5·0415996 | 5·9241635 | 19 | 5·0080383 | 5·8736473 |
| 20 | 5·0631959 | 5·9616821 | 20 | 5·0317522 | 5·9136549 | 20 | 4·9981909 | 5·8631585 |
| 21 | 5·0530419 | 5·9510367 | 21 | 5·0215982 | 5·9030287 | 21 | 4·9880369 | 5·8525503 |
| 22 | 5·0427903 | 5·9403018 | 22 | 5·0113466 | 5·8923123 | 22 | 4·9777853 | 5·8418524 |
| 23 | 5·0324447 | 5·9294771 | 23 | 5·0010010 | 5·8815068 | 23 | 4·9674397 | 5·8310654 |
| 24 | 5·0220077 | 5·9185640 | 24 | 4·9905640 | 5·8706127 | 24 | 4·9570027 | 5·8201904 |
| 25 | 5·0114820 | 5·9075618 | 25 | 4·9800383 | 5·8596305 | 25 | 4·9464770 | 5·8092271 |
| 26 | 5·0008693 | 5·8964700 | 26 | 4·9694256 | 5·8485589 | 26 | 4·9358643 | 5·7981755 |
| 27 | 4·9901713 | 5·8852879 | 27 | 4·9587276 | 5·8373977 | 27 | 4·9251663 | 5·7870341 |
| 28 | 4·9793890 | 5·8740135 | 28 | 4·9479453 | 5·8261448 | 28 | 4·9143840 | 5·7758023 |
| 29 | 4·9685229 | 5·8626448 | 29 | 4·9370792 | 5·8147985 | 29 | 4·9035179 | 5·7644778 |
| 30 | 4·9575730 | 5·8511792 | 30 | 4·9261293 | 5·8033566 | 30 | 4·8925680 | 5·7530581 |
| 31 | 4·9465391 | 5·8396135 | 31 | 4·9150954 | 5·7918154 | 31 | 4·8815341 | 5·7415409 |
| 32 | 4·9354203 | 5·8279436 | 32 | 4·9039766 | 5·7801716 | 32 | 4·8704153 | 5·7299222 |
| 33 | 4·9242152 | 5·8161650 | 33 | 4·8927715 | 5·7684208 | 33 | 4·8592102 | 5·7181979 |
| 34 | 4·9129221 | 5·8042725 | 34 | 4·8814784 | 5·7565579 | 34 | 4·8479171 | 5·7063633 |
| 35 | 4·9015387 | 5·7922599 | 35 | 4·8700950 | 5·7445772 | 35 | 4·8365337 | 5·6944129 |
| 36 | 4·8900622 | 5·7801196 | 36 | 4·8586185 | 5·7324719 | 36 | 4·8250572 | 5·6823403 |
| 37 | 4·8784896 | 5·7678439 | 37 | 4·8470459 | 5·7202336 | 37 | 4·8134846 | 5·6701379 |
| 38 | 4·8668171 | 5·7554231 | 38 | 4·8353734 | 5·7078539 | 38 | 4·8018121 | 5·6577967 |
| 39 | 4·8550406 | 5·7428458 | 39 | 4·8235969 | 5·6953220 | 39 | 4·7900356 | 5·6453075 |
| 40 | 4·8431556 | 5·7300995 | 40 | 4·8117119 | 5·6826257 | 40 | 4·7781506 | 5·6326586 |
| 41 | 4·8311569 | 5·7171696 | 41 | 4·7997132 | 5·6697512 | 41 | 4·7661519 | 5·6198362 |
| 42 | 4·8190390 | 5·7040391 | 42 | 4·7875953 | 5·6566823 | 42 | 4·7540340 | 5·6068253 |
| 43 | 4·8067959 | 5·6906893 | 43 | 4·7753522 | 5·6434003 | 43 | 4·7417909 | 5·5936080 |
| 44 | 4·7944212 | 5·6770971 | 44 | 4·7629775 | 5·6298844 | 44 | 4·7294162 | 5·5801634 |
| 45 | 4·7819078 | 5·6632375 | 45 | 4·7504641 | 5·6161090 | 45 | 4·7169028 | 5·5664682 |
| 46 | 4·7692485 | 5·6490817 | 46 | 4·7378048 | 5·6020460 | 46 | 4·7042435 | 5·5524940 |
| 47 | 4·7564353 | 5·6345960 | 47 | 4·7249916 | 5·5876633 | 47 | 4·6914303 | 5·5382093 |
| 48 | 4·7434599 | 5·6197420 | 48 | 4·7120162 | 5·5729229 | 48 | 4·6784549 | 5·5235775 |
| 49 | 4·7303134 | 5·6044768 | 49 | 4·6988697 | 5·5577818 | 49 | 4·6653084 | 5·5085559 |
| 50 | 4·7169867 | 5·5887500 | 50 | 4·6855430 | 5·5421906 | 50 | 4·6519817 | 5·4930951 |
| 51 | 4·7034699 | 5·5725052 | 51 | 4·6720262 | 5·5260924 | 51 | 4·6384649 | 5·4771392 |
| 52 | 4·6897528 | 5·5556771 | 52 | 4·6583091 | 5·5094227 | 52 | 4·6247478 | 5·4606227 |
| 53 | 4·6758247 | 5·5381914 | 53 | 4·6443810 | 5·4921064 | 53 | 4·6108197 | 5·4434704 |
| 54 | 4·6616746 | 5·5199629 | 54 | 4·6302309 | 5·4740571 | 54 | 4·5966696 | 5·4255958 |

## JOINT LIVES :—Two Females.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 69 | | | 70 | | | 71 | |
|---|---|---|---|---|---|---|---|---|
| Age of (r) | $\lambda\ D_{x,\,69}$ | $\lambda\ N_{x,\,69}$ | Age of (x) | $\lambda\ D_{x,\,70}$ | $\lambda\ N_{x,\,70}$ | Age of (x) | $\lambda\ D_{x,\,71}$ | $\lambda\ N_{x,\,71}$ |
| 55 | 4·6466275 | 5·5008931 | 55 | 4·6151838 | 5·4551760 | 55 | 4·5816225 | 5·4068980 |
| 56 | 4·6310008 | 5·4809737 | 56 | 4·5995571 | 5·4354556 | 56 | 4·5659958 | 5·3873724 |
| 57 | 4·6147686 | 5·4601404 | 57 | 4·5833249 | 5·4148340 | 57 | 4·5497636 | 5·3669565 |
| 58 | 4·5978939 | 5·4383229 | 58 | 4·5664502 | 5·3932393 | 58 | 4·5328889 | 5·3455806 |
| 59 | 4·5803290 | 5·4154418 | 59 | 4·5488853 | 5·3705931 | 59 | 4·5153240 | 5·3231644 |
| 60 | 4·5620151 | 5·3914103 | 60 | 4·5305714 | 5·3468082 | 60 | 4·4970101 | 5·2996223 |
| 61 | 4·5428823 | 5·3661343 | 61 | 4·5114386 | 5·3217901 | 61 | 4·4778773 | 5·2748591 |
| 62 | 4·5228502 | 5·3395117 | 62 | 4·4914065 | 5·2954371 | 62 | 4·4578452 | 5·2487722 |
| 63 | 4·5018271 | 5·3114335 | 63 | 4·4703834 | 5·2676392 | 63 | 4·4368221 | 5·2212517 |
| 64 | 4·4797104 | 5·2817831 | 64 | 4·4482667 | 5·2382788 | 64 | 4·4147054 | 5·1921798 |
| 65 | 4·4563868 | 5·2504368 | 65 | 4·4249431 | 5·2072319 | 65 | 4·3913818 | 5·1614312 |
| 66 | 4·4317317 | 5·2172641 | 66 | 4·4002880 | 5·1743667 | 66 | 4·3667267 | 5·1288734 |
| 67 | 4·4056098 | 5·1821270 | 67 | 4·3741661 | 5·1395442 | 67 | 4·3406048 | 5·0943663 |
| 68 | 4·3778749 | 5·1448789 | 68 | 4·3464312 | 5·1026182 | 68 | 4·3128699 | 5·0577627 |
| 69 | 4·3483696 | 5·1053685 | 69 | 4·3169259 | 5·0634336 | 69 | 4·2833646 | 5·0189076 |
| 70 | 4·3169259 | 5·0634336 | 70 | 4·2854822 | 5·0218304 | 70 | 4·2519209 | 4·9776372 |
| 71 | 4·2833646 | 5·0189076 | 71 | 4·2519209 | 4·9776372 | 71 | 4·2183596 | 4·9337828 |
| 72 | 4·2474956 | 4·9716130 | 72 | 4·2160519 | 4·9306791 | 72 | 4·1824906 | 4·8871642 |
| 73 | 4·2091180 | 4·9213660 | 73 | 4·1776743 | 4·8807690 | 73 | 4·1441130 | 4·8375967 |
| 74 | 4·1680199 | 4·8679746 | 74 | 4·1365762 | 4·8277130 | 74 | 4·1030149 | 4·7848839 |
| 75 | 4·1239783 | 4·8112371 | 75 | 4·0925346 | 4·7713103 | 75 | 4·0589733 | 4·7288228 |
| 76 | 4·0767594 | 4·7509441 | 76 | 4·0453157 | 4·7113491 | 76 | 4·0117544 | 4·6692016 |
| 77 | 4·0261186 | 4·6868748 | 77 | 3·9946749 | 4·6476095 | 77 | 3·9611136 | 4·6057995 |
| 78 | 3·9718000 | 4·6188024 | 78 | 3·9403563 | 4·5798618 | 78 | 3·9067950 | 4·5383856 |
| 79 | 3·9135371 | 4·5464881 | 79 | 3·8820934 | 4·5078672 | 79 | 3·8485321 | 4·4667203 |
| 80 | 3·8510523 | 4·4696836 | 80 | 3·8196086 | 4·4313764 | 80 | 3·7860473 | 4·3905538 |
| 81 | 3·7840571 | 4·3881314 | 81 | 3·7526134 | 4·3501312 | 81 | 3·7190521 | 4·3096261 |
| 82 | 3·7122520 | 4·3015619 | 82 | 3·6808083 | 4·2638621 | 82 | 3·6472470 | 4·2236677 |
| 83 | 3·6353267 | 4·2096965 | 83 | 3·6038830 | 4·1722885 | 83 | 3·5703217 | 4·1323984 |
| 84 | 3·5529597 | 4·1122432 | 84 | 3·5215160 | 4·0751209 | 84 | 3·4879547 | 4·0355258 |
| 85 | 3·4648190 | 4·0089033 | 85 | 3·4333753 | 3·9720552 | 85 | 3·3998140 | 3·9327496 |
| 86 | 3·3705611 | 3·8993619 | 86 | 3·3391174 | 3·8627817 | 86 | 3·3055561 | 3·8237532 |
| 87 | 3·2698320 | 3·7832960 | 87 | 3·2383883 | 3·7469734 | 87 | 3·2048270 | 3·7082161 |
| 88 | 3·1622666 | 3·6603674 | 88 | 3·1308229 | 3·6242955 | 88 | 3·0972616 | 3·5857990 |
| 89 | 3·0474888 | 5·5302304 | 89 | 3·0160451 | 3·4943982 | 89 | 2·9824838 | 3·4561542 |
| 90 | 2·9251117 | 3·3925236 | 90 | 2·8936680 | 3·3569224 | 90 | 2·8601067 | 3·3189213 |
| 91 | 2·7947374 | 3·2468733 | 91 | 2·7632937 | 3·2114948 | 91 | 2·7297324 | 3·1737281 |
| 92 | 2·6559570 | 3·0928939 | 92 | 2·6245133 | 3·0577289 | 92 | 2·5909520 | 3·0201876 |
| 93 | 2·5083508 | 2·9301827 | 93 | 2·4769071 | 2·8952242 | 93 | 2·4433458 | 2·8578997 |
| 94 | 2·3514879 | 2·7583213 | 94 | 2·3200442 | 2·7235616 | 94 | 2·2864829 | 2·6864477 |
| 95 | 2·1849267 | 2·5768698 | 95 | 2·1534830 | 2·5423025 | 95 | 2·1199217 | 2·5053915 |
| 96 | 2·0082147 | 2·3853578 | 96 | 1·9767710 | 2·3509768 | 96 | 1·9432097 | 2·3142645 |
| 97 | 1·8208882 | 2·1832633 | 97 | 1·7894445 | 2·1490691 | 97 | 1·7558832 | 2·1125527 |
| 98 | 1·6224729 | 1·9699831 | 98 | 1·5910292 | 1·9359761 | 98 | 1·5574679 | 1·8996597 |
| 99 | 1·4124831 | 1·7447450 | 99 | 1·3810394 | 1·7109361 | 99 | 1·3474781 | 1·6748272 |
| 100 | 1·1904226 | 1·5064455 | 100 | 1·1589789 | 1·4728515 | 100 | 1·1254176 | 1·4369732 |
| 101 | 0·9557841 | 1·2532556 | 101 | 0·9243104 | 1·2199092 | 101 | 0·8907791 | 1·1842939 |
| 102 | 0·7080493 | 0·9816691 | 102 | 0·6766056 | 0·9486379 | 102 | 0·6430443 | 0·9133475 |
| 103 | 0·4466890 | 0·6840370 | 103 | 0·4152453 | 0·6513846 | 103 | 0·3816840 | 0·6165385 |
| 104 | 0·1711632 | 0·3404838 | 104 | 0·1397195 | 0·3083509 | 104 | 0·1061582 | 0·2740423 |
| 105 | 9·8809206 | | 105 | 9·8494769 | | 105 | 9·8159156 | |
| 106 | 9·5753994 | | 106 | 9·5439557 | | 106 | 9·5103944 | |
| 107 | 9·2540265 | | 107 | 9·2225828 | | 107 | 9·1890215 | |
| 108 | 8·9162181 | | 108 | 8·8847744 | | 108 | 8·8512131 | |
| 109 | 8·5613793 | | 109 | 8·5299356 | | 109 | 8·4963743 | |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$

| Age of (y) | 72 | | | 73 | | | 74 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,72}$ | λ $N_{x,\,72}$ | Age of (x) | λ $D_{x,\,73}$ | λ $N_{x,\,73}$ | Age of (x) | λ $D_{x,\,74}$ | λ $N_{x,\,74}$ |
| 0 | 5·2619573 | 6·0316920 | 0 | 5·2235797 | 5·9765471 | 0 | 5·1824816 | 5·9184660 |
| 1 | 5·1926991 | 6·0065075 | 1 | 5·1543215 | 5·9508077 | 1 | 5·1132234 | 5·8921492 |
| 2 | 5·1585215 | 5·9900692 | 2 | 5·1201439 | 5·9341195 | 2 | 5·0790458 | 5·8752025 |
| 3 | 5·1364583 | 5·9769082 | 3 | 5·0980807 | 5·9208222 | 3 | 5·0569826 | 5·8617620 |
| 4 | 5·1194107 | 5·9653494 | 4 | 5·0810331 | 5·9091820 | 4 | 5·0399350 | 5·8500351 |
| 5 | 5·1052443 | 5·9547590 | 5 | 5·0668667 | 5·8985426 | 5 | 5·0257686 | 5·8393448 |
| 6 | 5·0930208 | 5·9447846 | 6 | 5·0546432 | 5·8885439 | 6 | 5·0135451 | 5·8293179 |
| 7 | 5·0819950 | 5·9351887 | 7 | 5·0436174 | 5·8789387 | 7 | 5·0025193 | 5·8197025 |
| 8 | 5·0716155 | 5·9258240 | 8 | 5·0332379 | 5·8695766 | 8 | 4·9921398 | 5·8103411 |
| 9 | 5·0618464 | 5·9166113 | 9 | 5·0234688 | 5·8603769 | 9 | 4·9823707 | 5·8011528 |
| 10 | 5·0525440 | 5·9074673 | 10 | 5·0141664 | 5·8512546 | 10 | 4·9730683 | 5·7920499 |
| 11 | 5·0435768 | 5·8983236 | 11 | 5·0051992 | 5·8421367 | 11 | 4·9641011 | 5·7829581 |
| 12 | 5·0348255 | 5·8891201 | 12 | 4·9964479 | 5·8329637 | 12 | 4·9553498 | 5·7738149 |
| 13 | 5·0261833 | 5·8798113 | 13 | 4·9878057 | 5·8236873 | 13 | 4·9467076 | 5·7645700 |
| 14 | 5·0175554 | 5·8703623 | 14 | 4·9791778 | 5·8142703 | 14 | 4·9380797 | 5·7551852 |
| 15 | 5·0088592 | 5·8607482 | 15 | 4·9704816 | 5·8046870 | 15 | 4·9293835 | 5·7456333 |
| 16 | 5·0000244 | 5·8509542 | 16 | 4·9616468 | 5·7949227 | 16 | 4·9205487 | 5·7358980 |
| 17 | 4·9909930 | 5·8409767 | 17 | 4·9526154 | 5·7849717 | 17 | 4·9115173 | 5·7259739 |
| 18 | 4·9817192 | 5·8308198 | 18 | 4·9433416 | 5·7748389 | 18 | 4·9022435 | 5·7158645 |
| 19 | 4·9721693 | 5·8204967 | 19 | 4·9337917 | 5·7645367 | 19 | 4·8926936 | 5·7055834 |
| 20 | 4·9623219 | 5·8100269 | 20 | 4·9239443 | 5·7540857 | 20 | 4·8828462 | 5·6951509 |
| 21 | 4·9521679 | 5·7994367 | 21 | 4·9137903 | 5·7435131 | 21 | 4·8726922 | 5·6845954 |
| 22 | 4·9419163 | 5·7887566 | 22 | 4·9035387 | 5·7328507 | 22 | 4·8624406 | 5·6739500 |
| 23 | 4·9315707 | 5·7779880 | 23 | 4·8931931 | 5·7220995 | 23 | 4·8520950 | 5·6632163 |
| 24 | 4·9211337 | 5·7671311 | 24 | 4·8827561 | 5·7112607 | 24 | 4·8416580 | 5·6523944 |
| 25 | 4·9106080 | 5·7561866 | 25 | 4·8722304 | 5·7003341 | 25 | 4·8311323 | 5·6414857 |
| 26 | 4·8999953 | 5·7451539 | 26 | 4·8616177 | 5·6893200 | 26 | 4·8205196 | 5·6304891 |
| 27 | 4·8892973 | 5·7340323 | 27 | 4·8509197 | 5·6782171 | 27 | 4·8098216 | 5·6194048 |
| 28 | 4·8785150 | 5·7228204 | 28 | 4·8401374 | 5·6670251 | 28 | 4·7990393 | 5·6082313 |
| 29 | 4·8676489 | 5·7115170 | 29 | 4·8292713 | 5·6557413 | 29 | 4·7881732 | 5·5969676 |
| 30 | 4·8566990 | 5·7001191 | 30 | 4·8183214 | 5·6443648 | 30 | 4·7772233 | 5·5856107 |
| 31 | 4·8456651 | 5·6886244 | 31 | 4·8072875 | 5·6328920 | 31 | 4·7661894 | 5·5741593 |
| 32 | 4·8345463 | 5·6770298 | 32 | 4·7961687 | 5·6213201 | 32 | 4·7550706 | 5·5626094 |
| 33 | 4·8233412 | 5·6653311 | 33 | 4·7849636 | 5·6096459 | 33 | 4·7438655 | 5·5509580 |
| 34 | 4·8120481 | 5·6535234 | 34 | 4·7736705 | 5·5978641 | 34 | 4·7325724 | 5·5392012 |
| 35 | 4·8006647 | 5·6416019 | 35 | 4·7622871 | 5·5859700 | 35 | 4·7211890 | 5·5273331 |
| 36 | 4·7891882 | 5·6295602 | 36 | 4·7508106 | 5·5739578 | 36 | 4·7097125 | 5·5153491 |
| 37 | 4·7776156 | 5·6173915 | 37 | 4·7392380 | 5·5618208 | 37 | 4·6981399 | 5·5032421 |
| 38 | 4·7659431 | 5·6050874 | 38 | 4·7275655 | 5·5495513 | 38 | 4·6864674 | 5·4910051 |
| 39 | 4·7541666 | 5·5926382 | 39 | 4·7157890 | 5·5371404 | 39 | 4·6746909 | 5·4786300 |
| 40 | 4·7422816 | 5·5800334 | 40 | 4·7039040 | 5·5245771 | 40 | 4·6628059 | 5·4661064 |
| 41 | 4·7302829 | 5·5672605 | 41 | 4·6919053 | 5·5118500 | 41 | 4·6508072 | 5·4534225 |
| 42 | 4·7181650 | 5·5543042 | 42 | 4·6797874 | 5·4989454 | 42 | 4·6386893 | 5·4405657 |
| 43 | 4·7059219 | 5·5411476 | 43 | 4·6675443 | 5·4858460 | 43 | 4·6264462 | 5·4275205 |
| 44 | 4·6935472 | 5·5277709 | 44 | 4·6551696 | 5·4725334 | 44 | 4·6140715 | 5·4142679 |
| 45 | 4·6810338 | 5·5141509 | 45 | 4·6426562 | 5·4589850 | 45 | 4·6015581 | 5·4007871 |
| 46 | 4·6683745 | 5·5002616 | 46 | 4·6299969 | 5·4451748 | 46 | 4·5888988 | 5·3870524 |
| 47 | 4·6555613 | 5·4860704 | 47 | 4·6171837 | 5·4310733 | 47 | 4·5760856 | 5·3730347 |
| 48 | 4·6425859 | 5·4715421 | 48 | 4·6042083 | 5·4166438 | 48 | 4·5631102 | 5·3586999 |
| 49 | 4·6294394 | 5·4566349 | 49 | 4·5910618 | 5·4018457 | 49 | 4·5499637 | 5·3440062 |
| 50 | 4·6161127 | 5·4413000 | 50 | 4·5777351 | 5·3866313 | 50 | 4·5366370 | 5·3289067 |
| 51 | 4·6025959 | 5·4254806 | 51 | 4·5642183 | 5·3709441 | 51 | 4·5231202 | 5·3133462 |
| 52 | 4·5888788 | 5·4091125 | 52 | 4·5505012 | 5·3547184 | 52 | 4·5094031 | 5·2972588 |
| 53 | 4·5749507 | 5·3921193 | 53 | 4·5365731 | 5·3378796 | 53 | 4·4954750 | 5·2805679 |
| 54 | 4·5608006 | 5·3744140 | 54 | 4·5224230 | 5·3203378 | 54 | 4·4813249 | 5·2631848 |

## JOINT LIVES:—Two Females.

## Logarithms of the Series $D_{x,y}$ and $N_{x,y}$

| Age of (y) | 72 | | Age of (y) | 73 | | Age of (y) | 74 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,72}$ | λ $N_{x,72}$ | Age of (x) | λ $D_{x,73}$ | λ $N_{x,73}$ | Age of (x) | λ $D_{x,74}$ | λ $N_{x,74}$ |
| 55 | 4·5457535 | 5·3558942 | 55 | 4·5073759 | 5·3019904 | 55 | 4·4662778 | 5·2450036 |
| 56 | 4·5301268 | 5·3365578 | 56 | 4·4917492 | 5·2828375 | 56 | 4·4506511 | 5·2260283 |
| 57 | 4·5138946 | 5·3163430 | 57 | 4·4755170 | 5·2628181 | 57 | 4·4344189 | 5·2061980 |
| 58 | 4·4970199 | 5·2951795 | 58 | 4·4586423 | 5·2418621 | 58 | 4·4175442 | 5·1854439 |
| 59 | 4·4794550 | 5·2729895 | 59 | 4·4410774 | 5·2198917 | 59 | 4·3999793 | 5·1636875 |
| 60 | 4·4611411 | 5·2496850 | 60 | 4·4227635 | 5·1968206 | 60 | 4·3816654 | 5·1408429 |
| 61 | 4·4420083 | 5·2251722 | 61 | 4·4036307 | 5·1725527 | 61 | 4·3625326 | 5·1168158 |
| 62 | 4·4219762 | 5·1993479 | 62 | 4·3835986 | 5·1469868 | 62 | 4·3425005 | 5·0915021 |
| 63 | 4·4009531 | 5·1721016 | 63 | 4·3625755 | 5·1200107 | 63 | 4·3214774 | 5·0647919 |
| 64 | 4·3788364 | 5·1433152 | 64 | 4·3404588 | 5·0915059 | 64 | 4·2993607 | 5·0365651 |
| 65 | 4·3555128 | 5·1128630 | 65 | 4·3171352 | 5·0613473 | 65 | 4·2760371 | 5·0066948 |
| 66 | 4·3308577 | 5·0806114 | 66 | 4·2924801 | 5·0293993 | 66 | 4·2513820 | 4·9750479 |
| 67 | 4·3047358 | 5·0464191 | 67 | 4·2663582 | 4·9955207 | 67 | 4·2252601 | 4·9414801 |
| 68 | 4·2770009 | 5·0101383 | 68 | 4·2386233 | 4·9595618 | 68 | 4·1975252 | 4·9058417 |
| 69 | 4·2474956 | 4·9716130 | 69 | 4·2091180 | 4·9213660 | 69 | 4·1680199 | 4·8679746 |
| 70 | 4·2160519 | 4·9306791 | 70 | 4·1776743 | 4·8807690 | 70 | 4·1365762 | 4·8277130 |
| 71 | 4·1824906 | 4·8871642 | 71 | 4·1441130 | 4·8375967 | 71 | 4·1030149 | 4·7848839 |
| 72 | 4·1466216 | 4·8408905 | 72 | 4·1082440 | 4·7916682 | 72 | 4·0671459 | 4·7393041 |
| 73 | 4·1082440 | 4·7916682 | 73 | 4·0698664 | 4·7427974 | 73 | 4·0287683 | 4·6907833 |
| 74 | 4·0671459 | 4·7393041 | 74 | 4·0287683 | 4·6907833 | 74 | 3·9876702 | 4·6391257 |
| 75 | 4·0231043 | 4·6835909 | 75 | 3·9847267 | 4·6354239 | 75 | 3·9436286 | 4·5841221 |
| 76 | 3·9758854 | 4·6243168 | 76 | 3·9375078 | 4·5765026 | 76 | 3·8964097 | 4·5255582 |
| 77 | 3·9252446 | 4·5612597 | 77 | 3·8868670 | 4·5137968 | 77 | 3·8457689 | 4·4632089 |
| 78 | 3·8709260 | 4·4941879 | 78 | 3·8325484 | 4·4470740 | 78 | 3·7914503 | 4·3968412 |
| 79 | 3·8126631 | 4·4228605 | 79 | 3·7742855 | 4·3760924 | 79 | 3·7331874 | 4·3262121 |
| 80 | 3·7501783 | 4·3470272 | 80 | 3·7118007 | 4·3006007 | 80 | 3·6707026 | 4·2510692 |
| 81 | 3·6831831 | 4·2664275 | 81 | 3·6448055 | 4·2203374 | 81 | 3·6037074 | 4·1711506 |
| 82 | 3·6113780 | 4·1807903 | 82 | 3·5730004 | 4·1350311 | 82 | 3·5319023 | 4·0861832 |
| 83 | 3·5344527 | 4·0898349 | 83 | 3·4960751 | 4·0443998 | 83 | 3·4549770 | 3·9958852 |
| 84 | 3·4520857 | 3·9932696 | 84 | 3·4137081 | 3·9481513 | 84 | 3·3726100 | 3·8999627 |
| 85 | 3·3639450 | 3·8907909 | 85 | 3·3255674 | 3·8459824 | 85 | 3·2844693 | 3·7981125 |
| 86 | 3·2696871 | 3·7820876 | 86 | 3·2313095 | 3·7375783 | 86 | 3·1902114 | 3·6900206 |
| 87 | 3·1689580 | 3·6668295 | 87 | 3·1305804 | 3·6226160 | 87 | 3·0894823 | 3·5753588 |
| 88 | 3·0613926 | 3·5446855 | 88 | 3·0230150 | 3·5007537 | 88 | 2·9819169 | 3·4537930 |
| 89 | 2·9466148 | 3·4153052 | 89 | 2·9082372 | 3·3716484 | 89 | 2·8671391 | 3·3249721 |
| 90 | 2·8242377 | 3·2783272 | 90 | 2·7858601 | 3·2349362 | 90 | 2·7447620 | 3·1885362 |
| 91 | 2·6938634 | 3·1333789 | 91 | 2·6554858 | 3·0902451 | 91 | 2·6143877 | 3·0441127 |
| 92 | 2·5550830 | 2·9800757 | 92 | 2·5167054 | 2·9371888 | 92 | 2·4756073 | 2·8913150 |
| 93 | 2·4074768 | 2·8180159 | 93 | 2·3690992 | 2·7753686 | 93 | 2·3280011 | 2·7297438 |
| 94 | 2·2506139 | 2·6467839 | 94 | 2·2122363 | 2·6043676 | 94 | 2·1711382 | 2·5589856 |
| 95 | 2·0840527 | 2·4659432 | 95 | 2·0456751 | 2·4237520 | 95 | 2·0045770 | 2·3786032 |
| 96 | 1·9073407 | 2·2750254 | 96 | 1·8689631 | 2·2330538 | 96 | 1·8278650 | 2·1881365 |
| 97 | 1·7200142 | 2·0735208 | 97 | 1·6816366 | 2·0317679 | 97 | 1·6405385 | 1·9870784 |
| 98 | 1·5215989 | 1·8608367 | 98 | 1·4832213 | 1·8190044 | 98 | 1·4421232 | 1·7748475 |
| 99 | 1·3116091 | 1·6362260 | 99 | 1·2732315 | 1·5949238 | 99 | 1·2321334 | 1·5507089 |
| 100 | 1·0895486 | 1·3986118 | 100 | 1·0511710 | 1·3575671 | 100 | 1·0100729 | 1·3136184 |
| 101 | 0·8549101 | 1·1462211 | 101 | 0·8165325 | 1·1054693 | 101 | 0·7754344 | 1·0618368 |
| 102 | 0·6071753 | 0·8756168 | 102 | 0·5687977 | 0·8352465 | 102 | 0·5276996 | 0·7919992 |
| 103 | 0·3458150 | 0·5792461 | 103 | 0·3074374 | 0·5393522 | 103 | 0·2663393 | 0·4966391 |
| 104 | 0·0702892 | 0·2373929 | 104 | 0·0319116 | 0·1981070 | 104 | 9·9908135 | 0·1560946 |
| 105 | 9·7800466 | | 105 | 9·7416690 | | 105 | 9·7005709 | |
| 106 | 9·4745254 | | 106 | 9·4361478 | | 106 | 9·3950497 | |
| 107 | 9·1531525 | | 107 | 9·1147749 | | 107 | 9·0736768 | |
| 108 | 8·8153441 | | 108 | 8·7769665 | | 108 | 8·7358684 | |
| 109 | 8·4605053 | | 109 | 8·4221277 | | 109 | 8·3810296 | |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 75 | | | 76 | | | 77 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda D_{x,75}$ | $\lambda N_{x,75}$ | Age of x | $\lambda D_{x,76}$ | $\lambda N_{x,76}$ | Age of (x) | $\lambda D_{x,77}$ | $\lambda N_{x,77}$ |
| 0 | 5·1384400 | 5·8572553 | 0 | 5·0912211 | 5·7927103 | 0 | 5·0405803 | 5·7246150 |
| 1 | 5·0691818 | 5·8303371 | 1 | 5·0219629 | 5·7651685 | 1 | 4·9713221 | 5·6964279 |
| 2 | 5·0350042 | 5·8131224 | 2 | 4·9877853 | 5·7476751 | 2 | 4·9371445 | 5·6786473 |
| 3 | 5·0129410 | 5·7995342 | 3 | 4·9657221 | 5·7339342 | 3 | 4·9150813 | 5·6647477 |
| 4 | 4·9958934 | 5·7877165 | 4 | 4·9486745 | 5·7220218 | 4 | 4·8980337 | 5·6527375 |
| 5 | 4·9817270 | 5·7769713 | 5 | 4·9345081 | 5·7112186 | 5 | 4·8838673 | 5·6418734 |
| 6 | 4·9695035 | 5·7669142 | 6 | 4·9222846 | 5·7011293 | 6 | 4·8716438 | 5·6317487 |
| 7 | 4·9584777 | 5·7572852 | 7 | 4·9112588 | 5·6914845 | 7 | 4·8606180 | 5·6220866 |
| 8 | 4·9480982 | 5·7479233 | 8 | 4·9008793 | 5·6821199 | 8 | 4·8502385 | 5·6127170 |
| 9 | 4 9383291 | 5·7387449 | 9 | 4·8911102 | 5·6729499 | 9 | 4·8404694 | 5·6035538 |
| 10 | 4·9290267 | 5·7296607 | 10 | 4·8818078 | 5·6638828 | 10 | 4·8311670 | 5·5945026 |
| 11 | 4·9200595 | 5·7205936 | 11 | 4·8728406 | 5·6548396 | 11 | 4·8221998 | 5·5854820 |
| 12 | 4·9113082 | 5·7114794 | 12 | 4·8640893 | 5·6457537 | 12 | 4·8134485 | 5·5764229 |
| 13 | 4·9026660 | 5·7022660 | 13 | 4·8554471 | 5·6365712 | 13 | 4·8048063 | 5·5672716 |
| 14 | 4·8940381 | 5·6929131 | 14 | 4·8468192 | 5·6272503 | 14 | 4·7961784 | 5·5579821 |
| 15 | 4·8853419 | 5·6833924 | 15 | 4·8381230 | 5·6177606 | 15 | 4·7874822 | 5·5485235 |
| 16 | 4·8765071 | 5·6736865 | 16 | 4·8292882 | 5·6080838 | 16 | 4·7786474 | 5·5388760 |
| 17 | 4·8674757 | 5·6637888 | 17 | 4·8202568 | 5·5982128 | 17 | 4·7696160 | 5·5290313 |
| 18 | 4·8582019 | 5·6537033 | 18 | 4·8109830 | 5·5881505 | 18 | 4·7603422 | 5·5189926 |
| 19 | 4·8486520 | 5·6434424 | 19 | 4·8014331 | 5·5779104 | 19 | 4·7507923 | 5·5087723 |
| 20 | 4·8388046 | 5·6330283 | 20 | 4·7915857 | 5·5675138 | 20 | 4·7409449 | 5·4983936 |
| 21 | 4·8286506 | 5·6224894 | 21 | 4·7814317 | 5·5569915 | 21 | 4·7307909 | 5·4878867 |
| 22 | 4·8183990 | 5·6118607 | 22 | 4·7711801 | 5·5463789 | 22 | 4·7205393 | 5·4772901 |
| 23 | 4·8080534 | 5·6011435 | 23 | 4·7608345 | 5·5356780 | 23 | 4·7101937 | 5·4666047 |
| 24 | 4·7976164 | 5·5903390 | 24 | 4·7503975 | 5·5248893 | 24 | 4·6997567 | 5·4558321 |
| 25 | 4·7870907 | 5·5794468 | 25 | 4·7398718 | 5·5140142 | 25 | 4·6892310 | 5·4449725 |
| 26 | 4·7764780 | 5·5684680 | 26 | 4·7292591 | 5·5030516 | 26 | 4·6786183 | 5·4340267 |
| 27 | 4·7657800 | 5·5574011 | 27 | 4·7185611 | 5·4920023 | 27 | 4·6679203 | 5·4229934 |
| 28 | 4·7549977 | 5·5462460 | 28 | 4·7077788 | 5·4808643 | 28 | 4·6571380 | 5·4118728 |
| 29 | 4·7441316 | 5·5350007 | 29 | 4·6969127 | 5·4696374 | 29 | 4·6462719 | 5·4006628 |
| 30 | 4·7331817 | 5·5236637 | 30 | 4·6859628 | 5·4583189 | 30 | 4·6353220 | 5·3893626 |
| 31 | 4·7221478 | 5·5122321 | 31 | 4·6749289 | 5·4469072 | 31 | 4·6242881 | 5·3779693 |
| 32 | 4·7110290 | 5·5007037 | 32 | 4·6638101 | 5·4353987 | 32 | 4·6131693 | 5·3664807 |
| 33 | 4·6998239 | 5·4890745 | 33 | 4·6526050 | 5·4237910 | 33 | 4·6019642 | 5·3548930 |
| 34 | 4·6885308 | 5·4773405 | 34 | 4·6413119 | 5·4120795 | 34 | 4·5906711 | 5·3432032 |
| 35 | 4·6771474 | 5·4654980 | 35 | 4·6299285 | 5·4002599 | 35 | 4·5792877 | 5·3314062 |
| 36 | 4·6656709 | 5·4535404 | 36 | 4·6184520 | 5·3883280 | 36 | 4·5678112 | 5·3194976 |
| 37 | 4·6540983 | 5·4414622 | 37 | 4·6068794 | 5·3762769 | 37 | 4·5562386 | 5·3074727 |
| 38 | 4·6424258 | 5·4292560 | 38 | 4·5952069 | 5·3641001 | 38 | 4·5445661 | 5·2953233 |
| 39 | 4·6306493 | 5·4169141 | 39 | 4·5834304 | 5·3517900 | 39 | 4·5327896 | 5·2830433 |
| 40 | 4·6187643 | 5·4044273 | 40 | 4·5715454 | 5·3393376 | 40 | 4·5209046 | 5·2706237 |
| 41 | 4·6067656 | 5·3917849 | 41 | 4·5595467 | 5·3267331 | 41 | 4·5089059 | 5·2580544 |
| 42 | 4·5946477 | 5·3789728 | 42 | 4·5474288 | 5·3139642 | 42 | 4·4967880 | 5·2453254 |
| 43 | 4·5824046 | 5·3659778 | 43 | 4·5351857 | 5·3010159 | 43 | 4·4845149 | 5·2324221 |
| 44 | 4·5700299 | 5·3527822 | 44 | 4·5228110 | 5·2878729 | 44 | 4·4721702 | 5·2193280 |
| 45 | 4·5575165 | 5·3393645 | 45 | 4·5102976 | 5·2745153 | 45 | 4·4596568 | 5·2060259 |
| 46 | 4·5448572 | 5·3257013 | 46 | 4·4976383 | 5·2609189 | 46 | 4·4469975 | 5·1924930 |
| 47 | 4·5320440 | 5·3117634 | 47 | 4·4848251 | 5·2470567 | 47 | 4·4341843 | 5·1787013 |
| 48 | 4·5190686 | 5·2975174 | 48 | 4·4718497 | 5·2328950 | 48 | 4·4212089 | 5·1646202 |
| 49 | 4·5059221 | 5·2829238 | 49 | 4·4587032 | 5·2183955 | 49 | 4·4080624 | 5·1502101 |
| 50 | 4·4925954 | 5·2679345 | 50 | 4·4453765 | 5·2035123 | 50 | 4·3947357 | 5·1354266 |
| 51 | 4·4790786 | 5·2524950 | 51 | 4·4318597 | 5·1881886 | 51 | 4·3812189 | 5·1202149 |
| 52 | 4·4653615 | 5·2365401 | 52 | 4·4181426 | 5·1723606 | 52 | 4·3675018 | 5·1045083 |
| 53 | 4·4514334 | 5·2199928 | 53 | 4·4042145 | 5·1559506 | 53 | 4·3535737 | 5·0882303 |
| 54 | 4·4372833 | 5·2027618 | 54 | 4·3900644 | 5·1388674 | 54 | 4·3394236 | 5·0712879 |

## JOINT LIVES :—TWO FEMALES.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 75 | | | 76 | | | 77 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda D_{x,75}$ | $\lambda N_{x,75}$ | Age of (x) | $\lambda D_{x,76}$ | $\lambda N_{x,76}$ | Age of (x) | $\lambda D_{x,77}$ | $\lambda N_{x,77}$ |
| 55 | 4·4222362 | 5·1847414 | 55 | 4·3750173 | 5·1210011 | 55 | 4·3243765 | 5·0535709 |
| 56 | 4·4066095 | 5·1659372 | 56 | 4·3593906 | 5·1023620 | 56 | 4·3087498 | 5·0350902 |
| 57 | 4·3903773 | 5·1462902 | 57 | 4·3431584 | 5·0828912 | 57 | 4·2925176 | 5·0157893 |
| 58 | 4·3735026 | 5·1257310 | 58 | 4·3262838 | 5·0625215 | 58 | 4·2756429 | 4·9956010 |
| 59 | 4·3559377 | 5·1041828 | 59 | 4·3087188 | 5·0411743 | 59 | 4·2580780 | 4·9744490 |
| 60 | 4·3376238 | 5·0815590 | 60 | 4·2904049 | 5·0187650 | 60 | 4·2397641 | 4·9522474 |
| 61 | 4·3184910 | 5·0577654 | 61 | 4·2712722 | 4·9951989 | 61 | 4·2206313 | 4·9289021 |
| 62 | 4·2984589 | 5·0326993 | 62 | 4·2512400 | 4·9703729 | 62 | 4·2005992 | 4·9043102 |
| 63 | 4·2774358 | 5·0062487 | 63 | 4·2302169 | 4·9441771 | 63 | 4·1795761 | 4·8783609 |
| 64 | 4·2553191 | 4·9782947 | 64 | 4·2081003 | 4·9164897 | 64 | 4·1574594 | 4·8509352 |
| 65 | 4·2319955 | 4·9487097 | 65 | 4·1847766 | 4·8871845 | 65 | 4·1341358 | 4·8219031 |
| 66 | 4·2073404 | 4·9173584 | 66 | 4·1601215 | 4·8561250 | 66 | 4·1094807 | 4·7911297 |
| 67 | 4·1812185 | 4·8840983 | 67 | 4·1339996 | 4·8231670 | 67 | 4·0833588 | 4·7584706 |
| 68 | 4·1534836 | 4·8487776 | 68 | 4·1062647 | 4·7881606 | 68 | 4·0556239 | 4·7237716 |
| 69 | 4·1239783 | 4·8112371 | 69 | 4·0767594 | 4·7509441 | 69 | 4·0261186 | 4·6868748 |
| 70 | 4·0925346 | 4·7713103 | 70 | 4·0453157 | 4·7113491 | 70 | 3·9946749 | 4·6476095 |
| 71 | 4·0589733 | 4·7288228 | 71 | 4·0117544 | 4·6692016 | 71 | 3·9611136 | 4·6057995 |
| 72 | 4·0231043 | 4·6835909 | 72 | 3·9758854 | 4·6243168 | 72 | 3·9252446 | 4·5612597 |
| 73 | 3·9847267 | 4·6354239 | 73 | 3·9375079 | 4·5765026 | 73 | 3·8868670 | 4·5137968 |
| 74 | 3·9436286 | 4·5841221 | 74 | 3·8964097 | 4·5255582 | 74 | 3·8457689 | 4·4632089 |
| 75 | 3·8995870 | 4·5294780 | 75 | 3·8523681 | 4·4712741 | 75 | 3·8017273 | 4·4092859 |
| 76 | 3·8523681 | 4·4712741 | 76 | 3·8051492 | 4·4134335 | 76 | 3·7545084 | 4·3518087 |
| 77 | 3·8017273 | 4·4092859 | 77 | 3·7545084 | 4·3518087 | 77 | 3·7038676 | 4·2905499 |
| 78 | 3·7474087 | 4·3432782 | 78 | 3·7001898 | 4·2861646 | 78 | 3·6495490 | 4·2252718 |
| 79 | 3·6891458 | 4·2730071 | 79 | 3·6419269 | 4·2162562 | 79 | 3·5912861 | 4·1557292 |
| 80 | 3·6266610 | 4·1982193 | 80 | 3·5794421 | 4·1418287 | 80 | 3·5288013 | 4·0816659 |
| 81 | 3·5596658 | 4·1186519 | 81 | 3·5124469 | 4·0626181 | 81 | 3·4618061 | 4·0028173 |
| 82 | 3·4878607 | 4·0340313 | 82 | 3·4406418 | 3·9783504 | 82 | 3·3900010 | 3·9189075 |
| 83 | 3·4109354 | 3·9440739 | 83 | 3·3637165 | 3·8887416 | 83 | 3·3130757 | 3·8296524 |
| 84 | 3·3285684 | 3·8484866 | 84 | 3·2813496 | 3·7934956 | 84 | 3·2307087 | 3·7347558 |
| 85 | 3·2404277 | 3·7469641 | 85 | 3·1932088 | 3·6923092 | 85 | 3·1425680 | 3·6339116 |
| 86 | 3·1461698 | 3·6391916 | 86 | 3·0989509 | 3·5848659 | 86 | 3·0483101 | 3·5268043 |
| 87 | 3·0454407 | 3·5248438 | 87 | 2·9982218 | 3·4708383 | 87 | 2·9475810 | 3·4131057 |
| 88 | 2·9378753 | 3·4035809 | 88 | 2·8906564 | 3·3498887 | 88 | 2·8400156 | 3·2924770 |
| 89 | 2·8230975 | 3·2750553 | 89 | 2·7758786 | 3·2216672 | 89 | 2·7252378 | 3·1645688 |
| 90 | 2·7007204 | 3·1389056 | 90 | 2·6535015 | 3·0858134 | 90 | 2·6028607 | 3·0290191 |
| 91 | 2·5703461 | 2·9947591 | 91 | 2·5231272 | 2·9419540 | 91 | 2·4724864 | 2·8854551 |
| 92 | 2·4315657 | 2·8422309 | 92 | 2·3843468 | 2·7897033 | 92 | 2·3337060 | 2·7334918 |
| 93 | 2·2839595 | 2·6809199 | 93 | 2·2367406 | 2·6286627 | 93 | 2·1860998 | 2·5727299 |
| 94 | 2·1270966 | 2·5104123 | 94 | 2·0798777 | 2·4584172 | 94 | 2·0292369 | 2·4027547 |
| 95 | 1·9605354 | 2·3302760 | 95 | 1·9133166 | 2·2785348 | 95 | 1·8626757 | 2·2231358 |
| 96 | 1·7838234 | 2·1400493 | 96 | 1·7366045 | 2·0885560 | 96 | 1·6859637 | 2·0334161 |
| 97 | 1·5964969 | 1·9392286 | 97 | 1·5492781 | 1·8879845 | 97 | 1·4986372 | 1·8330987 |
| 98 | 1·3980816 | 1·7272386 | 98 | 1·3508627 | 1·6762445 | 98 | 1·3002219 | 1·6216218 |
| 99 | 1·1880918 | 1·5033548 | 99 | 1·1408729 | 1·4526235 | 99 | 1·0902321 | 1·3982734 |
| 100 | 0·9660313 | 1·2665421 | 100 | 0·9188124 | 1·2161052 | 100 | 0·8681716 | 1·1620563 |
| 101 | 0·7313928 | 1·0150914 | 101 | 0·6841739 | 0·9649946 | 101 | 0·6335331 | 0·9113068 |
| 102 | 0·4836580 | 0·7456680 | 102 | 0·4364391 | 0·6960067 | 102 | 0·3857983 | 0·6427711 |
| 103 | 0·2222977 | 0·4508493 | 103 | 0·1750789 | 0·4017623 | 103 | 0·1244380 | 0·3491415 |
| 104 | 9·9467719 | 0·1110608 | 104 | 9·8995530 | 0·0627699 | 104 | 9·8489122 | 0·0109780 |
| 105 | 9·6565293 | | 105 | 9·6093104 | | 105 | 9·5586696 | |
| 106 | 9·3510081 | | 106 | 9·3037892 | | 106 | 9·2531484 | |
| 107 | 9·0296352 | | 107 | 8·9824163 | | 107 | 8·9317755 | |
| 108 | 8·6918268 | | 108 | 8·6446079 | | 108 | 8·5939671 | |
| 109 | 8·3369880 | | 109 | 8·2897691 | | 109 | 8·2391283 | |

### JOINT LIVES:—TWO FEMALES.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 78 | | | 79 | | | 80 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,73}$ | λ $N_{x,\,78}$ | Age of (x) | λ $D_{x,\,79}$ | λ $N_{x,\,79}$ | Age of (x) | λ $D_{x,\,80}$ | λ $N_{x,\,80}$ |
| 0 | 4·9862617 | 5·6527436 | 0 | 4·9279988 | 5·5768588 | 0 | 4·8655140 | 5·4967119 |
| 1 | 4·9170035 | 5·6238896 | 1 | 4·8587406 | 5·5473172 | 1 | 4·7962558 | 5·4664626 |
| 2 | 4·8828259 | 5·6058132 | 2 | 4·8245630 | 5·5289363 | 2 | 4·7620782 | 5·4477695 |
| 3 | 4·8607627 | 5·5917501 | 3 | 4·8024998 | 5·5147055 | 3 | 4·7400150 | 5·4333665 |
| 4 | 4·8437151 | 5·5796381 | 4 | 4·7854522 | 5·5024887 | 4 | 4·7229674 | 5·4210422 |
| 5 | 4·8295487 | 5·5687109 | 5 | 4·7712858 | 5·4914952 | 5 | 4·7088010 | 5·4099802 |
| 6 | 4·8173252 | 5·5585485 | 6 | 4·7590623 | 5·4812934 | 6 | 4·6965775 | 5·3997365 |
| 7 | 4·8062994 | 5·5488664 | 7 | 4·7480365 | 5·4715893 | 7 | 4·6855517 | 5·3900090 |
| 8 | 4·7959199 | 5·5394905 | 8 | 4·7376570 | 5·4622047 | 8 | 4·6751722 | 5·3806135 |
| 9 | 4·7861508 | 5·5303320 | 9 | 4·7278879 | 5·4530500 | 9 | 4·6654031 | 5·3714604 |
| 10 | 4·7768484 | 5·5212955 | 10 | 4·7185855 | 5·4440259 | 10 | 4·6561007 | 5·3624486 |
| 11 | 4·7678812 | 5·5122966 | 11 | 4·7096183 | 5·4350478 | 11 | 4·6471335 | 5·3534888 |
| 12 | 4·7591299 | 5·5032649 | 12 | 4·7008670 | 5·4260419 | 12 | 4·6383822 | 5·3445082 |
| 13 | 4·7504877 | 5·4941428 | 13 | 4·6922248 | 5·4169487 | 13 | 4·6297400 | 5·3354432 |
| 14 | 4·7418598 | 5·4848840 | 14 | 4·6835969 | 5·4077208 | 14 | 4·6211121 | 5·3262456 |
| 15 | 4·7331636 | 5·4754562 | 15 | 4·6749007 | 5·3983230 | 15 | 4·6124159 | 5·3168781 |
| 16 | 4·7243288 | 5·4658379 | 16 | 4·6660659 | 5·3887337 | 16 | 4·6035811 | 5·3073169 |
| 17 | 4·7152974 | 5·4560196 | 17 | 4·6570345 | 5·3789420 | 17 | 4·5945497 | 5·2975516 |
| 18 | 4·7060236 | 5·4460039 | 18 | 4·6477607 | 5·3689494 | 18 | 4·5852759 | 5·2875818 |
| 19 | 4·6964737 | 5·4358038 | 19 | 4·6382108 | 5·3587688 | 19 | 4·5757260 | 5·2774210 |
| 20 | 4·6866263 | 5·4254420 | 20 | 4·6283634 | 5·3484239 | 20 | 4·5658786 | 5·2670921 |
| 21 | 4·6764723 | 5·4149506 | 21 | 4·6182094 | 5·3379472 | 21 | 4·5557246 | 5·2566302 |
| 22 | 4·6662207 | 5·4043689 | 22 | 4·6079578 | 5·3273806 | 22 | 4·5454730 | 5·2460776 |
| 23 | 4·6558751 | 5·3936994 | 23 | 4·5976122 | 5·3167252 | 23 | 4·5351274 | 5·2354368 |
| 24 | 4·6454381 | 5·3829418 | 24 | 4·5871752 | 5·3059832 | 24 | 4·5246904 | 5·2247083 |
| 25 | 4·6349124 | 5·3720977 | 25 | 4·5766495 | 5·2951537 | 25 | 4·5141647 | 5·2138943 |
| 26 | 4·6242997 | 5·3611673 | 26 | 4·5660368 | 5·2842382 | 26 | 4·5035520 | 5·2029929 |
| 27 | 4·6136017 | 5·3501504 | 27 | 4·5553388 | 5·2732365 | 27 | 4·4928540 | 5·1920060 |
| 28 | 4·6028194 | 5·3390456 | 28 | 4·5445565 | 5·2621479 | 28 | 4·4820717 | 5·1809324 |
| 29 | 4·5919533 | 5·3278528 | 29 | 4·5336904 | 5·2509708 | 29 | 4·4712056 | 5·1697712 |
| 30 | 4·5810034 | 5·3165694 | 30 | 4·5227405 | 5·2397046 | 30 | 4·4602557 | 5·1585202 |
| 31 | 4·5699695 | 5·3051944 | 31 | 4·5117066 | 5·2283460 | 31 | 4·4492218 | 5·1471790 |
| 32 | 4·5588507 | 5·2937239 | 32 | 4·5005878 | 5·2168942 | 32 | 4·4381030 | 5·1357431 |
| 33 | 4·5476456 | 5·2821563 | 33 | 4·4893827 | 5·2053443 | 33 | 4·4268979 | 5·1242123 |
| 34 | 4·5363525 | 5·2704864 | 34 | 4·4780896 | 5·1936949 | 34 | 4·4156048 | 5·1125802 |
| 35 | 4·5249691 | 5·2587115 | 35 | 4·4667062 | 5·1819399 | 35 | 4·4042214 | 5·1008459 |
| 36 | 4·5134926 | 5·2468259 | 36 | 4·4552297 | 5·1700762 | 36 | 4·3927449 | 5·0890024 |
| 37 | 4·5019200 | 5·2348244 | 37 | 4·4436571 | 5·1580982 | 37 | 4·3811723 | 5·0770461 |
| 38 | 4·4902475 | 5·2227019 | 38 | 4·4319846 | 5·1459903 | 38 | 4·3694998 | 5·0649714 |
| 39 | 4·4784710 | 5·2104496 | 39 | 4·4202081 | 5·1337746 | 39 | 4·3577233 | 5·0527706 |
| 40 | 4·4665860 | 5·1980609 | 40 | 4·4083231 | 5·1214141 | 40 | 4·3458383 | 5·0404382 |
| 41 | 4·4545873 | 5·1855255 | 41 | 4·3963244 | 5·1089106 | 41 | 4·3338396 | 5·0279638 |
| 42 | 4·4424694 | 5·1728329 | 42 | 4·3842065 | 5·0962529 | 42 | 4·3217217 | 5·0153388 |
| 43 | 4·4302263 | 5·1599709 | 43 | 4·3719634 | 5·0834291 | 43 | 4·3094786 | 5·0025514 |
| 44 | 4·4178516 | 5·1469242 | 44 | 4·3595887 | 5·0704254 | 44 | 4·2971039 | 4·9895877 |
| 45 | 4·4053382 | 5·1336736 | 45 | 4·3470753 | 5·0572247 | 45 | 4·2845905 | 4·9764320 |
| 46 | 4·3926789 | 5·1201994 | 46 | 4·3344160 | 5·0438051 | 46 | 4·2719312 | 4·9630650 |
| 47 | 4·3798657 | 5·1064751 | 47 | 4·3216028 | 5·0301430 | 47 | 4·2591180 | 4·9494612 |
| 48 | 4·3668903 | 5·0924691 | 48 | 4·3086274 | 5·0162087 | 48 | 4·2461426 | 4·9355920 |
| 49 | 4·3537438 | 5·0781446 | 49 | 4·2954809 | 5·0019642 | 49 | 4·2329961 | 4·9214247 |
| 50 | 4·3404171 | 5·0634558 | 50 | 4·2821542 | 4·9873664 | 50 | 4·2196694 | 4·9069123 |
| 51 | 4·3269003 | 5·0483494 | 51 | 4·2686374 | 4·9723602 | 51 | 4·2061526 | 4·8920027 |
| 52 | 4·3131832 | 5·0327602 | 52 | 4·2549203 | 4·9568818 | 52 | 4·1924355 | 4·8766306 |
| 53 | 4·2992551 | 5·0166088 | 53 | 4·2409922 | 4·9408525 | 53 | 4·1785074 | 4·8607164 |
| 54 | 4·2851050 | 4·9998019 | 54 | 4·2268421 | 4·9241759 | 54 | 4·1643573 | 4·8441645 |

## JOINT LIVES :—TWO FEMALES.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of ($y$) | 78 | | 79 | | | 80 | | |
|---|---|---|---|---|---|---|---|---|
| Age of ($x$) | λ $D_{x,78}$ | λ $N_{x,78}$ | Age of ($x$) | λ $D_{x,79}$ | λ $N_{x,79}$ | Age of ($x$) | λ $D_{x,80}$ | λ $N_{x,80}$ |
| 55 | 4·2700579 | 4·9822265 | 55 | 4·2117950 | 4·9067363 | 55 | 4·1493102 | 4·8268558 |
| 56 | 4·2544312 | 4·9638992 | 56 | 4·1961683 | 4·8885541 | 56 | 4·1330835 | 4·8088130 |
| 57 | 4·2381990 | 4·9447615 | 57 | 4·1799361 | 4·8695743 | 57 | 4·1174513 | 4·7899824 |
| 58 | 4·2213243 | 4·9247480 | 58 | 4·1630615 | 4·8497289 | 58 | 4·1005766 | 4·7702996 |
| 59 | 4·2037594 | 4·9037832 | 59 | 4·1454965 | 4·8289446 | 59 | 4·0830117 | 4·7496876 |
| 60 | 4·1854455 | 4·8817823 | 60 | 4·1271826 | 4·8071364 | 60 | 4·0646978 | 4·7280655 |
| 61 | 4·1663127 | 4·8586509 | 61 | 4·1080499 | 4·7842113 | 61 | 4·0455650 | 4·7053393 |
| 62 | 4·1462806 | 4·8342866 | 62 | 4·0880177 | 4·7600672 | 62 | 4·0255329 | 4·6814068 |
| 63 | 4·1252575 | 4·8085775 | 63 | 4·0669946 | 4·7345918 | 63 | 4·0045098 | 4·6561576 |
| 64 | 4·1031408 | 4·7814049 | 64 | 4·0448780 | 4·7076655 | 64 | 3·9823931 | 4·6294705 |
| 65 | 4·0798172 | 4·7526407 | 65 | 4·0215543 | 4·6791607 | 65 | 3·9590695 | 4·6012185 |
| 66 | 4·0551621 | 4·7221467 | 66 | 3·9968992 | 4·6489402 | 66 | 3·9344144 | 4·5712640 |
| 67 | 4·0290402 | 4·6897793 | 67 | 3·9707773 | 4·6168585 | 67 | 3·9082925 | 4·5394605 |
| 68 | 4·0013053 | 4·6553853 | 68 | 3·9430424 | 4·5827616 | 68 | 3·8805576 | 4·5056548 |
| 69 | 3·9718000 | 4·6188024 | 69 | 3·9135371 | 4·5464881 | 69 | 3·8510523 | 4·4696836 |
| 70 | 3·9403563 | 4·5798618 | 70 | 3·8820934 | 4·5078672 | 70 | 3·8196086 | 4·4313764 |
| 71 | 3·9067950 | 4·5383856 | 71 | 3·8485321 | 4·4667203 | 71 | 3·7860473 | 4·3905538 |
| 72 | 3·8709260 | 4·4941879 | 72 | 3·8126631 | 4·4228605 | 72 | 3·7501783 | 4·3470272 |
| 73 | 3·8325484 | 4·4470740 | 73 | 3·7742856 | 4·3760924 | 73 | 3·7118007 | 4·3006007 |
| 74 | 3·7914503 | 4·3968412 | 74 | 3·7331874 | 4·3262121 | 74 | 3·6707026 | 4·2510692 |
| 75 | 3·7474087 | 4·3432782 | 75 | 3·6891458 | 4·2730071 | 75 | 3·6266610 | 4·1982193 |
| 76 | 3·7001898 | 4·2861646 | 76 | 3·6419269 | 4·2162562 | 76 | 3·5794421 | 4·1418287 |
| 77 | 3·6495490 | 4·2252718 | 77 | 3·5912861 | 4·1557292 | 77 | 3·5288013 | 4·0816659 |
| 78 | 3·5952304 | 4·1603620 | 78 | 3·5369675 | 4·0911868 | 78 | 3·4744827 | 4·0174907 |
| 79 | 3·5369675 | 4·0911868 | 79 | 3·4787046 | 4·0223814 | 79 | 3·4162198 | 3·9490537 |
| 80 | 3·4744827 | 4·0174907 | 80 | 3·4162198 | 3·9490537 | 80 | 3·3537350 | 3·8760965 |
| 81 | 3·4074875 | 3·9390073 | 81 | 3·3492246 | 3·8709380 | 81 | 3·2867398 | 3·7983495 |
| 82 | 3·3356824 | 3·8554604 | 82 | 3·2774195 | 3·7877565 | 82 | 3·2149347 | 3·7155354 |
| 83 | 3·2587571 | 3·7665638 | 83 | 3·2004942 | 3·6992227 | 83 | 3·1380094 | 3·6273669 |
| 84 | 3·1763901 | 3·6720211 | 84 | 3·1181273 | 3·6050387 | 84 | 3·0556424 | 3·5335446 |
| 85 | 3·0882494 | 3·5715260 | 85 | 3·0299865 | 3·5048974 | 85 | 2·9675017 | 3·4337612 |
| 86 | 2·9939915 | 3·4647610 | 86 | 2·9357286 | 3·3984799 | 86 | 2·8732438 | 3·3276964 |
| 87 | 2·8932624 | 3·3513980 | 87 | 2·8349995 | 3·2854588 | 87 | 2·7725147 | 3·2150216 |
| 88 | 2·7856970 | 3·2310978 | 88 | 2·7274341 | 3·1654933 | 88 | 2·6649493 | 3·0953965 |
| 89 | 2·6709192 | 3·1035098 | 89 | 2·6126563 | 3·0382330 | 89 | 2·5501715 | 2·9684694 |
| 90 | 2·5485421 | 2·9682733 | 90 | 2·4902792 | 2·9033152 | 90 | 2·4277944 | 2·8338773 |
| 91 | 2·4181678 | 2·8250131 | 91 | 2·3599049 | 2·7603675 | 91 | 2·2974201 | 2·6912469 |
| 92 | 2·2793874 | 2·6733444 | 92 | 2·2211245 | 2·6090018 | 92 | 2·1586397 | 2·5401918 |
| 93 | 2·1317812 | 2·5128698 | 93 | 2·0735183 | 2·4488207 | 93 | 2·0110335 | 2·3803126 |
| 94 | 1·9749183 | 2·3431736 | 94 | 1·9166554 | 2·2794119 | 94 | 1·8541706 | 2·2111970 |
| 95 | 1·8083571 | 2·1638269 | 95 | 1·7500943 | 2·1003444 | 95 | 1·6876094 | 2·0324169 |
| 96 | 1·6316451 | 1·9743735 | 96 | 1·5733822 | 1·9111667 | 96 | 1·5108974 | 1·8435193 |
| 97 | 1·4443186 | 1·7743220 | 97 | 1·3860558 | 1·7113871 | 97 | 1·3235709 | 1·6440218 |
| 98 | 1·2459033 | 1·5631095 | 98 | 1·1876404 | 1·5004533 | 98 | 1·1251556 | 1·4333697 |
| 99 | 1·0359135 | 1·3400493 | 99 | 0·9776506 | 1·2776757 | 99 | 0·9151658 | 1·2108961 |
| 100 | 0·8138530 | 1·1041422 | 100 | 0·7555901 | 1·0421028 | 100 | 0·6931053 | 0·9756386 |
| 101 | 0·5792145 | 0·8537590 | 101 | 0·5209516 | 0·7920974 | 101 | 0·4584668 | 0·7260504 |
| 102 | 0·3314797 | 0·5857088 | 102 | 0·2732168 | 0·5245259 | 102 | 0·2107320 | 0·4589701 |
| 103 | 0·0701194 | 0·2926990 | 103 | 0·0118566 | 0·2322081 | 103 | 9·9493717 | 0·1673469 |
| 104 | 9·7945936 | $\bar{1}$·9554472 | 104 | 9·7363307 | $\bar{1}$·8958644 | 104 | 9·6738459 | $\bar{1}$·8319977 |
| 105 | 9·5043510 | | 105 | 9·4460881 | | 105 | 9·3836033 | |
| 106 | 9·1988298 | | 106 | 9·1405669 | | 106 | 9·0780821 | |
| 107 | 8·8774569 | | 107 | 8·8191940 | | 107 | 8·7567092 | |
| 108 | 8·5396485 | | 108 | 8·4813856 | | 108 | 8·4189008 | |
| 109 | 8·1848097 | | 109 | 8·1265468 | | 109 | 8·0640620 | |

## JOINT LIVES:—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 81 | | | 82 | | | 83 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,81}$ | $\lambda\ N_{x,\,81}$ | Age of (x) | $\lambda\ D_{x,\,82}$ | $\lambda\ N_{x,\,82}$ | Age of x | $\lambda\ D_{x,\,83}$ | $\lambda\ N_{x,\,83}$ |
| 0 | 4·7985188 | 5·4120428 | 0 | 4·7267137 | 5·3225798 | 0 | 4·6497884 | 5·2280396 |
| 1 | 4·7292606 | 5·3810670 | 1 | 4·6574555 | 5·2908592 | 1 | 4·5805302 | 5·1955568 |
| 2 | 4·6950830 | 5·3620540 | 2 | 4·6232779 | 5·2715200 | 2 | 4·5463526 | 5·1758850 |
| 3 | 4·6730198 | 5·3474754 | 3 | 4·6012147 | 5·2567617 | 3 | 4·5242894 | 5·1609449 |
| 4 | 4·6559722 | 5·3350404 | 4 | 4·5841671 | 5·2442143 | 4 | 4·5072418 | 5·1482820 |
| 5 | 4·6418058 | 5·3239081 | 5 | 4·5700007 | 5·2330091 | 5 | 4·4930754 | 5·1370029 |
| 6 | 4·6295823 | 5·3136209 | 6 | 4·5577772 | 5·2226767 | 6 | 4·4808519 | 5·1266232 |
| 7 | 4·6185565 | 5·3038675 | 7 | 4·5467514 | 5·2128966 | 7 | 4·4698261 | 5·1168142 |
| 8 | 4·6081770 | 5·2944600 | 8 | 4·5363719 | 5·2034746 | 8 | 4·4594466 | 5·1073776 |
| 9 | 4·5984079 | 5·2853063 | 9 | 4·5266028 | 5·1943194 | 9 | 4·4496775 | 5·0982186 |
| 10 | 4·5891055 | 5·2763044 | 10 | 4·5173004 | 5·1853254 | 10 | 4·4403751 | 5·0892316 |
| 11 | 4·5801383 | 5·2673636 | 11 | 4·5083332 | 5·1764009 | 11 | 4·4314079 | 5·0803220 |
| 12 | 4·5713870 | 5·2584057 | 12 | 4·4995819 | 5·1674668 | 12 | 4·4226566 | 5·0714092 |
| 13 | 4·5627448 | 5·2493689 | 13 | 4·4909397 | 5·1584557 | 13 | 4·4140144 | 5·0624249 |
| 14 | 4·5541169 | 5·2402005 | 14 | 4·4823118 | 5·1493168 | 14 | 4·4053865 | 5·0533128 |
| 15 | 4·5454207 | 5·2308629 | 15 | 4·4736156 | 5·1400081 | 15 | 4·3966903 | 5·0440338 |
| 16 | 4·5365859 | 5·2213303 | 16 | 4·4647808 | 5·1305039 | 16 | 4·3878555 | 5·0345570 |
| 17 | 4·5275545 | 5·2115904 | 17 | 4·4557494 | 5·1207898 | 17 | 4·3788241 | 5·0248688 |
| 18 | 4·5182807 | 5·2016437 | 18 | 4·4464756 | 5·1108654 | 18 | 4·3695503 | 5·0149663 |
| 19 | 4·5087308 | 5·1915019 | 19 | 4·4369257 | 5·1007426 | 19 | 4·3600004 | 5·0048625 |
| 20 | 4·4988834 | 5·1811897 | 20 | 4·4270783 | 5·0904461 | 20 | 4·3501530 | 4·9945811 |
| 21 | 4·4887294 | 5·1707413 | 21 | 4·4169243 | 5·0800117 | 21 | 4·3399990 | 4·9841599 |
| 22 | 4·4784778 | 5·1602028 | 22 | 4·4066727 | 5·0694861 | 22 | 4·3297474 | 4·9736478 |
| 23 | 4·4681322 | 5·1495754 | 23 | 4·3963271 | 5·0588722 | 23 | 4·3194018 | 4·9630461 |
| 24 | 4·4576952 | 5·1388611 | 24 | 4·3858901 | 5·0481710 | 24 | 4·3089648 | 4·9523579 |
| 25 | 4·4471695 | 5·1280599 | 25 | 4·3753644 | 5·0373835 | 25 | 4·2984391 | 4·9415830 |
| 26 | 4·4365568 | 5·1171738 | 26 | 4·3647517 | 5·0265100 | 26 | 4·2878264 | 4·9307230 |
| 27 | 4·4258588 | 5·1062004 | 27 | 4·3540537 | 5·0155518 | 27 | 4·2771284 | 4·9197766 |
| 28 | 4·4150765 | 5·0951415 | 28 | 4·3432714 | 5·0045058 | 28 | 4·2663461 | 4·9087455 |
| 29 | 4·4042104 | 5·0839951 | 29 | 4·3324053 | 4·9933736 | 29 | 4·2554800 | 4·8976266 |
| 30 | 4·3932605 | 5·0727600 | 30 | 4·3214554 | 4·9821532 | 30 | 4·2445301 | 4·8864196 |
| 31 | 4·3822266 | 5·0614337 | 31 | 4·3104215 | 4·9708427 | 31 | 4·2334962 | 4·8751238 |
| 32 | 4·3711078 | 5·0500154 | 32 | 4·2993027 | 4·9594392 | 32 | 4·2223774 | 4·8637362 |
| 33 | 4·3599027 | 5·0385001 | 33 | 4·2880976 | 4·9479412 | 33 | 4·2111723 | 4·8522530 |
| 34 | 4·3486096 | 5·0268874 | 34 | 4·2768045 | 4·9363443 | 34 | 4·1998792 | 4·8406731 |
| 35 | 4·3372262 | 5·0151703 | 35 | 4·2654211 | 4·9246462 | 35 | 4·1884958 | 4·8289910 |
| 36 | 4·3257497 | 5·0033477 | 36 | 4·2539446 | 4·9128409 | 36 | 4·1770193 | 4·8172043 |
| 37 | 4·3141771 | 4·9914118 | 37 | 4·2423720 | 4·9009262 | 37 | 4·1654467 | 4·8053071 |
| 38 | 4·3025046 | 4·9793585 | 38 | 4·2306995 | 4·8888935 | 38 | 4·1537742 | 4·7932958 |
| 39 | 4·2907281 | 4·9671823 | 39 | 4·2189230 | 4·8767390 | 39 | 4·1419977 | 4·7811620 |
| 40 | 4·2788431 | 4·9548742 | 40 | 4·2070380 | 4·8644559 | 40 | 4·1301127 | 4·7689007 |
| 41 | 4·2668444 | 4·9424287 | 41 | 4·1950393 | 4·8520351 | 41 | 4·1181140 | 4·7565053 |
| 42 | 4·2547265 | 4·9298336 | 42 | 4·1829214 | 4·8394699 | 42 | 4·1059961 | 4·7439658 |
| 43 | 4·2424834 | 4·9170799 | 43 | 4·1706783 | 4·8267471 | 43 | 4·0937530 | 4·7312736 |
| 44 | 4·2301087 | 4·9041543 | 44 | 4·1583036 | 4·8138564 | 44 | 4·0813783 | 4·7184153 |
| 45 | 4·2175953 | 4·8910410 | 45 | 4·1457902 | 4·8007830 | 45 | 4·0688649 | 4·7053787 |
| 46 | 4·2049360 | 4·8777214 | 46 | 4·1331309 | 4·7875087 | 46 | 4·0562056 | 4·6921460 |
| 47 | 4·1921228 | 4·8641734 | 47 | 4·1203177 | 4·7740108 | 47 | 4·0433924 | 4·6786968 |
| 48 | 4·1791474 | 4·8503675 | 48 | 4·1073423 | 4·7602641 | 48 | 4·0304170 | 4·6650037 |
| 49 | 4·1660009 | 4·8362703 | 49 | 4·0941958 | 4·7462340 | 49 | 4·0172705 | 4·6510366 |
| 50 | 4·1526742 | 4·8218390 | 50 | 4·0808691 | 4·7318787 | 50 | 4·0039438 | 4·6367536 |
| 51 | 4·1391574 | 4·8070206 | 51 | 4·0673523 | 4·7171468 | 51 | 3·9904270 | 4·6221030 |
| 52 | 4·1254403 | 4·7917496 | 52 | 4·0536352 | 4·7019727 | 52 | 3·9767099 | 4·6070205 |
| 53 | 4·1115122 | 4·7759467 | 53 | 4·0397071 | 4·6862760 | 53 | 3·9627818 | 4·5914249 |
| 54 | 4·0973621 | 4·7595130 | 54 | 4·0255570 | 4·6699562 | 54 | 3·9486317 | 4·5752139 |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 81 | | 82 | | | 83 | | |
|---|---|---|---|---|---|---|---|---|
| Age of ( ) | λ $D_{x,\,81}$ | λ $N_{x,\,81}$ | Age of (x) | λ $D_{x,\,82}$ | λ $N_{x,\,82}$ | Age of (x) | λ $D_{x,\,83}$ | λ $N_{x,\,83}$ |
| 55 | 4·0823150 | 4·7423291 | 55 | 4·0105099 | 4·6528891 | 55 | 3·9335846 | 4·5582604 |
| 56 | 4·0666883 | 4·7244200 | 56 | 3·9948832 | 4·6351081 | 56 | 3·9179579 | 4·5405997 |
| 57 | 4·0504561 | 4·7057329 | 57 | 3·9786510 | 4·6165579 | 57 | 3·9017257 | 4·5221804 |
| 58 | 4·0335814 | 4·6862035 | 58 | 3·9617763 | 4·5971762 | 58 | 3·8848510 | 4·5029396 |
| 59 | 4·0160165 | 4·6657592 | 59 | 3·9442114 | 4·5768899 | 59 | 3·8672861 | 4·4828053 |
| 60 | 3·9977026 | 4·6443146 | 60 | 3·9258975 | 4·5556173 | 60 | 3·8489722 | 4·4616959 |
| 61 | 3·9785698 | 4·6217796 | 61 | 3·9067647 | 4·5332657 | 61 | 3·8298394 | 4·4395204 |
| 62 | 3·9585377 | 4·5980514 | 62 | 3·8867326 | 4·5097344 | 62 | 3·8098073 | 4·4161775 |
| 63 | 3·9375146 | 4·5730197 | 63 | 3·8657095 | 4·4849123 | 63 | 3·7887842 | 4·3915577 |
| 64 | 3·9153979 | 4·5465643 | 64 | 3·8435928 | 4·4586807 | 64 | 3·7666675 | 4·3655406 |
| 65 | 3·8920743 | 4·5185571 | 65 | 3·8202692 | 4·4309100 | 65 | 3·7433439 | 4·3379991 |
| 66 | 3·8674192 | 4·4888604 | 66 | 3·7956141 | 4·4014633 | 66 | 3·7186888 | 4·3087942 |
| 67 | 3·8412973 | 4·4573288 | 67 | 3·7694922 | 4·3701946 | 67 | 3·6925669 | 4·2777804 |
| 68 | 3·8135624 | 4·4238065 | 68 | 3·7417573 | 4·3369490 | 68 | 3·6648320 | 4·2448021 |
| 69 | 3·7840571 | 4·3881314 | 69 | 3·7122520 | 4·3015619 | 69 | 3·6353267 | 4·2096965 |
| 70 | 3·7526134 | 4·3501312 | 70 | 3·6808083 | 4·2638621 | 70 | 3·6038830 | 4·1722885 |
| 71 | 3·7190521 | 4·3096261 | 71 | 3·6472470 | 4·2236677 | 71 | 3·5703217 | 4·1323984 |
| 72 | 3·6831831 | 4·2664275 | 72 | 3·6113780 | 4·1807903 | 72 | 3·5344527 | 4·0898349 |
| 73 | 3·6448055 | 4·2203374 | 73 | 3·5730004 | 4·1350311 | 73 | 3·4960751 | 4·0443998 |
| 74 | 3·6037074 | 4·1711506 | 74 | 3·5319023 | 4·0861832 | 74 | 3·4549770 | 3·9958852 |
| 75 | 3·5596658 | 4·1186519 | 75 | 3·4878607 | 4·0340313 | 75 | 3·4109354 | 3·9440739 |
| 76 | 3·5124469 | 4·0626181 | 76 | 3·4406418 | 3·9783504 | 76 | 3·3637165 | 3·8887416 |
| 77 | 3·4618061 | 4·0028173 | 77 | 3·3900010 | 3·9189075 | 77 | 3·3130757 | 3·8296524 |
| 78 | 3·4074875 | 3·9390073 | 78 | 3·3356824 | 3·8554604 | 78 | 3·2587571 | 3·7665638 |
| 79 | 3·3492246 | 3·8709380 | 79 | 3·2774195 | 3·7877565 | 79 | 3·2004942 | 3·6992227 |
| 80 | 3·2867398 | 3·7983495 | 80 | 3·2149347 | 3·7155354 | 80 | 3·1380094 | 3·6273669 |
| 81 | 3·2197446 | 3·7209725 | 81 | 3·1479395 | 3·6385272 | 81 | 3·0710142 | 3·5507247 |
| 82 | 3·1479395 | 3·6385272 | 82 | 3·0761344 | 3·5564508 | 82 | 2·9992091 | 3·4690162 |
| 83 | 3·0710142 | 3·5507247 | 83 | 2·9992091 | 3·4690162 | 83 | 2·9222838 | 3·3819486 |
| 84 | 2·9886472 | 3·4572673 | 84 | 2·9168421 | 3·3759234 | 84 | 2·8399168 | 3·2892212 |
| 85 | 2·9005065 | 3·3578440 | 85 | 2·8287014 | 3·2768622 | 85 | 2·7517761 | 3·1905230 |
| 86 | 2·8062486 | 3·2521355 | 86 | 2·7344435 | 3·1715123 | 86 | 2·6575182 | 3·0855328 |
| 87 | 2·7055195 | 3·1398111 | 87 | 2·6337144 | 3·0595422 | 87 | 2·5567891 | 2·9739186 |
| 88 | 2·5979541 | 3·0205303 | 88 | 2·5261490 | 2·9406096 | 88 | 2·4492237 | 2·8553374 |
| 89 | 2·4831763 | 2·8939414 | 89 | 2·4113712 | 2·8143621 | 89 | 2·3344459 | 2·7294353 |
| 90 | 2·3607992 | 2·7596815 | 90 | 2·2889941 | 2·6804370 | 90 | 2·2120688 | 2·5958488 |
| 91 | 2·2304249 | 2·6173736 | 91 | 2·1586198 | 2·5384594 | 91 | 2·0816945 | 2·4542029 |
| 92 | 2·0916445 | 2·4666348 | 92 | 2·0198394 | 2·3880390 | 92 | 1·9429141 | 2·3041102 |
| 93 | 1·9440383 | 2·3070635 | 93 | 1·8722332 | 2·2287822 | 93 | 1·7953079 | 2·1451693 |
| 94 | 1·7871754 | 2·1382483 | 94 | 1·7153703 | 2·0602743 | 94 | 1·6384450 | 1·9769714 |
| 95 | 1·6206142 | 1·9597609 | 95 | 1·5488091 | 1·8820860 | 95 | 1·4718838 | 1·7990895 |
| 96 | 1·4439022 | 1·7711530 | 96 | 1·3720971 | 1·6937709 | 96 | 1·2951718 | 1·6110730 |
| 97 | 1·2565757 | 1·5719381 | 97 | 1·1847706 | 1·4948500 | 97 | 1·1078453 | 1·4124471 |
| 98 | 1·0581604 | 1·3615806 | 98 | 0·9863553 | 1·2847826 | 98 | 0·9094300 | 1·2026844 |
| 99 | 0·8481706 | 1·1394068 | 99 | 0·7763655 | 1·0629278 | 99 | 0·6994402 | 0·9811342 |
| 100 | 0·6261101 | 0·9044992 | 100 | 0·5543050 | 0·8283569 | 100 | 0·4773797 | 0·7469299 |
| 101 | 0·3914716 | 0·6552921 | 101 | 0·3196665 | 0·5795778 | 101 | 0·2427412 | 0·4985587 |
| 102 | 0·1437368 | 0·3887759 | 102 | 0·0719317 | 0·3135720 | 102 | 9·9950064 | 0·2331231 |
| 103 | 9·8823765 | 0·0978471 | 103 | 9·8105714 | 0·0234582 | 103 | 9·7336461 | 1̄·9437418 |
| 104 | 9·6068507 | 1̄·7635029 | 104 | 9·5350456 | 1̄·6901961 | 104 | 9·4581203 | 1̄·6117233 |
| 105 | 9·3166081 | | 105 | 9·2448030 | | 105 | 9·1678777 | |
| 106 | 9·0110869 | | 106 | 8·9392818 | | 106 | 8·8623565 | |
| 107 | 8·6897140 | | 107 | 8·6179089 | | 107 | 8·5409836 | |
| 108 | 8·3519056 | | 108 | 8·2801005 | | 108 | 8·2031752 | |
| 109 | 7·9970668 | | 109 | 7·9252617 | | 109 | 7·8483364 | |

## JOINT LIVES:—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of $(y)$ | 84 | | | 85 | | | 86 | |
|---|---|---|---|---|---|---|---|---|
| Age of $(x)$ | $\lambda\ D_{x,\,84}$ | $\lambda\ N_{x,\,84}$ | Age of $(x)$ | $\lambda\ D_{x,\,85}$ | $\lambda\ N_{x,\,85}$ | Age of $(x)$ | $\lambda\ D_{x,\,86}$ | $\lambda\ N_{x,\,86}$ |
| 0 | 4·5674214 | 5·1281268 | 0 | 4·4792807 | 5·0225332 | 0 | 4·3850228 | 4·9109407 |
| 1 | 4·4981632 | 5·0948654 | 1 | 4·4100225 | 4·9884791 | 1 | 4·3157646 | 4·8760786 |
| 2 | 4·4639856 | 5·0748556 | 2 | 4·3758449 | 4·9681260 | 2 | 4·2815870 | 4·8553786 |
| 3 | 4·4419224 | 5·0597308 | 3 | 4·3537817 | 4·9528143 | 3 | 4·2595238 | 4·8398782 |
| 4 | 4·4248748 | 5·0469515 | 4 | 4·3367341 | 4·9399169 | 4 | 4·2424762 | 4·8268617 |
| 5 | 4·4107084 | 5·0355962 | 5 | 4·3225677 | 4·9284849 | 5 | 4·2283098 | 4·8153519 |
| 6 | 4·3984849 | 5·0251686 | 6 | 4·3103442 | 4·9180078 | 6 | 4·2160863 | 4·8048241 |
| 7 | 4·3874591 | 5·0153291 | 7 | 4·2993184 | 4·9081369 | 7 | 4·2050605 | 4·7949207 |
| 8 | 4·3770796 | 5·0058748 | 8 | 4·2889389 | 4·8986638 | 8 | 4·1946810 | 4·7854281 |
| 9 | 4·3673105 | 4·9967121 | 9 | 4·2791698 | 4·8894939 | 9 | 4·1849119 | 4·7762500 |
| 10 | 4·3580081 | 4·9877302 | 10 | 4·2698674 | 4·8305175 | 10 | 4·1756095 | 4·7672754 |
| 11 | 4·3490409 | 4·9788345 | 11 | 4·2609002 | 4·8716342 | 11 | 4·1666423 | 4·7584047 |
| 12 | 4·3402896 | 4·9699417 | 12 | 4·2521489 | 4·8627603 | 12 | 4·1578910 | 4·7495485 |
| 13 | 4·3316474 | 4·9609819 | 13 | 4·2435067 | 4·8538241 | 13 | 4·1492488 | 4·7406351 |
| 14 | 4·3230195 | 4·9518983 | 14 | 4·2348788 | 4·8447666 | 14 | 4·1406209 | 4·7316033 |
| 15 | 4·3143233 | 4·9426459 | 15 | 4·2261826 | 4·8355434 | 15 | 4·1319247 | 4·7224061 |
| 16 | 4·3054885 | 4·9331977 | 16 | 4·2173478 | 4·8261202 | 16 | 4·1230899 | 4·7130115 |
| 17 | 4·2964571 | 4·9235341 | 17 | 4·2083164 | 4·8164826 | 17 | 4·1140585 | 4·7033963 |
| 18 | 4·2871833 | 4·9136544 | 18 | 4·1990426 | 4·8066242 | 18 | 4·1047847 | 4·6935599 |
| 19 | 4·2776334 | 4·9035685 | 19 | 4·1894927 | 4·7965570 | 19 | 4·0952348 | 4·6835108 |
| 20 | 4·2677860 | 4·8933023 | 20 | 4·1796453 | 4·7863048 | 20 | 4·0853874 | 4·6732735 |
| 21 | 4·2576320 | 4·8828933 | 21 | 4·1694913 | 4·7759089 | 21 | 4·0752334 | 4·6628881 |
| 22 | 4·2473804 | 4·8723940 | 22 | 4·1592397 | 4·7654212 | 22 | 4·0649818 | 4·6524126 |
| 23 | 4·2370348 | 4·8618055 | 23 | 4·1488941 | 4·7548442 | 23 | 4·0546362 | 4·6418477 |
| 24 | 4·2265978 | 4·8511287 | 24 | 4·1384571 | 4·7441803 | 24 | 4·0441992 | 4·6311941 |
| 25 | 4·2160721 | 4·8403665 | 25 | 4·1279314 | 4·7334292 | 25 | 4·0336735 | 4·6204557 |
| 26 | 4·2054594 | 4·8295186 | 26 | 4·1173187 | 4·7225936 | 26 | 4·0230608 | 4·6096307 |
| 27 | 4·1947614 | 4·8185855 | 27 | 4·1066207 | 4·7116723 | 27 | 4·0123628 | 4·5987216 |
| 28 | 4·1839791 | 4·8075662 | 28 | 4·0958384 | 4·7006657 | 28 | 4·0015805 | 4·5877267 |
| 29 | 4·1731130 | 4·7964612 | 29 | 4·0849723 | 4·6895725 | 29 | 3·9907144 | 4·5766453 |
| 30 | 4·1621631 | 4·7852679 | 30 | 4·0740224 | 4·6783927 | 30 | 3·9797645 | 4·5654773 |
| 31 | 4·1511292 | 4·7739853 | 31 | 4·0629885 | 4·6671231 | 31 | 3·9687306 | 4·5542208 |
| 32 | 4·1400104 | 4·7626119 | 32 | 4·0518697 | 4·6557635 | 32 | 3·9576118 | 4·5428740 |
| 33 | 4·1288053 | 4·7511444 | 33 | 4·0406646 | 4·6443095 | 33 | 3·9464067 | 4·5314339 |
| 34 | 4·1175122 | 4·7395795 | 34 | 4·0293715 | 4·6327599 | 34 | 3·9351136 | 4·5198979 |
| 35 | 4·1061288 | 4·7279144 | 35 | 4·0179881 | 4·6211097 | 35 | 3·9237302 | 4·5082630 |
| 36 | 4·0946523 | 4·7161436 | 36 | 4·0065116 | 4·6093564 | 36 | 3·9122537 | 4·4965243 |
| 37 | 4·0830797 | 4·7042647 | 37 | 3·9949390 | 4·5974937 | 37 | 3·9006811 | 4·4846784 |
| 38 | 4·0714072 | 4·6922713 | 38 | 3·9832665 | 4·5855182 | 38 | 3·8890086 | 4·4727199 |
| 39 | 4·0596307 | 4·6801587 | 39 | 3·9714900 | 4·5734242 | 39 | 3·8772321 | 4·4606435 |
| 40 | 4·0477457 | 4·6679188 | 40 | 3·9596050 | 4·5612050 | 40 | 3·8653471 | 4·4484435 |
| 41 | 4·0357470 | 4·6555456 | 41 | 3·9476063 | 4·5488536 | 41 | 3·8533484 | 4·4361127 |
| 42 | 4·0236291 | 4·6430320 | 42 | 3·9354884 | 4·5363627 | 42 | 3·8412305 | 4·4236438 |
| 43 | 4·0113860 | 4·6303658 | 43 | 3·9232453 | 4·5237231 | 43 | 3·8289874 | 4·4110279 |
| 44 | 3·9990113 | 4·6175387 | 44 | 3·9108706 | 4·5109240 | 44 | 3·8166127 | 4·3982555 |
| 45 | 3·9864979 | 4·6045361 | 45 | 3·8983572 | 4·4979531 | 45 | 3·8040993 | 4·3853141 |
| 46 | 3·9738386 | 4·5913424 | 46 | 3·8856979 | 4·4847954 | 46 | 3·7914400 | 4·3721900 |
| 47 | 3·9610254 | 4·5779374 | 47 | 3·8728847 | 4·4714318 | 47 | 3·7786268 | 4·3588645 |
| 48 | 3·9480500 | 4·5642962 | 48 | 3·8599093 | 4·4578385 | 48 | 3·7656514 | 4·3453157 |
| 49 | 3·9349035 | 4·5503878 | 49 | 3·8467628 | 4·4439852 | 49 | 3·7525049 | 4·3315139 |
| 50 | 3·9215768 | 4·5361723 | 50 | 3·8334361 | 4·4298332 | 50 | 3·7391782 | 4·3174219 |
| 51 | 3·9080600 | 4·5215992 | 51 | 3·8199193 | 4·4153331 | 51 | 3·7256614 | 4·3029903 |
| 52 | 3·8943429 | 4·5066039 | 52 | 3·8062022 | 4·4004204 | 52 | 3·7119443 | 4·2881560 |
| 53 | 3·8804148 | 4·4911045 | 53 | 3·7922741 | 4·3850130 | 53 | 3·6980162 | 4·2728359 |
| 54 | 3·8662647 | 4·4749976 | 54 | 3·7781240 | 4·3690047 | 54 | 3·6838661 | 4·2569223 |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 84 | | | 85 | | | 86 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,84}$ | λ $N_{x,\,84}$ | Age of (x) | λ $D_{x,\,85}$ | $N_{x,\,85}$ | Age of (x) | λ $D_{x,\,86}$ | λ $N_{x,\,86}$ |
| 55 | 3·8512176 | 4·4581511 | 55 | 3·7630769 | 4·3522605 | 55 | 3·6688190 | 4·2402746 |
| 56 | 3·8355909 | 4·4406059 | 56 | 3·7474502 | 4·3348247 | 56 | 3·6531923 | 4·2229435 |
| 57 | 3·8193587 | 4·4223104 | 57 | 3·7312180 | 4·3166477 | 57 | 3·6369601 | 4·2048785 |
| 58 | 3·8024840 | 4·4032041 | 58 | 3·7143433 | 4·2976686 | 58 | 3·6200854 | 4·1860210 |
| 59 | 3·7849191 | 4·3832149 | 59 | 3·6967784 | 4·2778177 | 59 | 3·6025205 | 4·1663011 |
| 60 | 3·7666052 | 4·3622619 | 60 | 3·6784645 | 4·2570141 | 60 | 3·5842066 | 4·1456398 |
| 61 | 3·7474724 | 4·3402543 | 61 | 3·6593317 | 4·2351675 | 61 | 3·5650738 | 4·1239470 |
| 62 | 3·7274403 | 4·3170927 | 62 | 3·6392996 | 4·2121783 | 62 | 3·5450417 | 4·1011234 |
| 63 | 3·7064172 | 4·2926660 | 63 | 3·6182765 | 4·1879379 | 63 | 3·5240186 | 4·0770600 |
| 64 | 3·6843005 | 4·2668566 | 64 | 3·5961598 | 4·1623263 | 64 | 3·5019019 | 4·0516395 |
| 65 | 3·6609769 | 4·2395342 | 65 | 3·5728362 | 4·1352170 | 65 | 3·4785783 | 4·0247323 |
| 66 | 3·6363218 | 4·2105636 | 66 | 3·5481811 | 4·1064700 | 66 | 3·4539232 | 3·9962029 |
| 67 | 3·6101999 | 4·1797965 | 67 | 3·5220592 | 4·0759416 | 67 | 3·4278013 | 3·9659027 |
| 68 | 3·5824650 | 4·1470778 | 68 | 3·4943243 | 4·0434739 | 68 | 3·4000664 | 3·9336781 |
| 69 | 3·5529597 | 4·1122432 | 69 | 3·4648190 | 4·0089033 | 69 | 3·3705611 | 3·8993619 |
| 70 | 3·5215160 | 4·0751209 | 70 | 3·4333753 | 3·9720552 | 70 | 3·3391174 | 3·8627817 |
| 71 | 3·4879547 | 4·0355258 | 71 | 3·3998140 | 3·9327496 | 71 | 3·3055561 | 3·8237532 |
| 72 | 3·4520857 | 3·9932696 | 72 | 3·3639450 | 3·8907909 | 72 | 3·2696871 | 3·7820876 |
| 73 | 3·4137081 | 3·9481513 | 73 | 3·3255674 | 3·8459824 | 73 | 3·2313095 | 3·7375783 |
| 74 | 3·3726100 | 3·8999627 | 74 | 3·2844693 | 3·7981125 | 74 | 3·1902114 | 3·6900206 |
| 75 | 3·3285684 | 3·8484866 | 75 | 3·2404277 | 3·7469641 | 75 | 3·1461698 | 3·6391916 |
| 76 | 3·2813495 | 3·7934956 | 76 | 3·1932088 | 3·6923092 | 76 | 3·0989509 | 3·5848659 |
| 77 | 3·2307087 | 3·7347558 | 77 | 3·1425680 | 3·6339116 | 77 | 3·0483101 | 3·5268043 |
| 78 | 3·1763901 | 3·6720211 | 78 | 3·0882494 | 3·5715260 | 78 | 2·9939915 | 3·4647610 |
| 79 | 3·1181272 | 3·6050387 | 79 | 3·0299865 | 3·5048974 | 79 | 2·9357286 | 3·3984799 |
| 80 | 3·0556424 | 3·5335446 | 80 | 2·9675017 | 3·4337612 | 80 | 2·8732438 | 3·3276964 |
| 81 | 2·9886472 | 3·4572673 | 81 | 2·9005065 | 3·3578440 | 81 | 2·8062486 | 3·2521355 |
| 82 | 2·9168421 | 3·3759234 | 82 | 2·8287014 | 3·2768622 | 82 | 2·7344435 | 3·1715123 |
| 83 | 2·8399168 | 3·2892212 | 83 | 2·7517761 | 3·1905230 | 83 | 2·6575182 | 3·0855328 |
| 84 | 2·7575498 | 3·1968587 | 84 | 2·6694091 | 3·0985236 | 84 | 2·5751512 | 2·9938932 |
| 85 | 2·6694091 | 3·0985236 | 85 | 2·5812684 | 3·0005503 | 85 | 2·4870105 | 2·8962803 |
| 86 | 2·5751512 | 2·9938932 | 86 | 2·4870105 | 2·8962803 | 86 | 2·3927526 | 2·7923686 |
| 87 | 2·4744221 | 2·8826356 | 87 | 2·3862814 | 2·7853790 | 87 | 2·2920235 | 2·6818235 |
| 88 | 2·3668567 | 2·7644071 | 88 | 2·2787160 | 2·6675034 | 88 | 2·1844581 | 2·5643003 |
| 89 | 2·2520789 | 2·6388535 | 89 | 2·1639382 | 2·5422988 | 89 | 2·0696803 | 2·4394432 |
| 90 | 2·1297018 | 2·5056085 | 90 | 2·0415611 | 2·4093988 | 90 | 1·9473032 | 2·3068876 |
| 91 | 1·9993275 | 2·3642979 | 91 | 1·9111868 | 2·2684244 | 91 | 1·8169289 | 2·1662546 |
| 92 | 1·8605471 | 2·2145329 | 92 | 1·7724064 | 2·1189911 | 92 | 1·6781485 | 2·0171540 |
| 93 | 1·7129409 | 2·0559163 | 93 | 1·6248002 | 1·9606976 | 93 | 1·5305423 | 1·8591881 |
| 94 | 1·5560780 | 1·8880312 | 94 | 1·4679373 | 1·7931350 | 94 | 1·3736794 | 1·6919430 |
| 95 | 1·3895168 | 1·7104559 | 95 | 1·3013761 | 1·6158680 | 95 | 1·2071182 | 1·5149978 |
| 96 | 1·2128048 | 1·5227467 | 96 | 1·1246641 | 1·4284620 | 96 | 1·0304062 | 1·3278961 |
| 97 | 1·0254783 | 1·3244224 | 97 | 0·9373376 | 1·2304489 | 97 | 0·8430797 | 1·1301826 |
| 98 | 0·8270630 | 1·1149611 | 98 | 0·7389223 | 1·0212968 | 98 | 0·6446644 | 0·9213535 |
| 99 | 0·6170732 | 0·8937396 | 99 | 0·5289325 | 0·8003871 | 99 | 0·4346746 | 0·7007729 |
| 100 | 0·3950127 | 0·6598687 | 100 | 0·3068720 | 0·5668969 | 100 | 0·2126141 | 0·4676229 |
| 101 | 0·1603742 | 0·4119562 | 101 | 0·0722335 | 0·3193768 | 101 | 9·9779756 | 0·2205788 |
| 102 | 9·9126394 | 0·1470577 | 102 | 9·8244987 | 0·0551106 | 102 | 9·7302408 | $\bar{1}$·9567925 |
| 103 | 9·6512791 | $\bar{1}$·8584770 | 103 | 9·5631384 | $\bar{1}$·7673043 | 103 | 9·4688805 | $\bar{1}$·6699674 |
| 104 | 9·3757533 | $\bar{1}$·5275010 | 104 | 9·2876126 | $\bar{1}$·4375920 | 104 | 9·1933547 | $\bar{1}$·3414345 |
| 105 | 9·0855107 | | 105 | 8·9973700 | | 105 | 8·9031121 | |
| 106 | 8·7799895 | | 106 | 8·6918488 | | 106 | 8·5975909 | |
| 107 | 8·4586166 | | 107 | 8·3704759 | | 107 | 8·2762180 | |
| 108 | 8·1208082 | | 108 | 8·0326675 | | 108 | 7·9384096 | |
| 109 | 7·7659694 | | 109 | 7·6778287 | | 109 | 7·5835708 | |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 87 | | 88 | | | 89 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,87}$ | $\lambda\ N_{x,\,87}$ | Age of (x) | $\lambda\ D_{x,\,88}$ | $\lambda\ N_{x,\,88}$ | Age of (x) | $\lambda\ D_{x,\,89}$ | $\lambda\ N_{x,\,89}$ |
| 0 | 4·2842937 | 4·7930161 | 0 | 4·1767283 | 4·6684158 | 0 | 4·0619505 | 4·5367831 |
| 1 | 4·2150355 | 4·7573345 | 1 | 4·1074701 | 4·6319032 | 1 | 3·9926923 | 4·4994286 |
| 2 | 4·1808579 | 4·7362825 | 2 | 4·0732925 | 4·6104973 | 2 | 3·9585147 | 4·4776658 |
| 3 | 4·1587947 | 4·7205925 | 3 | 4·0512293 | 4·5946157 | 3 | 3·9364515 | 4·4615931 |
| 4 | 4·1417471 | 4·7074561 | 4 | 4·0341817 | 4·5813590 | 4 | 3·9194039 | 4·4482148 |
| 5 | 4·1275807 | 4·6958677 | 5 | 4·0200153 | 4·5696911 | 5 | 3·9052375 | 4·4364678 |
| 6 | 4·1153572 | 4·6852893 | 6 | 4·0077918 | 4·5590611 | 6 | 3·8930140 | 4·4257859 |
| 7 | 4·1043314 | 4·6753521 | 7 | 3·9967660 | 4·5490901 | 7 | 3·8819882 | 4·4157802 |
| 8 | 4·0939519 | 4 6658380 | 8 | 3·9863865 | 4·5395537 | 8 | 3·8716087 | 4·4062211 |
| 9 | 4·0841828 | 4·6566520 | 9 | 3·9766174 | 4·5303572 | 9 | 3·8618396 | 4·3970125 |
| 10 | 4·0748804 | 4·6476773 | 10 | 3·9673150 | 4·5213834 | 10 | 3·8525372 | 4·3880383 |
| 11 | 4·0659132 | 4·6388156 | 11 | 3·9583478 | 4·5125301 | 11 | 3·8435700 | 4·3791918 |
| 12 | 4·0571619 | 4·6299781 | 12 | 3·9495965 | 4·5037064 | 12 | 3·8348187 | 4·3703826 |
| 13 | 4·0485197 | 4·6210859 | 13 | 3·9409543 | 4·4948355 | 13 | 3·8261765 | 4·3615311 |
| 14 | 4·0398918 | 4·6120789 | 14 | 3·9323264 | 4·4858526 | 14 | 3·8175486 | 4·3525715 |
| 15 | 4·0311956 | 4·6029082 | 15 | 3·9236302 | 4·4767076 | 15 | 3·8088524 | 4·3434510 |
| 16 | 4·0223608 | 4·5935386 | 16 | 3·9147954 | 4·4673634 | 16 | 3·8000176 | 4·3341317 |
| 17 | 4·0133294 | 4·5839499 | 17 | 3·9057640 | 4·4577977 | 17 | 3·7909862 | 4·3245894 |
| 18 | 4·0040556 | 4·5741332 | 18 | 3·8964902 | 4·4480034 | 18 | 3·7817124 | 4·3148155 |
| 19 | 3·9945057 | 4·5641016 | 19 | 3·8869403 | 4·4379885 | 19 | 3·7721625 | 4·3048178 |
| 20 | 3·9846583 | 4·5538780 | 20 | 3·8770929 | 4·4277788 | 20 | 3·7623151 | 4·2946212 |
| 21 | 3·9745043 | 4·5435049 | 21 | 3·8669389 | 4·4174165 | 21 | 3·7521611 | 4·2842699 |
| 22 | 3·9642527 | 4·5330401 | 22 | 3·8566873 | 4·4069626 | 22 | 3·7419095 | 4·2738258 |
| 23 | 3·9539071 | 4·5224860 | 23 | 3·8463417 | 4·3964189 | 23 | 3·7315639 | 4·2632928 |
| 24 | 3·9434701 | 4·5118442 | 24 | 3·8359047 | 4·3857877 | 24 | 3·7211269 | 4·2526716 |
| 25 | 3·9329444 | 4·5011161 | 25 | 3·8253790 | 4·3750701 | 25 | 3·7106012 | 4·2419638 |
| 26 | 3·9223317 | 4·4903027 | 26 | 3·8147663 | 4·3642668 | 26 | 3·6999885 | 4·2311710 |
| 27 | 3·9116337 | 4·4794038 | 27 | 3·8040683 | 4·3533791 | 27 | 3·6892905 | 4·2202930 |
| 28 | 3·9008514 | 4·4684199 | 28 | 3·7932860 | 4·3424059 | 28 | 3·6785082 | 4·2093305 |
| 29 | 3·8899853 | 4·4573504 | 29 | 3·7824199 | 4·3313471 | 29 | 3·6676421 | 4·1982823 |
| 30 | 3·8790354 | 4·4461943 | 30 | 3·7714700 | 4·3202022 | 30 | 3·6566922 | 4·1871478 |
| 31 | 3·8680015 | 4·4349498 | 31 | 3·7604361 | 4·3089693 | 31 | 3·6456583 | 4·1759259 |
| 32 | 3·8568827 | 4·4236153 | 32 | 3·7493173 | 4·2976467 | 32 | 3·6345395 | 4·1646146 |
| 33 | 3·8456776 | 4·4121885 | 33 | 3·7381122 | 4·2862319 | 33 | 3·6233344 | 4·1532116 |
| 34 | 3·8343845 | 4·4006659 | 34 | 3·7268191 | 4·2747225 | 34 | 3·6120413 | 4·1417140 |
| 35 | 3·8230011 | 4·3890445 | 35 | 3·7154357 | 4·2631146 | 35 | 3·6006579 | 4·1301192 |
| 36 | 3·8115246 | 4·3773211 | 36 | 3·7039592 | 4·2514044 | 36 | 3·5891814 | 4·1184225 |
| 37 | 3·7999520 | 4·3654901 | 37 | 3·6923866 | 4·2395888 | 37 | 3·5776088 | 4·1066199 |
| 38 | 3·7882795 | 4·3535480 | 38 | 3·6807141 | 4·2276613 | 38 | 3·5659363 | 4·0947079 |
| 39 | 3·7765030 | 4·3414886 | 39 | 3·6689376 | 4·2156185 | 39 | 3·5541598 | 4·0826795 |
| 40 | 3·7646180 | 4·3293064 | 40 | 3·6570526 | 4·2034534 | 40 | 3·5422748 | 4·0705314 |
| 41 | 3·7526193 | 4·3169949 | 41 | 3·6450539 | 4·1911600 | 41 | 3·5302761 | 4·0582548 |
| 42 | 3·7405014 | 4·3045468 | 42 | 3·6329360 | 4·1787312 | 42 | 3·5181582 | 4·0458446 |
| 43 | 3·7282583 | 4·2919535 | 43 | 3·6206929 | 4·1661592 | 43 | 3·5059151 | 4·0332922 |
| 44 | 3·7158836 | 4·2792058 | 44 | 3·6083182 | 4·1534347 | 44 | 3·4935404 | 4·0205892 |
| 45 | 3·7033702 | 4·2662922 | 45 | 3·5958048 | 4·1405464 | 45 | 3·4810270 | 4·0077252 |
| 46 | 3·6907109 | 4·2531986 | 46 | 3·5831455 | 4·1274822 | 46 | 3·4683677 | 3·9946875 |
| 47 | 3·6778977 | 4·2399091 | 47 | 3·5703323 | 4·1142252 | 47 | 3·4555545 | 3·9814616 |
| 48 | 3·6649223 | 4·2264011 | 48 | 3·5573569 | 4·1007558 | 48 | 3·4425791 | 3·9680269 |
| 49 | 3·6517758 | 4·2126475 | 49 | 3·5442104 | 4·0870468 | 49 | 3·4294326 | 3·9543597 |
| 50 | 3·6384491 | 4·1986115 | 50 | 3·5308837 | 4·0730630 | 50 | 3·4161059 | 3·9404248 |
| 51 | 3·6249323 | 4·1842450 | 51 | 3·5173669 | 4·0587577 | 51 | 3·4025891 | 3·9261773 |
| 52 | 3·6112152 | 4·1694849 | 52 | 3·5036498 | 4·0440681 | 52 | 3·3888720 | 3·9115539 |
| 53 | 3·5972871 | 4·1542474 | 53 | 3·4897217 | 4·0289098 | 53 | 3·3749439 | 3·8964711 |
| 54 | 3·5831370 | 4·1384237 | 54 | 3·4755716 | 4·0131710 | 54 | 3·3607938 | 3·8808142 |

## JOINT LIVES :—Two Females.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 87 | | | 88 | | | 89 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,87}$ | λ $N_{x,\,87}$ | Age of (x) | λ $D_{x,\,88}$ | λ $N_{x,\,88}$ | Age of (x) | λ $D_{x,\,89}$ | λ $N_{x,\,89}$ |
| 55 | 3·5680899 | 4·1218686 | 55 | 3·4605245 | 3·9967030 | 55 | 3·3457467 | 3·8644286 |
| 56 | 3·5524632 | 4·1046356 | 56 | 3·4448978 | 3·9795648 | 56 | 3·3301200 | 3·8473783 |
| 57 | 3·5362310 | 4·0866779 | 57 | 3·4286656 | 3·9617077 | 57 | 3·3138878 | 3·8296183 |
| 58 | 3·5193563 | 4·0679355 | 58 | 3·4117909 | 3·9430754 | 58 | 3·2970131 | 3·8110895 |
| 59 | 3·5017914 | 4·0483408 | 59 | 3·3942260 | 3·9235989 | 59 | 3·2794482 | 3·7917264 |
| 60 | 3·4834775 | 4·0278142 | 60 | 3·3759121 | 3·9032013 | 60 | 3·2611343 | 3·7714508 |
| 61 | 3·4643447 | 4·0062679 | 61 | 3·3567793 | 3·8817937 | 61 | 3·2420015 | 3·7501758 |
| 62 | 3·4443126 | 3·9836024 | 62 | 3·3367472 | 3·8592788 | 62 | 3·2219694 | 3·7278039 |
| 63 | 3·4232895 | 3·9597090 | 63 | 3·3157241 | 3·8355485 | 63 | 3·2009463 | 3·7042278 |
| 64 | 3·4011728 | 3·9344702 | 64 | 3·2936074 | 3·8104832 | 64 | 3·1788296 | 3·6793306 |
| 65 | 3·3778492 | 3·9077584 | 65 | 3·2702838 | 3·7839579 | 65 | 3·1555060 | 3·6529827 |
| 66 | 3·3531941 | 3·8794359 | 66 | 3·2456287 | 3·7558353 | 66 | 3·1308509 | 3·6250510 |
| 67 | 3·3270722 | 3·8493574 | 67 | 3·2195068 | 3·7259672 | 67 | 3·1047290 | 3·5953871 |
| 68 | 3·2993373 | 3·8173650 | 68 | 3·1917719 | 3·6942005 | 68 | 3·0769941 | 3·5638345 |
| 69 | 3·2698320 | 3·7832960 | 69 | 3·1622666 | 3·6603674 | 69 | 3·0474888 | 3·5302304 |
| 70 | 3·2383883 | 3·7469734 | 70 | 3·1308229 | 3·6242955 | 70 | 3·0160451 | 3·4943982 |
| 71 | 3·2048270 | 3·7082161 | 71 | 3·0972616 | 3·5857990 | 71 | 2·9824838 | 3·4561542 |
| 72 | 3·1689580 | 3·6668295 | 72 | 3·0613926 | 3·5446855 | 72 | 2·9466148 | 3·4153052 |
| 73 | 3·1305804 | 3·6226160 | 73 | 3·0230150 | 3·5007537 | 73 | 2·9082372 | 3·3716484 |
| 74 | 3·0894823 | 3·5753588 | 74 | 2·9819169 | 3·4537930 | 74 | 2·8671391 | 3·3249721 |
| 75 | 3·0454407 | 3·5248438 | 75 | 2·9378753 | 3·4035809 | 75 | 2·8230975 | 3·2750553 |
| 76 | 2·9982218 | 3·4708383 | 76 | 2·8906564 | 3·3498887 | 76 | 2·7758786 | 3·2216672 |
| 77 | 2·9475810 | 3·4131057 | 77 | 2·8400156 | 3·2924770 | 77 | 2·7252378 | 3·1645688 |
| 78 | 2·8932624 | 3·3513980 | 78 | 2·7856970 | 3·2310978 | 78 | 2·6709192 | 3·1035098 |
| 79 | 2·8349995 | 3·2854588 | 79 | 2·7274341 | 3·1654933 | 79 | 2·6126563 | 3·0382330 |
| 80 | 2·7725147 | 3·2150216 | 80 | 2·6649493 | 3·0953965 | 80 | 2·5501715 | 2·9684694 |
| 81 | 2·7055195 | 3·1398111 | 81 | 2·5979541 | 3·0205303 | 81 | 2·4831763 | 2·8939414 |
| 82 | 2·6337144 | 3·0595422 | 82 | 2·5261490 | 2·9406096 | 82 | 2·4113712 | 2·8143621 |
| 83 | 2·5567891 | 2·9739186 | 83 | 2·4492237 | 2·8553374 | 83 | 2·3344459 | 2·7294353 |
| 84 | 2·4744221 | 2·8826356 | 84 | 2·3668567 | 2·7644071 | 84 | 2·2520789 | 2·6388535 |
| 85 | 2·3862814 | 2·7853790 | 85 | 2·2787160 | 2·6675034 | 85 | 2·1639382 | 2·5422988 |
| 86 | 2·2920235 | 2·6818235 | 86 | 2·1844581 | 2·5643003 | 86 | 2·0696803 | 2·4394432 |
| 87 | 2·1912944 | 2·5716332 | 87 | 2·0837290 | 2·4544622 | 87 | 1·9689512 | 2·3299537 |
| 88 | 2·0837290 | 2·4544622 | 88 | 1·9761636 | 2·3376411 | 88 | 1·8613858 | 2·2134798 |
| 89 | 1·9689512 | 2·3299537 | 89 | 1·8613858 | 2·2134798 | 89 | 1·7466080 | 2·0896639 |
| 90 | 1·8465741 | 2·1977416 | 90 | 1·7390087 | 2·0816105 | 90 | 1·6242309 | 1·9581366 |
| 91 | 1·7161998 | 2·0574470 | 91 | 1·6086344 | 1·9416555 | 91 | 1·4938566 | 1·8185182 |
| 92 | 1·5774194 | 1·9086829 | 92 | 1·4698540 | 1·7932238 | 92 | 1·3550762 | 1·6704212 |
| 93 | 1·4298132 | 1·7510442 | 93 | 1·3222478 | 1·6359178 | 93 | 1·2074700 | 1·5134400 |
| 94 | 1·2729503 | 1·5841231 | 94 | 1·1653849 | 1·4693168 | 94 | 1·0506071 | 1·3471699 |
| 95 | 1·1063891 | 1·4074895 | 95 | 0·9988237 | 1·2930044 | 95 | 0·8840459 | 1·1711704 |
| 96 | 0·9296771 | 1·2207120 | 96 | 0·8221117 | 1·1065309 | 96 | 0·7073339 | 0·9850131 |
| 97 | 0·7423506 | 1·0232977 | 97 | 0·6347852 | 0·9094490 | 97 | 0·5200074 | 0·7882320 |
| 98 | 0·5439353 | 0·8147668 | 98 | 0·4363699 | 0·7012138 | 98 | 0·3215921 | 0·5803432 |
| 99 | 0·3339455 | 0·5945362 | 99 | 0·2263801 | 0·4812849 | 99 | 0·1116023 | 0·3607070 |
| 100 | 0·1118850 | 0·3617467 | 100 | 0·0043196 | 0·2489047 | 100 | 9·8895418 | 0·1286577 |
| 101 | 9·8772465 | 0·1151110 | 101 | 9·7696811 | 0·0026843 | 101 | 9·6549033 | $\bar{1}$·8829797 |
| 102 | 9·6295117 | $\bar{1}$·8519917 | 102 | 9·5219463 | $\bar{1}$·7401257 | 102 | 9·4071685 | $\bar{1}$·6209684 |
| 103 | 9·3681514 | $\bar{1}$·5658478 | 103 | 9·2605860 | $\bar{1}$·4549972 | 103 | 9·1458082 | $\bar{1}$·3366598 |
| 104 | 9·0926256 | $\bar{1}$·2387986 | 104 | 8·9850602 | $\bar{1}$·1290451 | 104 | 8·8702824 | $\bar{1}$·0124154 |
| 105 | 8·8023830 | | 105 | 8·6948176 | | 105 | 8·5800398 | |
| 106 | 8·4968618 | | 106 | 8·3892964 | | 106 | 8·2745186 | |
| 107 | 8·1754889 | | 107 | 8·0679235 | | 107 | 7·9531457 | |
| 108 | 7·8376805 | | 108 | 7·7301151 | | 108 | 7·6153373 | |
| 109 | 7·4828417 | | 109 | 7·3752763 | | 109 | 7·2604985 | |

## JOINT LIVES :—TWO FEMALES.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 90 | | 91 | | | 92 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,90}$ | $\lambda\ N_{x,\,90}$ | Age of (x) | $\lambda\ D_{x,\,91}$ | $\lambda\ N_{x,\,91}$ | Age of (x) | $\lambda\ D_{x,\,92}$ | $\lambda\ N_{x,\,92}$ |
| 0 | 3·9395734 | 4·3977466 | 0 | 3·8091991 | 4·2509243 | 0 | 3·6704187 | 4·0959176 |
| 1 | 3·8703152 | 4·3595425 | 1 | 3·7399409 | 4·2118622 | 1 | 3·6011605 | 4·0559908 |
| 2 | 3·8361376 | 4·3374205 | 2 | 3·7057633 | 4·1893800 | 2 | 3·5669829 | 4·0331474 |
| 3 | 3·8140744 | 4·3211565 | 3 | 3·6837001 | 4·1729242 | 3 | 3·5449197 | 4·0165002 |
| 4 | 3·7970268 | 4·3076574 | 4 | 3·6666525 | 4·1593045 | 4 | 3·5278721 | 4·0027603 |
| 5 | 3·7828604 | 4·2958305 | 5 | 3·6524861 | 4·1473983 | 5 | 3·5137057 | 3·9907752 |
| 6 | 3·7706369 | 4·2850965 | 6 | 3·6402626 | 4·1366118 | 6 | 3·5014822 | 3·9799366 |
| 7 | 3·7596111 | 4·2750557 | 7 | 3·6292368 | 4·1265356 | 7 | 3·4904564 | 3·9698244 |
| 8 | 3·7492316 | 4·2654728 | 8 | 3·6188573 | 4·1169284 | 8 | 3·4800769 | 3·9601924 |
| 9 | 3·7394625 | 4·2562525 | 9 | 3·6090882 | 4·1076949 | 9 | 3·4703078 | 3·9509449 |
| 10 | 3·7301601 | 4·2472749 | 10 | 3·5997858 | 4·0987146 | 10 | 3·4610054 | 3·9419604 |
| 11 | 3·7211929 | 4·2384356 | 11 | 3·5908186 | 4·0898790 | 11 | 3·4520382 | 3·9331298 |
| 12 | 3·7124416 | 4·2296389 | 12 | 3·5820673 | 4·0810956 | 12 | 3·4432869 | 3·9243553 |
| 13 | 3·7037994 | 4·2208059 | 13 | 3·5734251 | 4·0722790 | 13 | 3·4346447 | 3·9155570 |
| 14 | 3·6951715 | 4·2118681 | 14 | 3·5647972 | 4·0633627 | 14 | 3·4260168 | 3·9066593 |
| 15 | 3·6864753 | 4·2027719 | 15 | 3·5561010 | 4·0542893 | 15 | 3·4173206 | 3·8976090 |
| 16 | 3·6776405 | 4·1934766 | 16 | 3·5472662 | 4·0450181 | 16 | 3·4084858 | 3·8883603 |
| 17 | 3·6686091 | 4·1839573 | 17 | 3·5382348 | 4·0355210 | 17 | 3·3994544 | 3·8788859 |
| 18 | 3·6593353 | 4·1742038 | 18 | 3·5289610 | 4·0257874 | 18 | 3·3901806 | 3·8691718 |
| 19 | 3·6497854 | 4·1642229 | 19 | 3·5194111 | 4·0158231 | 19 | 3·3806307 | 3·8592236 |
| 20 | 3·6399380 | 4·1540394 | 20 | 3·5095637 | 4·0056523 | 20 | 3·3707833 | 3·8490654 |
| 21 | 3·6297840 | 4·1436976 | 21 | 3·4994097 | 3·9953205 | 21 | 3·3606293 | 3·8387427 |
| 22 | 3·6195324 | 4·1332642 | 22 | 3·4891581 | 3·9848962 | 22 | 3·3503777 | 3·8283280 |
| 23 | 3·6091868 | 4·1227403 | 23 | 3·4788125 | 3·9743822 | 23 | 3·3400321 | 3·8178224 |
| 24 | 3·5987498 | 4·1121292 | 24 | 3·4683755 | 3·9637798 | 24 | 3·3295951 | 3·8072291 |
| 25 | 3·5882241 | 4·1014311 | 25 | 3·4578498 | 3·9530915 | 25 | 3·3190694 | 3·7965494 |
| 26 | 3·5776114 | 4·0906478 | 26 | 3·4472371 | 3·9423172 | 26 | 3·3084567 | 3·7857845 |
| 27 | 3·5669134 | 4·0797798 | 27 | 3·4365391 | 3·9314584 | 27 | 3·2977587 | 3·7749343 |
| 28 | 3·5561311 | 4·0688268 | 28 | 3·4257568 | 3·9205151 | 28 | 3·2869764 | 3·7639997 |
| 29 | 3·5452650 | 4·0577889 | 29 | 3·4148907 | 3·9094865 | 29 | 3·2761103 | 3·7529806 |
| 30 | 3·5343151 | 4·0466645 | 30 | 3·4039408 | 3·8983725 | 30 | 3·2651604 | 3·7418753 |
| 31 | 3·5232812 | 4·0354530 | 31 | 3·3929069 | 3·8871704 | 31 | 3·2541265 | 3·7306846 |
| 32 | 3·5121624 | 4·0241527 | 32 | 3·3817881 | 3·8758805 | 32 | 3·2430077 | 3·7194034 |
| 33 | 3·5009573 | 4·0127605 | 33 | 3·3705830 | 3·8644992 | 33 | 3·2318026 | 3·7080324 |
| 34 | 3·4896642 | 4·0012749 | 34 | 3·3592899 | 3·8530237 | 34 | 3·2205095 | 3·6965678 |
| 35 | 3·4782808 | 3·9896914 | 35 | 3·3479065 | 3·8414527 | 35 | 3·2091261 | 3·6850068 |
| 36 | 3·4668043 | 3·9780078 | 36 | 3·3364300 | 3·8297803 | 36 | 3·1976496 | 3·6733463 |
| 37 | 3·4552317 | 3·9662187 | 37 | 3·3248574 | 3·8180047 | 37 | 3·1860770 | 3·6615817 |
| 38 | 3·4435592 | 3·9543197 | 38 | 3·3131849 | 3·8061189 | 38 | 3·1744045 | 3·6497096 |
| 39 | 3·4317827 | 3·9423073 | 39 | 3·3014084 | 3·7941191 | 39 | 3·1626280 | 3·6377228 |
| 40 | 3·4198977 | 3·9301730 | 40 | 3·2895234 | 3·7820008 | 40 | 3·1507430 | 3·6256180 |
| 41 | 3·4078990 | 3·9179139 | 41 | 3·2775247 | 3·7697553 | 41 | 3·1387443 | 3·6133883 |
| 42 | 3·3957811 | 3·9055202 | 42 | 3·2654068 | 3·7573801 | 42 | 3·1266264 | 3·6010262 |
| 43 | 3·3835380 | 3·8929868 | 43 | 3·2531637 | 3·7448630 | 43 | 3·1143833 | 3·5885283 |
| 44 | 3·3711633 | 3·8803041 | 44 | 3·2407890 | 3·7321991 | 44 | 3·1020086 | 3·5758815 |
| 45 | 3·3586499 | 3·8674622 | 45 | 3·2282756 | 3·7193785 | 45 | 3·0894952 | 3·5630799 |
| 46 | 3·3459906 | 3·8544500 | 46 | 3·2156163 | 3·7063892 | 46 | 3·0768359 | 3·5501133 |
| 47 | 3·3331774 | 3·8412518 | 47 | 3·2028031 | 3·6932185 | 47 | 3·0640227 | 3·5369660 |
| 48 | 3·3202020 | 3·8278511 | 48 | 3·1898277 | 3·6798474 | 48 | 3·0510473 | 3·5236242 |
| 49 | 3·3070555 | 3·8142217 | 49 | 3·1766812 | 3·6662549 | 49 | 3·0379008 | 3·5100649 |
| 50 | 3·2937288 | 3·8003328 | 50 | 3·1633545 | 3·6524078 | 50 | 3·0245741 | 3·4962584 |
| 51 | 3·2802120 | 3·7861386 | 51 | 3·1498377 | 3·6382646 | 51 | 3·0110573 | 3·4821616 |
| 52 | 3·2664949 | 3·7715786 | 52 | 3·1361206 | 3·6237639 | 52 | 2·9973402 | 3·4677174 |
| 53 | 3·2525668 | 3·7565677 | 53 | 3·1221925 | 3·6088212 | 53 | 2·9834121 | 3·4528388 |
| 54 | 3·2384167 | 3·7409384 | 54 | 3·1080424 | 3·5933171 | 54 | 2·9692620 | 3·4374057 |

## JOINT LIVES :—Two Females.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 90 | | | 91 | | | 92 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,90}$ | $\lambda\ N_{x,\,90}$ | Age of (x) | $\lambda\ D_{x,\,91}$ | $\lambda\ N_{x,\,91}$ | Age of (x) | $\lambda\ D_{x,\,92}$ | $\lambda\ N_{x,\,92}$ |
| 55 | 3·2233696 | 3·7246813 | 55 | 3·0929953 | 3·5770838 | 55 | 2·9542149 | 3·4212443 |
| 56 | 3·2077429 | 3·7077158 | 56 | 3·0773686 | 3·5601985 | 56 | 2·9385882 | 3·4044350 |
| 57 | 3·1915107 | 3·6900454 | 57 | 3·0611364 | 3·5426151 | 57 | 2·9223560 | 3·3869334 |
| 58 | 3·1746360 | 3·6716162 | 58 | 3·0442617 | 3·5242780 | 58 | 2·9054813 | 3·3686860 |
| 59 | 3·1570711 | 3·6523595 | 59 | 3·0266968 | 3·5051242 | 59 | 2·8879164 | 3·3496280 |
| 60 | 3·1387572 | 3·6322011 | 60 | 3·0083829 | 3·4850752 | 60 | 2·8696025 | 3·3296842 |
| 61 | 3·1196244 | 3·6110517 | 61 | 2·9892501 | 3·4640461 | 61 | 2·8504697 | 3·3087694 |
| 62 | 3·0995923 | 3·5888160 | 62 | 2·9692180 | 3·4419407 | 62 | 2·8304376 | 3·2867876 |
| 63 | 3·0785692 | 3·5653873 | 63 | 2·9481949 | 3·4186525 | 63 | 2·8094145 | 3·2636335 |
| 64 | 3·0564525 | 3·5406486 | 64 | 2·9260782 | 3·3940652 | 64 | 2·7872978 | 3·2391906 |
| 65 | 3·0331289 | 3·5144734 | 65 | 2·9027546 | 3·3680517 | 65 | 2·7639742 | 3·2133337 |
| 66 | 3·0084738 | 3·4867223 | 66 | 2·8780995 | 3·3404768 | 66 | 2·7393191 | 3·1859256 |
| 67 | 2·9823519 | 3·4572537 | 67 | 2·8519776 | 3·3111944 | 67 | 2·7131972 | 3·1568216 |
| 68 | 2·9546170 | 3·4259089 | 68 | 2·8242427 | 3·2800484 | 68 | 2·6854623 | 3·1258663 |
| 69 | 2·9251117 | 3·3925236 | 69 | 2·7947374 | 3·2468733 | 69 | 2·6559570 | 3·0928939 |
| 70 | 2·8936680 | 3·3569224 | 70 | 2·7632937 | 3·2114948 | 70 | 2·6245133 | 3·0577289 |
| 71 | 2·8601067 | 3·3189213 | 71 | 2·7297324 | 3·1737281 | 71 | 2·5909520 | 3·0201876 |
| 72 | 2·8242377 | 3·2783272 | 72 | 2·6938634 | 3·1333789 | 72 | 2·5550830 | 2·9800757 |
| 73 | 2·7858601 | 3·2349362 | 73 | 2·6554858 | 3·0902451 | 73 | 2·5167054 | 2·9371888 |
| 74 | 2·7447620 | 3·1885362 | 74 | 2·6143877 | 3·0441127 | 74 | 2·4756073 | 2·8913150 |
| 75 | 2·7007204 | 3·1389056 | 75 | 2·5703461 | 2·9947591 | 75 | 2·4315657 | 2·8422309 |
| 76 | 2·6535015 | 3·0858134 | 76 | 2·5231272 | 2·9419540 | 76 | 2·3843468 | 2·7897033 |
| 77 | 2·6028607 | 3·0290191 | 77 | 2·4724864 | 2·8854551 | 77 | 2·3337060 | 2·7334918 |
| 78 | 2·5485421 | 2·9682733 | 78 | 2·4181678 | 2·8250131 | 78 | 2·2793874 | 2·6733444 |
| 79 | 2·4902792 | 2·9033152 | 79 | 2·3599049 | 2·7603675 | 79 | 2·2211245 | 2·6090018 |
| 80 | 2·4277944 | 2·8338773 | 80 | 2·2974201 | 2·6912469 | 80 | 2·1586397 | 2·5401918 |
| 81 | 2·3607992 | 2·7596815 | 81 | 2·2304249 | 2·6173736 | 81 | 2·0916445 | 2·4666348 |
| 82 | 2·2889941 | 2·6804370 | 82 | 2·1586198 | 2·5384594 | 82 | 2·0198394 | 2·3880390 |
| 83 | 2·2120688 | 2·5958488 | 83 | 2·0816945 | 2·4542029 | 83 | 1·9429141 | 2·3041102 |
| 84 | 2·1297018 | 2·5056085 | 84 | 1·9993275 | 2·3642979 | 84 | 1·8605471 | 2·2145329 |
| 85 | 2·0415611 | 2·4093988 | 85 | 1·9111868 | 2·2684244 | 85 | 1·7724064 | 2·1189911 |
| 86 | 1·9473032 | 2·3068876 | 86 | 1·8169289 | 2·1662546 | 86 | 1·6781485 | 2·0171540 |
| 87 | 1·8465741 | 2·1977416 | 87 | 1·7161998 | 2·0574470 | 87 | 1·5774194 | 1·9086829 |
| 88 | 1·7390087 | 2·0816105 | 88 | 1·6086344 | 1·9416555 | 88 | 1·4698540 | 1·7932238 |
| 89 | 1·6242309 | 1·9581366 | 89 | 1·4938566 | 1·8185182 | 89 | 1·3550762 | 1·6704212 |
| 90 | 1·5018528 | 1·8269497 | 90 | 1·3714795 | 1·6876680 | 90 | 1·2326991 | 1·5399000 |
| 91 | 1·3714795 | 1·6876680 | 91 | 1·2411052 | 1·5487210 | 91 | 1·1023248 | 1·4012851 |
| 92 | 1·2326991 | 1·5399000 | 92 | 1·1023248 | 1·4012851 | 92 | 0·9635444 | 1·2541781 |
| 93 | 1·0850929 | 1·3832497 | 93 | 0·9547186 | 1·2449547 | 93 | 0·8159382 | 1·0981763 |
| 94 | 0·9282300 | 1·2172944 | 94 | 0·7978557 | 1·0793260 | 94 | 0·6590753 | 0·9328541 |
| 95 | 0·7616688 | 1·0416256 | 95 | 0·6312945 | 0·9039577 | 95 | 0·4925141 | 0·7578134 |
| 96 | 0·5849568 | 0·8557735 | 96 | 0·4545825 | 0·7184436 | 96 | 0·3158021 | 0·5725812 |
| 97 | 0·3976303 | 0·6593076 | 97 | 0·2672560 | 0·5222747 | 97 | 0·1284756 | 0·3767594 |
| 98 | 0·1992150 | 0·4517097 | 98 | 0·0688407 | 0·3150042 | 98 | 9·9300603 | 0·1697626 |
| 99 | 9·9892252 | 0·2324624 | 99 | 9·8588509 | 0·0960406 | 99 | 9·7200705 | $\bar{1}$·9511432 |
| 100 | 9·7671647 | 0·0006943 | 100 | 9·6367904 | $\bar{1}$·8647483 | 100 | 9·4980100 | $\bar{1}$·7201593 |
| 101 | 9·5325262 | $\bar{1}$·7554173 | 101 | 9·4021519 | $\bar{1}$·6197193 | 101 | 9·2633715 | $\bar{1}$·4758164 |
| 102 | 9·2847914 | $\bar{1}$·4941546 | 102 | 9·1544171 | $\bar{1}$·3590762 | 102 | 9·0156367 | $\bar{1}$·2153732 |
| 103 | 9·0234311 | $\bar{1}$·2105860 | 103 | 8·8930568 | $\bar{1}$·0766404 | 103 | 8·7542764 | $\bar{2}$·9339932 |
| 104 | 8·7479053 | $\bar{2}$·8876173 | 104 | 8·6175310 | $\bar{2}$·.551123 | 104 | 8·4787506 | $\bar{2}$·6138418 |
| 105 | 8·4576627 | | 105 | 8·3272884 | | 105 | 8·1885080 | |
| 106 | 8·1521415 | | 106 | 8·0217672 | | 106 | 7·8829868 | |
| 107 | 7·8307686 | | 107 | 7·7003943 | | 107 | 7·5616139 | |
| 108 | 7·4929602 | | 108 | 7·3625859 | | 108 | 7·2238055 | |
| 109 | 7·1381214 | | 109 | 7·0077471 | | 109 | 6·8689667 | |

## JOINT LIVES :—TWO FEMALES.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 93 | | | 94 | | | 95 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,93}$ | λ $N_{x,\,93}$ | Age of (x) | λ $D_{x,\,94}$ | λ $N_{x,\,94}$ | Age of (x) | λ $D_{x,\,95}$ | λ $N_{x,\,95}$ |
| 0 | 3·5228125 | 3·9323134 | 0 | 3·3659496 | 3·7596800 | 0 | 3·1993884 | 3·5775584 |
| 1 | 3·4535543 | 3·8915158 | 1 | 3·2966914 | 3·7180049 | 1 | 3·1301302 | 3·5350015 |
| 2 | 3·4193767 | 3·8683099 | 2 | 3·2625138 | 3·6944359 | 2 | 3·0959526 | 3·5110675 |
| 3 | 3·3973135 | 3·8514724 | 3 | 3·2404506 | 3·6774071 | 3 | 3·0738894 | 3·4938497 |
| 4 | 3·3802659 | 3·8376118 | 4 | 3·2234030 | 3·6634276 | 4 | 3·0568418 | 3·4797494 |
| 5 | 3·3660995 | 3·8255481 | 5 | 3·2092366 | 3·6512848 | 5 | 3·0426754 | 3·4675282 |
| 6 | 3·3538760 | 3·8146577 | 6 | 3·1970131 | 3·6403433 | 6 | 3·0304519 | 3·4565345 |
| 7 | 3·3428502 | 3·8045102 | 7 | 3·1859873 | 3·6301603 | 7 | 3·0194261 | 3·4463166 |
| 8 | 3·3324707 | 3·7948525 | 8 | 3·1756078 | 3·6204765 | 8 | 3·0090466 | 3·4366078 |
| 9 | 3·3227016 | 3·7855904 | 9 | 3·1658387 | 3·6111995 | 9 | 2·9992775 | 3·4273146 |
| 10 | 3·3133992 | 3·7766010 | 10 | 3·1565363 | 3·6022044 | 10 | 2·9899751 | 3·4183129 |
| 11 | 3·3044320 | 3·7677731 | 11 | 3·1475691 | 3·5933791 | 11 | 2·9810079 | 3·4094891 |
| 12 | 3·2956807 | 3·7590102 | 12 | 3·1388178 | 3·5846241 | 12 | 2·9722566 | 3·4007429 |
| 13 | 3·2870385 | 3·7502244 | 13 | 3·1301756 | 3·5758550 | 13 | 2·9636144 | 3·3919865 |
| 14 | 3·2784106 | 3·7413486 | 14 | 3·1215477 | 3·5669946 | 14 | 2·9549865 | 3·3831451 |
| 15 | 3·2697144 | 3·7323182 | 15 | 3·1128515 | 3·5579881 | 15 | 2·9462903 | 3·3741568 |
| 16 | 3·2608796 | 3·7230927 | 16 | 3·1040167 | 3·5487824 | 16 | 2·9374555 | 3·3649738 |
| 17 | 3·2518482 | 3·7136392 | 17 | 3·0949853 | 3·5393509 | 17 | 2·9284241 | 3·3555626 |
| 18 | 3·2425744 | 3·7039454 | 18 | 3·0857115 | 4·5296754 | 18 | 2·9191503 | 3·3459060 |
| 19 | 3·2330245 | 3·6940126 | 19 | 3·0761616 | 3·5197598 | 19 | 2·9096004 | 3·3360052 |
| 20 | 3·2231771 | 3·6838662 | 20 | 3·0663142 | 3·5096245 | 20 | 2·8997530 | 3·3258824 |
| 21 | 3·2130231 | 3·6735536 | 21 | 3·0561602 | 3·4993199 | 21 | 2·8895990 | 3·3155866 |
| 22 | 3·2027715 | 3·6631466 | 22 | 3·0459086 | 3·4889228 | 22 | 2·8793474 | 3·3051969 |
| 23 | 3·1924259 | 3·6526505 | 23 | 3·0355630 | 3·4784337 | 23 | 2·8690018 | 3·2947171 |
| 24 | 3·1819889 | 3·6420656 | 24 | 3·0251260 | 3·4678581 | 24 | 2·8585648 | 3·2841491 |
| 25 | 3·1714632 | 3·6313940 | 25 | 3·0146003 | 3·4571944 | 25 | 2·8480391 | 3·2734936 |
| 26 | 3·1608505 | 3·6206378 | 26 | 3·0039876 | 3·4464456 | 26 | 2·8374264 | 3·2627529 |
| 27 | 3·1501525 | 3·6097960 | 27 | 2·9932896 | 3·4356129 | 27 | 2·8267284 | 3·2519279 |
| 28 | 3·1393702 | 3·5988704 | 28 | 2·9825073 | 3·4246955 | 28 | 2·8159461 | 3·2410179 |
| 29 | 3·1285041 | 3·5878590 | 29 | 2·9716412 | 3·4136935 | 29 | 2·8050800 | 3·2300242 |
| 30 | 3·1175542 | 3·5767640 | 30 | 2·9606913 | 3·4026057 | 30 | 2·7941301 | 3·2189452 |
| 31 | 3·1065203 | 3·5655810 | 31 | 2·9496574 | 3·3914318 | 31 | 2·7830962 | 3·2077795 |
| 32 | 3·0954015 | 3·5543110 | 32 | 2·9385386 | 3·3801698 | 32 | 2·7719774 | 3·1965263 |
| 33 | 3·0841964 | 3·5429486 | 33 | 2·9273335 | 3·3688178 | 33 | 2·7607723 | 3·1851831 |
| 34 | 3·0729033 | 3·5314943 | 34 | 2·9160404 | 3·3573732 | 34 | 2·7494792 | 3·1737478 |
| 35 | 3·0615199 | 3·5199448 | 35 | 2·9046570 | 3·3458331 | 35 | 2·7380958 | 3·1622172 |
| 36 | 3·0500434 | 3·5082940 | 36 | 2·8931805 | 3·3341937 | 36 | 2·7266193 | 3·1505882 |
| 37 | 3·0384708 | 3·4965408 | 37 | 2·8816079 | 3·3224514 | 37 | 2·7150467 | 3·1388564 |
| 38 | 3·0267983 | 3·4846798 | 38 | 2·8699354 | 3·3106018 | 38 | 2·7033742 | 3·1270180 |
| 39 | 3·0150218 | 3·4727068 | 39 | 2·8581589 | 3·2986401 | 39 | 2·6915977 | 3·1150674 |
| 40 | 3·0031368 | 3·4606152 | 40 | 2·8462739 | 3·2865608 | 40 | 2·6797127 | 3·1030004 |
| 41 | 2·9911381 | 3·4483985 | 41 | 2·8342752 | 3·2743581 | 41 | 2·6677140 | 3·0908106 |
| 42 | 2·9790202 | 3·4360524 | 42 | 2·8221573 | 3·2620256 | 42 | 2·6555961 | 3·0784917 |
| 43 | 2·9667771 | 3·4235686 | 43 | 2·8099142 | 3·2495571 | 43 | 2·6433530 | 3·0660370 |
| 44 | 2·9544024 | 3·4109400 | 44 | 2·7975395 | 3·2369441 | 44 | 2·6309783 | 3·0534396 |
| 45 | 2·9418890 | 3·3981571 | 45 | 2·7850261 | 3·2241792 | 45 | 2·6184649 | 3·0406905 |
| 46 | 2·9292297 | 3·3852100 | 46 | 2·7723668 | 3·2112514 | 46 | 2·6058056 | 3·0277816 |
| 47 | 2·9164165 | 3·3720866 | 47 | 2·7595536 | 3·1981494 | 47 | 2·5929924 | 3·0147003 |
| 48 | 2·9034411 | 3·3587707 | 48 | 2·7465782 | 3·1848589 | 48 | 2·5800170 | 3·0014330 |
| 49 | 2·8902946 | 3·3452424 | 49 | 2·7334317 | 3·1713593 | 49 | 2·5668705 | 2·9879620 |
| 50 | 2·8769679 | 3·3314730 | 50 | 2·7201050 | 3·1576248 | 50 | 2·5535138 | 2·9742597 |
| 51 | 2·8634511 | 3·3174219 | 51 | 2·7065882 | 3·1436161 | 51 | 2·5400270 | 2·9602909 |
| 52 | 2·8497340 | 3·3030306 | 52 | 2·6928711 | 3·1292754 | 52 | 2·5263099 | 2·9459990 |
| 53 | 2·8358059 | 3·2882146 | 53 | 2·6789430 | 3·1145183 | 53 | 2·5123818 | 2·9312987 |
| 54 | 2·8216558 | 3·2728486 | 54 | 2·6647929 | 3·0992188 | 54 | 2·4982317 | 2·9160616 |

## JOINT LIVES :—TWO FEMALES.

## Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 93 | | 94 | | | 95 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,93}$ | λ $N_{x,\,93}$ | Age of (x) | λ $D_{x,\,94}$ | λ $N_{x,\,94}$ | Age of (x) | λ $D_{x,\,95}$ | λ $N_{x,\,95}$ |
| 55 | 2·8066087 | 3·2567550 | 55 | 2·6497458 | 3·0831886 | 55 | 2·4831846 | 2·9000950 |
| 56 | 2·7909820 | 3·2400178 | 56 | 2·6341191 | 3·0665208 | 56 | 2·4675579 | 2·8834922 |
| 57 | 2·7747498 | 3·2225947 | 57 | 2·6178869 | 3·0491719 | 57 | 2·4513257 | 2·8662152 |
| 58 | 2·7578751 | 3·2044317 | 58 | 2·6010122 | 3·0310904 | 58 | 2·4344510 | 2·8482107 |
| 59 | 2·7403102 | 3·1854657 | 59 | 2·5834473 | 3·0122119 | 59 | 2·4168861 | 2·8294177 |
| 60 | 2·7219963 | 3·1656218 | 60 | 2·5651334 | 2·9924633 | 60 | 2·3985722 | 2·8097610 |
| 61 | 2·7028635 | 3·1448158 | 61 | 2·5460006 | 2·9717614 | 61 | 2·3794394 | 2·7891582 |
| 62 | 2·6828314 | 3·1229524 | 62 | 2·5259685 | 2·9500108 | 62 | 2·3594073 | 2·7675165 |
| 63 | 2·6618083 | 3·0999261 | 63 | 2·5049454 | 2·9271075 | 63 | 2·3383842 | 2·7447310 |
| 64 | 2·6396916 | 3·0756217 | 64 | 2·4828287 | 2·9029358 | 64 | 2·3162675 | 2·7206876 |
| 65 | 2·6163680 | 3·0499134 | 65 | 2·4595051 | 2·8773707 | 65 | 2·2929439 | 2·6952601 |
| 66 | 2·5917129 | 3·0226663 | 66 | 2·4348500 | 2·8502767 | 66 | 2·2682888 | 2·6683151 |
| 67 | 2·5655910 | 2·9937333 | 67 | 2·4087281 | 2·8215096 | 67 | 2·2421669 | 2·6397066 |
| 68 | 2·5378561 | 2·9629604 | 68 | 2·3809932 | 2·7909126 | 68 | 2·2144320 | 2·6092806 |
| 69 | 2·5083508 | 2·9301827 | 69 | 2·3514879 | 2·7583213 | 69 | 2·1849267 | 2·5768698 |
| 70 | 2·4769071 | 2·8952242 | 70 | 2·3200442 | 2·7235616 | 70 | 2·1534830 | 2·5423025 |
| 71 | 2·4433458 | 2·8578997 | 71 | 2·2864829 | 2·6864477 | 71 | 2·1199217 | 2·5053915 |
| 72 | 2·4074768 | 2·8180159 | 72 | 2·2506139 | 2·6467839 | 72 | 2·0840527 | 2·4659432 |
| 73 | 2·3690992 | 2·7753686 | 73 | 2·2122363 | 2·6043676 | 73 | 2·0456751 | 2·4237520 |
| 74 | 2·3280011 | 2·7297438 | 74 | 2·1711382 | 2·5589856 | 74 | 2·0045770 | 2·3786032 |
| 75 | 2·2839595 | 2·6809199 | 75 | 2·1270966 | 2·5104123 | 75 | 1·9605354 | 2·3302760 |
| 76 | 2·2367406 | 2·6286627 | 76 | 2·0798777 | 2·4584172 | 76 | 1·9133165 | 2·2785348 |
| 77 | 2·1860998 | 2·5727299 | 77 | 2·0292369 | 2·4027547 | 77 | 1·8626757 | 2·2231358 |
| 78 | 2·1317812 | 2·5128698 | 78 | 1·9749183 | 2·3431736 | 78 | 1·8083571 | 2·1638269 |
| 79 | 2·0735183 | 2·4488207 | 79 | 1·9166554 | 2·2794119 | 79 | 1·7500942 | 2·1003444 |
| 80 | 2·0110335 | 2·3803126 | 80 | 1·8541706 | 2·2111970 | 80 | 1·6876094 | 2·0324169 |
| 81 | 1·9440383 | 2·3070635 | 81 | 1·7871754 | 2·1382483 | 81 | 1·6206142 | 1·9597609 |
| 82 | 1·8722332 | 2·2287822 | 82 | 1·7153703 | 2·0602743 | 82 | 1·5488091 | 1·8820860 |
| 83 | 1·7953079 | 2·1451693 | 83 | 1·6384450 | 1·9769714 | 83 | 1·4718838 | 1·7990895 |
| 84 | 1·7129409 | 2·0559163 | 84 | 1·5560780 | 1·8880312 | 84 | 1·3895168 | 1·7104559 |
| 85 | 1·6248002 | 1·9606976 | 85 | 1·4679373 | 1·7931350 | 85 | 1·3013761 | 1·6158680 |
| 86 | 1·5305423 | 1·8591881 | 86 | 1·3736794 | 1·6919430 | 86 | 1·2071182 | 1·5149978 |
| 87 | 1·4298132 | 1·7510442 | 87 | 1·2729503 | 1·5841231 | 87 | 1·1063891 | 1·4074895 |
| 88 | 1·3222478 | 1·6359178 | 88 | 1·1653849 | 1·4693168 | 88 | 0·9988237 | 1·2930044 |
| 89 | 1·2074700 | 1·5134400 | 89 | 1·0506071 | 1·3471699 | 89 | 0·8840459 | 1·1711704 |
| 90 | 1·0850929 | 1·3832497 | 90 | 0·9282300 | 1·2172944 | 90 | 0·7616688 | 1·0416256 |
| 91 | 0·9547186 | 1·2449547 | 91 | 0·7978557 | 1·0793260 | 91 | 0·6312945 | 0·9039577 |
| 92 | 0·8159382 | 1·0981763 | 92 | 0·6590753 | 0·9328541 | 92 | 0·4925141 | 0·7578134 |
| 93 | 0·6683320 | 0·9424991 | 93 | 0·5114691 | 0·7775066 | 93 | 0·3449079 | 0·6027435 |
| 94 | 0·5114691 | 0·7775066 | 94 | 0·3546062 | 0·6128368 | 94 | 0·1880450 | 0·4384158 |
| 95 | 0·3449079 | 0·6027435 | 95 | 0·1880450 | 0·4384158 | 95 | 0·0214838 | 0·2643219 |
| 96 | 0·1681959 | 0·4178535 | 96 | 0·0113330 | 0·2537498 | 96 | 9·8447718 | 0·0800128 |
| 97 | 9·9808694 | 0·2222741 | 97 | 9·8240065 | 0·0585399 | 97 | 9·6574453 | $\bar{1}$·8849652 |
| 98 | 9·7824541 | 0·0156950 | 98 | 9·6255912 | $\bar{1}$·8521139 | 98 | 9·4590300 | $\bar{1}$·6789734 |
| 99 | 9·5724643 | $\bar{1}$·7972675 | 99 | 9·4156014 | $\bar{1}$·6342757 | 99 | 9·2490402 | $\bar{1}$·4610481 |
| 100 | 9·3504038 | $\bar{1}$·5666731 | 100 | 9·1935409 | $\bar{1}$·4038066 | 100 | 9·0269797 | $\bar{1}$·2314696 |
| 101 | 9·1157653 | $\bar{1}$·3226327 | 101 | 8·9589024 | $\bar{1}$·1601683 | 101 | 8·7923412 | $\bar{2}$·9881128 |
| 102 | 8·8680305 | $\bar{1}$·0633334 | 102 | 8·7111676 | $\bar{2}$·9014583 | 102 | 8·5446064 | $\bar{2}$·7291648 |
| 103 | 8·6066702 | $\bar{2}$·7817554 | 103 | 8·4498073 | $\bar{2}$·6222140 | 103 | 8·2832461 | $\bar{2}$·4517864 |
| 104 | 8·3311444 | $\bar{2}$·4638930 | 104 | 8·1742815 | $\bar{2}$·3031961 | 104 | 8·0077203 | $\bar{2}$·1367206 |
| 105 | 8·0409018 | | 105 | 7·8840389 | | 105 | 7·7174777 | |
| 106 | 7·7353806 | | 106 | 7·5785177 | | 106 | 7·4119565 | |
| 107 | 7·4140077 | | 107 | 7·2571448 | | 107 | 7·0905836 | |
| 108 | 7·0761993 | | 108 | 6·9193364 | | 108 | 6·7527752 | |
| 109 | 6·7213605 | | 109 | 6·5644976 | | 109 | 6·3979364 | |

## JOINT LIVES :—TWO FEMALES.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 96 | | | 97 | | | 98 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,96}$ | λ $N_{x,\,96}$ | Age of (x) | λ $D_{x,\,97}$ | λ $N_{x,\,97}$ | Age of (x) | λ $D_{x,\,98}$ | λ $N_{x,\,98}$ |
| 0 | 3·0226764 | 3·3854633 | 0 | 2·8353499 | 3·1828550 | 0 | 2·6369346 | 2·9691036 |
| 1 | 2·9534182 | 3·3420123 | 1 | 2·7660917 | 3·1384935 | 1 | 2·5676764 | 2·9238039 |
| 2 | 2·9192406 | 3·3177118 | 2 | 2·7319141 | 3·1138194 | 2 | 2·5334988 | 2·8987449 |
| 3 | 2·8971774 | 3·3003018 | 3 | 2·7098509 | 3·0962167 | 3 | 2·5114356 | 2·8809422 |
| 4 | 2·8801298 | 3·2860831 | 4 | 2·6928033 | 3·0818752 | 4 | 2·4943880 | 2·8664770 |
| 5 | 2·8659634 | 3·2737828 | 5 | 2·6786369 | 3·0694957 | 5 | 2·4802216 | 2·8540126 |
| 6 | 2·8537399 | 3·2627372 | 6 | 2·6664134 | 3·0583976 | 6 | 2·4679981 | 2·8428613 |
| 7 | 2·8427141 | 3·2524828 | 7 | 2·6553876 | 3·0481068 | 7 | 2·4569723 | 2·8325326 |
| 8 | 2·8323346 | 3·2427479 | 8 | 2·6450081 | 3·0383447 | 8 | 2·4465928 | 2·8227426 |
| 9 | 2·8225655 | 3·2334393 | 9 | 2·6352390 | 3·0290199 | 9 | 2·4368237 | 2·8133995 |
| 10 | 2·8132631 | 3·2244308 | 10 | 2·6259366 | 3·0200039 | 10 | 2·4275213 | 2·8043760 |
| 11 | 2·8042959 | 3·2156082 | 11 | 2·6169694 | 3·0111816 | 11 | 2·4185541 | 2·7955540 |
| 12 | 2·7955446 | 3·2068698 | 12 | 2·6082181 | 3·0024508 | 12 | 2·4098028 | 2·7868302 |
| 13 | 2·7869024 | 3·1981266 | 13 | 2·5995759 | 2·9937209 | 13 | 2·4011606 | 2·7781129 |
| 14 | 2·7782745 | 3·1895019 | 14 | 2·5909480 | 2·9849133 | 14 | 2·3925327 | 2·7693234 |
| 15 | 2·7695783 | 3·1803337 | 15 | 2·5822518 | 2·9759641 | 15 | 2·3838365 | 2·7603946 |
| 16 | 2·7607435 | 3·1711716 | 16 | 2·5734170 | 2·9668234 | 16 | 2·3750017 | 2·7512737 |
| 17 | 2·7517121 | 3·1617808 | 17 | 2·5643856 | 2·9574530 | 17 | 2·3659703 | 2·7419257 |
| 18 | 2·7424383 | 4·1521430 | 18 | 2·5551118 | 2·9478335 | 18 | 2·3566965 | 2·7323254 |
| 19 | 2·7328884 | 3·1422574 | 19 | 2·5455619 | 2·9379640 | 19 | 2·3471466 | 2·7224710 |
| 20 | 2·7230410 | 3·1321466 | 20 | 2·5357145 | 2·9278644 | 20 | 2·3372992 | 2·7123837 |
| 21 | 2·7128870 | 3·1218588 | 21 | 2·5255605 | 2·9175853 | 21 | 2·3271452 | 2·7021125 |
| 22 | 2·7026354 | 3·1114779 | 22 | 2·5153089 | 2·9072119 | 22 | 2·3168936 | 2·6917479 |
| 23 | 2·6922898 | 3·1010053 | 23 | 2·5049633 | 2·8967483 | 23 | 2·3065480 | 2·6812910 |
| 24 | 2·6818528 | 3·0904450 | 24 | 2·4945263 | 2·8861945 | 24 | 2·2961110 | 2·6707467 |
| 25 | 2·6713271 | 3·0797983 | 25 | 2·4840006 | 2·8755555 | 25 | 2·2855853 | 2·6601138 |
| 26 | 2·6607144 | 3·0690651 | 26 | 2·4733879 | 2·8648307 | 26 | 2·2749726 | 2·6493972 |
| 27 | 2·6500164 | 3·0582472 | 27 | 2·4626899 | 2·8540205 | 27 | 2·2642746 | 2·6385961 |
| 28 | 2·6392341 | 3·0473458 | 28 | 2·4519076 | 2·8431262 | 28 | 2·2534923 | 2·6277089 |
| 29 | 2·6283680 | 3·0363590 | 29 | 2·4410415 | 2·8321479 | 29 | 2·2426262 | 2·6167380 |
| 30 | 2·6174181 | 3·0252883 | 30 | 2·4300916 | 2·8210843 | 30 | 2·2316763 | 2·6056832 |
| 31 | 2·6063842 | 3·0141315 | 31 | 2·4190577 | 2·8099359 | 31 | 2·2206424 | 2·5945417 |
| 32 | 2·5952654 | 3·0028863 | 32 | 2·4079389 | 2·7986997 | 32 | 2·2095236 | 2·5833145 |
| 33 | 2·5840603 | 2·9915521 | 33 | 2·3967338 | 2·7873733 | 33 | 2·1983185 | 2·5719975 |
| 34 | 2·5727672 | 2·9801257 | 34 | 2·3854407 | 2·7759562 | 34 | 2·1870254 | 2·5605880 |
| 35 | 2·5613838 | 2·9686048 | 35 | 2·3740573 | 2·7644444 | 35 | 2·1756420 | 2·5490867 |
| 36 | 2·5499073 | 2·9569849 | 36 | 2·3625808 | 2·7528348 | 36 | 2·1641655 | 2·5374867 |
| 37 | 2·5383347 | 2·9452637 | 37 | 2·3510082 | 2·7411225 | 37 | 2·1525929 | 2·5257857 |
| 38 | 2·5266622 | 2·9334357 | 38 | 2·3393357 | 2·7293057 | 38 | 2·1409204 | 2·5139776 |
| 39 | 2·5148857 | 2·9214971 | 39 | 2·3275592 | 2·7173775 | 39 | 2·1291439 | 2·5020609 |
| 40 | 2·5030007 | 2·9094410 | 40 | 2·3156742 | 2·7053342 | 40 | 2·1172589 | 2·4900287 |
| 41 | 2·4910020 | 2·8972636 | 41 | 2·3036755 | 2·6931683 | 41 | 2·1052602 | 2·4778763 |
| 42 | 2·4788841 | 2·8849578 | 42 | 2·2915576 | 2·6808756 | 42 | 2·0931423 | 2·4655955 |
| 43 | 2·4666410 | 2·8725169 | 43 | 2·2793145 | 2·6684483 | 43 | 2·0808992 | 2·4531822 |
| 44 | 2·4542663 | 2·8599341 | 44 | 2·2669398 | 2·6558795 | 44 | 2·0685245 | 2·4406274 |
| 45 | 2·4417529 | 2·8472018 | 45 | 2·2544264 | 2·6431614 | 45 | 2·0560111 | 2·4279257 |
| 46 | 2·4290936 | 2·8343094 | 46 | 2·2417671 | 2·6302875 | 46 | 2·0433518 | 2·4150653 |
| 47 | 2·4162804 | 2·8212482 | 47 | 2·2289539 | 2·6172447 | 47 | 2·0305386 | 2·4020429 |
| 48 | 2·4033050 | 2·8080035 | 48 | 2·2159785 | 2·6040218 | 48 | 2·0175632 | 2·3888416 |
| 49 | 2·3901585 | 2·7945585 | 49 | 2·2028320 | 2·5906023 | 49 | 2·0044167 | 2·3754478 |
| 50 | 2·3768318 | 2·7808888 | 50 | 2·1895053 | 2·5769630 | 50 | 1·9910900 | 2·3618394 |
| 51 | 2·3633150 | 2·7669576 | 51 | 2·1759885 | 2·5630704 | 51 | 1·9775732 | 2·3479834 |
| 52 | 2·3495979 | 2·7527121 | 52 | 2·1622714 | 2·5488695 | 52 | 1·9638561 | 2·3338288 |
| 53 | 2·3356698 | 2·7380675 | 53 | 2·1483433 | 2·5342787 | 53 | 1·9499280 | 2·3192922 |
| 54 | 2·3215197 | 2·7228921 | 54 | 2·1341932 | 2·5191649 | 54 | 1·9357779 | 2·3042386 |

## JOINT LIVES :—TWO FEMALES.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 96 | | 97 | | | 98 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,96}$ | λ $N_{x,\,96}$ | Age of (x) | λ $D_{x,\,97}$ | λ $N_{x,\,97}$ | Age of (x) | λ $D_{x,\,98}$ | λ $N_{x,\,98}$ |
| 55 | 2·3064726 | 2·7069839 | 55 | 2·1191461 | 2·5033166 | 55 | 1·9207308 | 2·2884498 |
| 56 | 2·2908459 | 2·6904477 | 56 | 2·1035194 | 2·4868412 | 56 | 1·9051041 | 2·2720390 |
| 57 | 2·2746137 | 2·6732384 | 57 | 2·0872872 | 2·4697027 | 57 | 1·8888719 | 2·2549667 |
| 58 | 2·2577390 | 2·6553094 | 58 | 2·0704125 | 2·4518463 | 58 | 1·8719972 | 2·2371857 |
| 59 | 2·2401741 | 2·6365972 | 59 | 2·0528476 | 2·4332144 | 59 | 1·8544323 | 2·2186344 |
| 60 | 2·2218602 | 2·6170308 | 60 | 2·0345337 | 2·4137338 | 60 | 1·8361184 | 2·1992425 |
| 61 | 2·2027274 | 2·5965256 | 61 | 2·0154009 | 2·3933260 | 61 | 1·8169856 | 2·1789283 |
| 62 | 2·1826953 | 2·5749880 | 62 | 1·9953688 | 2·3718924 | 62 | 1·7969535 | 2·1576006 |
| 63 | 2·1616722 | 2·5523177 | 63 | 1·9743457 | 2·3493345 | 63 | 1·7759304 | 2·1351560 |
| 64 | 2·1395555 | 2·5283973 | 64 | 1·9522290 | 2·3255364 | 64 | 1·7538137 | 2·1114820 |
| 65 | 2·1162319 | 2·5031053 | 65 | 1·9289054 | 2·3003761 | 65 | 1·7304901 | 2·0864538 |
| 66 | 2·0915768 | 2·4763040 | 66 | 1·9042503 | 2·2737180 | 66 | 1·7058350 | 2·0599404 |
| 67 | 2·0654549 | 2·4478523 | 67 | 1·8781284 | 2·2454182 | 67 | 1·6797131 | 2·0317949 |
| 68 | 2·0377200 | 2·4175912 | 68 | 1·8503935 | 2·2153216 | 68 | 1·6519782 | 2·0018639 |
| 69 | 2·0082147 | 2·3853578 | 69 | 1·8208882 | 2·1832633 | 69 | 1·6224729 | 1·9699831 |
| 70 | 1·9767710 | 2·3509768 | 70 | 1·7894445 | 2·1490691 | 70 | 1·5910292 | 1·9359761 |
| 71 | 1·9432097 | 2·3142645 | 71 | 1·7558832 | 2·1125527 | 71 | 1·5574679 | 1·8996597 |
| 72 | 1·9073407 | 2·2750254 | 72 | 1·7200142 | 2·0735208 | 72 | 1·5215989 | 1·8608367 |
| 73 | 1·8689631 | 2·2330538 | 73 | 1·6816366 | 2·0317679 | 73 | 1·4832213 | 1·8193044 |
| 74 | 1·8278650 | 2·1881365 | 74 | 1·6405385 | 1·9870784 | 74 | 1·4421232 | 1·7748475 |
| 75 | 1·7838234 | 2·1400493 | 75 | 1·5964969 | 1·9392286 | 75 | 1·3980816 | 1·7272386 |
| 76 | 1·7366045 | 2·0885560 | 76 | 1·5492780 | 1·8879845 | 76 | 1·3508627 | 1·6762445 |
| 77 | 1·6859637 | 2·0334161 | 77 | 1·4986372 | 1·8330987 | 77 | 1·3002219 | 1·6216218 |
| 78 | 1·6316451 | 1·9743735 | 78 | 1·4443186 | 1·7743220 | 78 | 1·2459033 | 1·5631095 |
| 79 | 1·5733822 | 1·9111667 | 79 | 1·3860557 | 1·7113871 | 79 | 1·1876404 | 1·5004533 |
| 80 | 1·5108974 | 1·8435193 | 80 | 1·3235709 | 1·6440218 | 80 | 1·1251556 | 1·4333697 |
| 81 | 1·4439022 | 1·7711530 | 81 | 1·2565757 | 1·5719381 | 81 | 1·0581604 | 1·3615806 |
| 82 | 1·3720971 | 1·6937709 | 82 | 1·1847706 | 1·4948500 | 82 | 0·9863553 | 1·2847826 |
| 83 | 1·2951718 | 1·6110730 | 83 | 1·1078453 | 1·4124471 | 83 | 0·9094300 | 1·2026844 |
| 84 | 1·2128048 | 1·5227467 | 84 | 1·0254783 | 1·3244224 | 84 | 0·8270630 | 1·1149611 |
| 85 | 1·1246641 | 1·4284620 | 85 | 0·9373376 | 1·2304489 | 85 | 0·7389223 | 1·0212968 |
| 86 | 1·0304062 | 1·3278961 | 86 | 0·8430797 | 1·1301826 | 86 | 0·6446644 | 0·9213535 |
| 87 | 0·9296771 | 1·2207120 | 87 | 0·7423506 | 1·0232977 | 87 | 0·5439353 | 0·8147668 |
| 88 | 0·8221117 | 1·1065309 | 88 | 0·6347852 | 0·9094490 | 88 | 0·4363699 | 0·7012138 |
| 89 | 0·7073339 | 0·9850131 | 89 | 0·5200074 | 0·7882320 | 89 | 0·3215921 | 0·5803432 |
| 90 | 0·5849568 | 0·8557735 | 90 | 0·3976303 | 0·6593076 | 90 | 0·1992150 | 0·4517097 |
| 91 | 0·4545825 | 0·7184436 | 91 | 0·2672560 | 0·5222747 | 91 | 0·0688407 | 0·3150042 |
| 92 | 0·3158021 | 0·5725812 | 92 | 0·1284756 | 0·3767594 | 92 | 9·9300603 | 0·1697626 |
| 93 | 0·1681959 | 0·4178535 | 93 | 9·9808694 | 0·2222741 | 93 | 9·7824541 | 0·0156950 |
| 94 | 0·0113330 | 0·2537498 | 94 | 9·8240065 | 0·0585399 | 94 | 9·6255912 | $\bar{1}$·8521139 |
| 95 | 9·8447718 | 0·0800128 | 95 | 9·6574453 | $\bar{1}$·8849652 | 95 | 9·4590300 | $\bar{1}$·6789734 |
| 96 | 9·6680598 | $\bar{1}$·8960851 | 96 | 9·4807333 | $\bar{1}$·7013953 | 96 | 9·2823180 | $\bar{1}$·4954056 |
| 97 | 9·4807333 | $\bar{1}$·7013953 | 97 | 9·2934068 | $\bar{1}$·5071810 | 97 | 9·0949915 | $\bar{1}$·3016809 |
| 98 | 9·2823180 | $\bar{1}$·4954056 | 98 | 9·0949915 | $\bar{1}$·3016809 | 98 | 8·8965762 | $\bar{1}$·0969100 |
| 99 | 9·0723282 | $\bar{1}$·2780673 | 99 | 8·8850017 | $\bar{1}$·0838608 | 99 | 8·6865864 | $\bar{2}$·8802418 |
| 100 | 8·8502677 | $\bar{1}$·0480532 | 100 | 8·6629412 | $\bar{2}$·8549130 | 100 | 8·4645259 | $\bar{2}$·6493349 |
| 101 | 8·6156292 | $\bar{2}$·8061800 | 101 | 8·4283027 | $\bar{2}$·6117233 | 101 | 8·2298874 | $\bar{2}$·4082400 |
| 102 | 8·3678944 | $\bar{2}$·5477747 | 102 | 8·1805679 | $\bar{2}$·3560259 | 102 | 7·9821526 | $\bar{2}$·1492191 |
| 103 | 8·1065341 | $\bar{2}$·2695129 | 103 | 7·9192076 | $\bar{2}$·0791812 | 103 | 7·7207923 | $\bar{3}$·8750613 |
| 104 | 7·8310083 | $\bar{3}$·9590414 | 104 | 7·6436818 | $\bar{3}$·7634280 | 104 | 7·4452665 | $\bar{3}$·5682017 |
| 105 | 7·5407657 | | 105 | 7·3534392 | | 105 | 7·1550239 | |
| 106 | 7·2352445 | | 106 | 7·0479180 | | 106 | 6·8495027 | |
| 107 | 6·9138716 | | 107 | 6·7265451 | | 107 | 6·5281298 | |
| 108 | 6·5760632 | | 108 | 6·3887367 | | 108 | 6·1903214 | |
| 109 | 6·2212244 | | 109 | 6·0338979 | | 109 | 5·8354826 | |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x, y}$ and $N_{x, y}$.

| Age of $(y)$ | 99 | | 100 | | | 101 | | |
|---|---|---|---|---|---|---|---|---|
| **Age of $(x)$** | $\lambda\ D_{x,\,99}$ | $\lambda\ N_{x,\,99}$ | **Age of $(x)$** | $\lambda\ D_{x,\,100}$ | $\lambda\ N_{x,\,100}$ | **Age of $(x)$** | $\lambda\ D_{x,\,101}$ | $\lambda\ N_{x,\,101}$ |
| 0 | 2·4269448 | 2·7434227 | 0 | 2·2048843 | 2·5047087 | 0 | 1·9702458 | 2·2511908 |
| 1 | 2·3576866 | 2·6971282 | 1 | 2·1356261 | 2·4573095 | 1 | 1·9009876 | 2·2024696 |
| 2 | 2·3235090 | 2·6716615 | 2 | 2·1014485 | 2·4313862 | 2 | 1·8668100 | 2·1759960 |
| 3 | 2·3014458 | 2·6536476 | 3 | 2·0793853 | 2·4131371 | 3 | 1·8447468 | 2·1574610 |
| 4 | 2·2843982 | 2·6390480 | 4 | 2·0623377 | 2·3983897 | 4 | 1·8276992 | 2·1425353 |
| 5 | 2·2702318 | 2·6264974 | 5 | 2·0481713 | 2·3857385 | 5 | 1·8135328 | 2·1297666 |
| 6 | 2·2580083 | 2·6152850 | 6 | 2·0359478 | 2·3744643 | 6 | 1·8013093 | 2·1184102 |
| 7 | 2·2469825 | 2·6049169 | 7 | 2·0249220 | 2·3640461 | 7 | 1·7902835 | 2·1079386 |
| 8 | 2·2366030 | 2·5950959 | 8 | 2·0145425 | 2·3541911 | 8 | 1·7799040 | 2·0980387 |
| 9 | 2·2268339 | 2·5857348 | 9 | 2·0047734 | 2·3448068 | 9 | 1·7701349 | 2·0886257 |
| 10 | 2·2175315 | 2·5767006 | 10 | 1·9954710 | 2·3357625 | 10 | 1·7608325 | 2·0795651 |
| 11 | 2·2085643 | 2·5678788 | 11 | 1·9865038 | 2·3269381 | 11 | 1·7518653 | 2·0707370 |
| 12 | 2·1998130 | 2·5591618 | 12 | 1·9777525 | 2·3182282 | 12 | 1·7431140 | 2·0620326 |
| 13 | 2·1911708 | 2·5504583 | 13 | 1·9691103 | 2·3095386 | 13 | 1·7344718 | 2·0533578 |
| 14 | 2·1825429 | 2·5416865 | 14 | 1·9604824 | 2·3007871 | 14 | 1·7258439 | 2·0446283 |
| 15 | 2·1738467 | 2·5327799 | 15 | 1·9517862 | 2·2919045 | 15 | 1·7171477 | 2·0357730 |
| 16 | 2·1650119 | 2·5236827 | 16 | 1·9429514 | 2·2828325 | 16 | 1·7083129 | 2·0267334 |
| 17 | 2·1559805 | 2·5143552 | 17 | 1·9339200 | 2·2735303 | 17 | 1·6992815 | 2·0174615 |
| 18 | 2·1467067 | 2·5047766 | 18 | 1·9246462 | 2·2639732 | 18 | 1·6900077 | 2·0079312 |
| 19 | 2·1371568 | 2·4949390 | 19 | 1·9150963 | 2·2541551 | 19 | 1·6804578 | 1·9981351 |
| 20 | 2·1273094 | 2·4848633 | 20 | 1·9052489 | 2·2440940 | 20 | 1·6706104 | 1·9880905 |
| 21 | 2·1171554 | 2·4746008 | 21 | 1·8950949 | 2·2338410 | 21 | 1·6604564 | 1·9778484 |
| 22 | 2·1069038 | 2·4642450 | 22 | 1·8848433 | 2·2234938 | 22 | 1·6502048 | 1·9675119 |
| 23 | 2·0965582 | 2·4537967 | 23 | 1·8744977 | 2·2130554 | 23 | 1·6398592 | 1·9570837 |
| 24 | 2·0861212 | 2·4432599 | 24 | 1·8640607 | 2·2025276 | 24 | 1·6294222 | 1·9465667 |
| 25 | 2·0755955 | 2·4326358 | 25 | 1·8535350 | 2·1919130 | 25 | 1·6188965 | 1·9359620 |
| 26 | 2·0649828 | 2·4219262 | 26 | 1·8429223 | 2·1812122 | 26 | 1·6082838 | 1·9252718 |
| 27 | 2·0542848 | 2·4111330 | 27 | 1·8322243 | 2·1704269 | 27 | 1·5975858 | 1·9144965 |
| 28 | 2·0435025 | 2·4002564 | 28 | 1·8214420 | 2·1595576 | 28 | 1·5868035 | 1·9036374 |
| 29 | 2·0326364 | 2·3892920 | 29 | 1·8105759 | 2·1486046 | 29 | 1·5759374 | 1·8926939 |
| 30 | 2·0216865 | 2·3782452 | 30 | 1·7996260 | 2·1375664 | 30 | 1·5649875 | 1·8816671 |
| 31 | 2·0106526 | 2·3671135 | 31 | 1·7885921 | 2·1264428 | 31 | 1·5539536 | 1·8705543 |
| 32 | 1·9995338 | 2·3558940 | 32 | 1·7774733 | 2·1152333 | 32 | 1·5428348 | 1·8593545 |
| 33 | 1·9883287 | 2·3445860 | 33 | 1·7662682 | 2·1039351 | 33 | 1·5316297 | 1·8480678 |
| 34 | 1·9770356 | 2·3331870 | 34 | 1·7549751 | 2·0925459 | 34 | 1·5203366 | 1·8366898 |
| 35 | 1·9656522 | 2·3216941 | 35 | 1·7435917 | 2·0810638 | 35 | 1·5089532 | 1·8252196 |
| 36 | 1·9541757 | 2·3101042 | 36 | 1·7321152 | 2·0694846 | 36 | 1·4974767 | 1·8136531 |
| 37 | 1·9426031 | 2·2984133 | 37 | 1·7205426 | 2·0578053 | 37 | 1·4859041 | 1·8019865 |
| 38 | 1·9309306 | 2·2866177 | 38 | 1·7088701 | 2·0460213 | 38 | 1·4742316 | 1·7902169 |
| 39 | 1·9191541 | 2·2747119 | 39 | 1·6970936 | 2·0341285 | 39 | 1·4624551 | 1·7783372 |
| 40 | 1·9072691 | 2·2626917 | 40 | 1·6852086 | 2·0221211 | 40 | 1·4505701 | 1·7663459 |
| 41 | 1·8952704 | 2·2505518 | 41 | 1·6732099 | 2·0099941 | 41 | 1·4385714 | 1·7542336 |
| 42 | 1·8831525 | 2·2382846 | 42 | 1·6610920 | 1·9977423 | 42 | 1·4264535 | 1·7419973 |
| 43 | 1·8709094 | 2·2258846 | 43 | 1·6488489 | 1·9853573 | 43 | 1·4142104 | 1·7296313 |
| 44 | 1·8585347 | 2·2133454 | 44 | 1·6364742 | 1·9728335 | 44 | 1·4018357 | 1·7171252 |
| 45 | 1·8460213 | 2·2006585 | 45 | 1·6239608 | 1·9601639 | 45 | 1·3893223 | 1·7044740 |
| 46 | 1·8333620 | 2·1878156 | 46 | 1·6113015 | 1·9473396 | 46 | 1·3766630 | 1·6916702 |
| 47 | 1·8205488 | 2·1748100 | 47 | 1·5984883 | 1·9343515 | 47 | 1·3638498 | 1·6787050 |
| 48 | 1·8075734 | 2·1616312 | 48 | 1·5855129 | 1·9211931 | 48 | 1·3508744 | 1·6655669 |
| 49 | 1·7944269 | 2·1482635 | 49 | 1·5723664 | 1·9078530 | 49 | 1·3377279 | 1·6522521 |
| 50 | 1·7811002 | 2·1346867 | 50 | 1·5590397 | 1·8943100 | 50 | 1·3244012 | 1·6387458 |
| 51 | 1·7675834 | 2·1208692 | 51 | 1·5455229 | 1·8805341 | 51 | 1·3108844 | 1·6250170 |
| 52 | 1·7538663 | 2·1067616 | 52 | 1·5318058 | 1·8664776 | 52 | 1·2971673 | 1·6110187 |
| 53 | 1·7399382 | 2·0922816 | 53 | 1·5178777 | 1·8520583 | 53 | 1·2832392 | 1·5966697 |
| 54 | 1·7257881 | 2·0772920 | 54 | 1·5037276 | 1·8371375 | 54 | 1·2690891 | 1·5818268 |

## JOINT LIVES:—TWO FEMALES.

### Logarithms of the Series $D_{x,y}$ and $N_{x,y}$.

| Age of (y) | 99 | | | 100 | | | 101 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,99}$ | λ $N_{x,99}$ | Age of (x) | λ $D_{x,100}$ | λ $N_{x,100}$ | Age of (x) | λ $D_{x,101}$ | λ $N_{x,101}$ |
| 55 | 1·7107410 | 2·0615633 | 55 | 1·4886805 | 1·8214755 | 55 | 1·2540420 | 1·5662395 |
| 56 | 1·6951143 | 2·0452181 | 56 | 1·4730538 | 1·8051997 | 56 | 1·2384153 | 1·5500448 |
| 57 | 1·6788821 | 2·0282177 | 57 | 1·4568216 | 1·7882752 | 57 | 1·2221831 | 1·5332050 |
| 58 | 1·6620074 | 2·0105120 | 58 | 1·4399469 | 1·7706539 | 58 | 1·2053084 | 1·5156765 |
| 59 | 1·6444425 | 1·9920447 | 59 | 1·4223820 | 1·7522744 | 59 | 1·1877435 | 1·4974024 |
| 60 | 1·6261286 | 1·9727437 | 60 | 1·4040681 | 1·7330728 | 60 | 1·1694296 | 1·4783081 |
| 61 | 1·6069958 | 1·9525290 | 61 | 1·3849353 | 1·7129652 | 61 | 1·1502968 | 1·4583235 |
| 62 | 1·5869637 | 1·9313094 | 62 | 1·3649032 | 1·6918627 | 62 | 1·1302647 | 1·4373541 |
| 63 | 1·5659406 | 1·9089829 | 63 | 1·3438801 | 1·6696636 | 63 | 1·1092416 | 1·4153006 |
| 64 | 1·5438239 | 1·8854364 | 64 | 1·3217634 | 1·6462566 | 64 | 1·0871249 | 1·3920512 |
| 65 | 1·5205003 | 1·8605488 | 65 | 1·2984398 | 1·6215190 | 65 | 1·0638013 | 1·3674864 |
| 66 | 1·4958452 | 1·8341828 | 66 | 1·2737847 | 1·5953187 | 66 | 1·0391462 | 1·3414721 |
| 67 | 1·4697233 | 1·8062003 | 67 | 1·2476628 | 1·5675074 | 67 | 1·0130243 | 1·3138672 |
| 68 | 1·4419884 | 1·7764419 | 68 | 1·2199279 | 1·5379412 | 68 | 0·9852894 | 1·2845120 |
| 69 | 1·4124831 | 1·7447450 | 69 | 1·1904226 | 1·5064455 | 69 | 0·9557841 | 1·2532556 |
| 70 | 1·3810394 | 1·7109361 | 70 | 1·1589789 | 1·4728515 | 70 | 0·9243404 | 1·2199092 |
| 71 | 1·3474781 | 1·6748272 | 71 | 1·1254176 | 1·4369732 | 71 | 0·8907791 | 1·1842939 |
| 72 | 1·3116091 | 1·6362260 | 72 | 1·0895486 | 1·3986118 | 72 | 0·8549101 | 1·1462211 |
| 73 | 1·2732315 | 1·5949238 | 73 | 1·0511710 | 1·3575671 | 73 | 0·8165325 | 1·1054693 |
| 74 | 1·2321334 | 1·5507089 | 74 | 1·0100729 | 1·3136184 | 74 | 0·7754344 | 1·0618368 |
| 75 | 1·1880918 | 1·5033548 | 75 | 0·9660313 | 1·2665421 | 75 | 0·7313928 | 1·0150914 |
| 76 | 1·1408729 | 1·4526235 | 76 | 0·9188124 | 1·2161052 | 76 | 0·6841739 | 0·9649946 |
| 77 | 1·0902321 | 1·3982734 | 77 | 0·8681716 | 1·1620563 | 77 | 0·6335331 | 0·9113068 |
| 78 | 1·0359135 | 1·3400493 | 78 | 0·8138530 | 1·1041422 | 78 | 0·5792145 | 0·8537590 |
| 79 | 0·9776506 | 1·2776757 | 79 | 0·7555901 | 1·0421028 | 79 | 0·5209516 | 0·7920974 |
| 80 | 0·9151658 | 1·2108961 | 80 | 0·6931053 | 0·9756386 | 80 | 0·4584668 | 0·7260504 |
| 81 | 0·8481706 | 1·1394068 | 81 | 0·6261101 | 0·9044992 | 81 | 0·3914716 | 0·6552921 |
| 82 | 0·7763655 | 1·0629278 | 82 | 0·5543050 | 0·8283569 | 82 | 0·3196665 | 0·5795778 |
| 83 | 0·6994402 | 0·9811342 | 83 | 0·4773797 | 0·7469299 | 83 | 0·2427412 | 0·4985587 |
| 84 | 0·6170732 | 0·8937396 | 84 | 0·3950127 | 0·6598687 | 84 | 0·1603742 | 0·4119562 |
| 85 | 0·5289325 | 0·8003871 | 85 | 0·3068720 | 0·5668969 | 85 | 0·0722335 | 0·3193768 |
| 86 | 0·4346746 | 0·7007729 | 86 | 0·2126141 | 0·4676229 | 86 | 9·9779756 | 0·2205788 |
| 87 | 0·3339455 | 0·5945362 | 87 | 0·1118850 | 0·3617467 | 87 | 9·8772465 | 0·1151110 |
| 88 | 0·2263801 | 0·4812849 | 88 | 0·0043196 | 0·2489047 | 88 | 9·7696811 | 0·0026843 |
| 89 | 0·1116023 | 0·3607070 | 89 | 9·8895418 | 0·1286577 | 89 | 9·6549033 | $\bar{1}$·8829797 |
| 90 | 9·9892252 | 0·2324624 | 90 | 9·7671647 | 0·0006943 | 90 | 9·5325262 | $\bar{1}$·7554175 |
| 91 | 9·8588509 | 0·0960406 | 91 | 9·6367904 | $\bar{1}$·8647483 | 91 | 9·4021510 | $\bar{1}$·6197193 |
| 92 | 9·7200705 | $\bar{1}$·9511432 | 92 | 9·4980100 | $\bar{1}$·7201593 | 92 | 9·2633715 | $\bar{1}$·4758164 |
| 93 | 9·5724643 | $\bar{1}$·7972675 | 93 | 9·3504038 | $\bar{1}$·5666731 | 93 | 9·1157653 | $\bar{1}$·3226327 |
| 94 | 9·4156014 | $\bar{1}$·6342757 | 94 | 9·1935409 | $\bar{1}$·4038066 | 94 | 8·9589024 | $\bar{1}$·1601683 |
| 95 | 9·2490402 | $\bar{1}$·4610481 | 95 | 9·0269797 | $\bar{1}$·2314696 | 95 | 8·7923412 | $\bar{2}$·9881128 |
| 96 | 9·0723282 | $\bar{1}$·2780673 | 96 | 8·8502677 | $\bar{1}$·0480532 | 96 | 8·6156292 | $\bar{2}$·8061800 |
| 97 | 8·8850017 | $\bar{1}$·0838608 | 97 | 8·6629412 | $\bar{2}$·8549130 | 97 | 8·4283027 | $\bar{2}$·6117233 |
| 98 | 8·6865864 | $\bar{2}$·8802418 | 98 | 8·4645259 | $\bar{2}$·6493349 | 98 | 8·2298874 | $\bar{2}$·4082400 |
| 99 | 8·4765966 | $\bar{2}$·6646420 | 99 | 8·2545361 | $\bar{2}$·4361626 | 99 | 8·0198976 | $\bar{2}$·1903317 |
| 100 | 8·2545361 | $\bar{2}$·4361626 | 100 | 8·0324756 | $\bar{2}$·2095150 | 100 | 7·7978371 | $\bar{3}$·9684829 |
| 101 | 8·0198976 | $\bar{2}$·1903317 | 101 | 7·7978371 | $\bar{3}$·9684829 | 101 | 7·5631986 | $\bar{3}$·7323938 |
| 102 | 7·7721628 | $\bar{3}$·9344985 | 102 | 7·5501023 | $\bar{3}$·6989700 | 102 | 7·3154638 | $\bar{3}$·4771213 |
| 103 | 7·5108025 | $\bar{3}$·6532125 | 103 | 7·2887420 | $\bar{3}$·4313638 | 103 | 7·0541035 | $\bar{3}$·1760913 |
| 104 | 7·2352767 | $\bar{3}$·3424227 | 104 | 7·0132162 | $\bar{3}$·1139434 | 104 | 6·7785777 | $\bar{4}$·9030900 |
| 105 | 6·9450341 | | 105 | 6·7229736 | | 105 | 6·4883351 | |
| 106 | 6·6395129 | | 106 | 6·4174524 | | 106 | 6·1828139 | |
| 107 | 6·3181400 | | 107 | 6·0960795 | | 107 | 5·8614410 | |
| 108 | 5·9803316 | | 108 | 5·7582711 | | 108 | 5·5236326 | |
| 109 | 5·6254928 | | 109 | 5·4034323 | | 109 | 5·1687938 | |

## JOINT LIVES :—TWO FEMALES.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 102 | | 103 | | | 104 | | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | $\lambda\ D_{x,\,102}$ | $\lambda\ N_{x,\,102}$ | Age of (x) | $\lambda\ D_{x,\,103}$ | $\lambda\ N_{x,\,103}$ | Age of (x) | $\lambda\ D_{x,\,104}$ | $\lambda\ N_{x,\,104}$ |
| 0 | 1·7225110 | 1·9795925 | 0 | 1·4611507 | 1·6828947 | 0 | 1·1856249 | 1·3430874 |
| 1 | 1·6532528 | 1·9291015 | 1 | 1·3918925 | 1·6296603 | 1 | 1·1163667 | 1·2847984 |
| 2 | 1·6190752 | 1·9018908 | 2 | 1·3577149 | 1·6013395 | 2 | 1·0821891 | 1·2545553 |
| 3 | 1·5970120 | 1·8829717 | 3 | 1·3356517 | 1·5818484 | 3 | 1·0601259 | 1·2341426 |
| 4 | 1·5799644 | 1·8678091 | 4 | 1·3186041 | 1·5663290 | 4 | 1·0430783 | 1·2180468 |
| 5 | 1·5657980 | 1·8548858 | 5 | 1·3044377 | 1·5531813 | 5 | 1·0289119 | 1·2045242 |
| 6 | 1·5535745 | 1·8434259 | 6 | 1·2922142 | 1·5415755 | 6 | 1·0166884 | 1·1926984 |
| 7 | 1·5425487 | 1·8328779 | 7 | 1·2811884 | 1·5309216 | 7 | 1·0056626 | 1·1818893 |
| 8 | 1·5321692 | 1·8229203 | 8 | 1·2708089 | 1·5208764 | 8 | 0·9952831 | 1·1717148 |
| 9 | 1·5224001 | 1·8134656 | 9 | 1·2610398 | 1·5113619 | 9 | 0·9855140 | 1·1620982 |
| 10 | 1·5130977 | 1·8043814 | 10 | 1·2517374 | 1·5022373 | 10 | 0·9762116 | 1·1529118 |
| 11 | 1·5041305 | 1·7955443 | 11 | 1·2427702 | 1·4933814 | 11 | 0·9672444 | 1·1440135 |
| 12 | 1·4953792 | 1·7868444 | 12 | 1·2340189 | 1·4846798 | 12 | 0·9584931 | 1·1353012 |
| 13 | 1·4867370 | 1·7781838 | 13 | 1·2253767 | 1·4760342 | 13 | 0·9498509 | 1·1266638 |
| 14 | 1·4781091 | 1·7694785 | 14 | 1·2167488 | 1·4673550 | 14 | 0·9412230 | 1·1180132 |
| 15 | 1·4694129 | 1·7606554 | 15 | 1·2080526 | 1·4585683 | 15 | 0·9325268 | 1·1092680 |
| 16 | 1·4605781 | 1·7516532 | 16 | 1·1992178 | 1·4496126 | 16 | 0·9236920 | 1·1003671 |
| 17 | 1·4515467 | 1·7424242 | 17 | 1·1901864 | 1·4404352 | 17 | 0·9146606 | 1·0912554 |
| 18 | 1·4422729 | 1·7329299 | 18 | 1·1809126 | 1·4309985 | 18 | 0·9053868 | 1·0818907 |
| 19 | 1·4327230 | 1·7231616 | 19 | 1·1713627 | 1·4212732 | 19 | 0·8958369 | 1·0722425 |
| 20 | 1·4228756 | 1·7131376 | 20 | 1·1615153 | 1·4112762 | 20 | 0·8859895 | 1·0622924 |
| 21 | 1·4127216 | 1·7029102 | 21 | 1·1513613 | 1·4010661 | 21 | 0·8758355 | 1·0521050 |
| 22 | 1·4024700 | 1·6925861 | 22 | 1·1411097 | 1·3907620 | 22 | 0·8655839 | 1·0418229 |
| 23 | 1·3921244 | 1·6821713 | 23 | 1·1307641 | 1·3803614 | 23 | 0·8552383 | 1·0314489 |
| 24 | 1·3816874 | 1·6716661 | 24 | 1·1203271 | 1·3698724 | 24 | 0·8448013 | 1·0209783 |
| 25 | 1·3711617 | 1·6610750 | 25 | 1·1098014 | 1·3592965 | 25 | 0·8342756 | 1·0104230 |
| 26 | 1·3605490 | 1·6503969 | 26 | 1·0991887 | 1·3486358 | 26 | 0·8236629 | 0·9997828 |
| 27 | 1·3498510 | 1·6396339 | 27 | 1·0884907 | 1·3378884 | 27 | 0·8129649 | 0·9890581 |
| 28 | 1·3390687 | 1·6287873 | 28 | 1·0777084 | 1·3270584 | 28 | 0·8021826 | 0·9782490 |
| 29 | 1·3282026 | 1·6178566 | 29 | 1·0668423 | 1·3161424 | 29 | 0·7913165 | 0·9673561 |
| 30 | 1·3172527 | 1·6068402 | 30 | 1·0558924 | 1·3051449 | 30 | 0·7803666 | 0·9563750 |
| 31 | 1·3062188 | 1·5957420 | 31 | 1·0448585 | 1·2940582 | 31 | 0·7693327 | 0·9453159 |
| 32 | 1·2951000 | 1·5845563 | 32 | 1·0337397 | 1·2828916 | 32 | 0·7582139 | 0·9341650 |
| 33 | 1·2838949 | 1·5732813 | 33 | 1·0225346 | 1·2716348 | 33 | 0·7470088 | 0·9229330 |
| 34 | 1·2726018 | 1·5619179 | 34 | 1·0112415 | 1·2602861 | 34 | 0·7357157 | 0·9116103 |
| 35 | 1·2612184 | 1·5504607 | 35 | 0·9998581 | 1·2488484 | 35 | 0·7243323 | 0·9001923 |
| 36 | 1·2497419 | 1·5389091 | 36 | 0·9883816 | 1·2373150 | 36 | 0·7128558 | 0·8886848 |
| 37 | 1·2381693 | 1·5272586 | 37 | 0·9768090 | 1·2256840 | 37 | 0·7012832 | 0·8770775 |
| 38 | 1·2264968 | 1·5155042 | 38 | 0·9651365 | 1·2139505 | 38 | 0·6896107 | 0·8653705 |
| 39 | 1·2147203 | 1·5036436 | 39 | 0·9533600 | 1·2021094 | 39 | 0·6778342 | 0·8535583 |
| 40 | 1·2028353 | 1·4916684 | 40 | 0·9414750 | 1·1901608 | 40 | 0·6659492 | 0·8416347 |
| 41 | 1·1908366 | 1·4795767 | 41 | 0·9294763 | 1·1780902 | 41 | 0·6539505 | 0·8295996 |
| 42 | 1·1787187 | 1·4673595 | 42 | 0·9173584 | 1·1658999 | 42 | 0·6418326 | 0·8174398 |
| 43 | 1·1664756 | 1·4550125 | 43 | 0·9051153 | 1·1535771 | 43 | 0·6295895 | 0·8051541 |
| 44 | 1·1541009 | 1·4425299 | 44 | 0·8927406 | 1·1411204 | 44 | 0·6172148 | 0·7927278 |
| 45 | 1·1415875 | 1·4299008 | 45 | 0·8802272 | 1·1285220 | 45 | 0·6047014 | 0·7801660 |
| 46 | 1·1289282 | 1·4171211 | 46 | 0·8675679 | 1·1157702 | 46 | 0·5920421 | 0·7674601 |
| 47 | 1·1161150 | 1·4041818 | 47 | 0·8547547 | 1·1028623 | 47 | 0·5792289 | 0·7545853 |
| 48 | 1·1031396 | 1·3910728 | 48 | 0·8417793 | 1·0897886 | 48 | 0·5662535 | 0·7415534 |
| 49 | 1·0899931 | 1·3777832 | 49 | 0·8286328 | 1·0765385 | 49 | 0·5531070 | 0·7283538 |
| 50 | 1·0766664 | 1·3643089 | 50 | 0·8153061 | 1·0630968 | 50 | 0·5397803 | 0·7149665 |
| 51 | 1·0631496 | 1·3506337 | 51 | 0·8017893 | 1·0494661 | 51 | 0·5262635 | 0·7013780 |
| 52 | 1·0494325 | 1·3367058 | 52 | 0·7880722 | 1·0356218 | 52 | 0·5125464 | 0·6876003 |
| 53 | 1·0355044 | 1·3224426 | 53 | 0·7741441 | 1·0214704 | 53 | 0·4986183 | 0·6735922 |
| 54 | 1·0213543 | 1·3076949 | 54 | 0·7599940 | 1·0068467 | 54 | 0·4844682 | 0·6591458 |

## JOINT LIVES :—Two Females.

### Logarithms of the Series $D_{x,\,y}$ and $N_{x,\,y}$.

| Age of (y) | 102 | | | 103 | | | 104 | |
|---|---|---|---|---|---|---|---|---|
| Age of (x) | λ $D_{x,\,102}$ | λ $N_{x,\,102}$ | Age of (x) | λ $D_{x,\,103}$ | λ $N_{x,\,103}$ | Age of (x) | λ $D_{x,\,104}$ | λ $N_{x,\,104}$ |
| 55 | 1·0063072 | 1·2921963 | 55 | 0·7449469 | 0·9914609 | 55 | 0·4694211 | 0·6439065 |
| 56 | 0·9906805 | 1·2760963 | 56 | 0·7293202 | 0·9754778 | 56 | 0·4537944 | 0·6280720 |
| 57 | 0·9744483 | 1·2593621 | 57 | 0·7130880 | 0·9588695 | 57 | 0·4375622 | 0·6116277 |
| 58 | 0·9575736 | 1·2419422 | 58 | 0·6962133 | 0·9415959 | 58 | 0·4206875 | 0·5945251 |
| 59 | 0·9400087 | 1·2237892 | 59 | 0·6786484 | 0·9235859 | 59 | 0·4031226 | 0·5767213 |
| 60 | 0·9216948 | 1·2048332 | 60 | 0·6603345 | 0·9047967 | 60 | 0·3848087 | 0·5581323 |
| 61 | 0·9025620 | 1·1849866 | 61 | 0·6412017 | 0·8851406 | 61 | 0·3656759 | 0·5387119 |
| 62 | 0·8825299 | 1·1641803 | 62 | 0·6211696 | 0·8645170 | 62 | 0·3456438 | 0·5183560 |
| 63 | 0·8615068 | 1·1422987 | 63 | 0·6001465 | 0·8428650 | 63 | 0·3246207 | 0·4969573 |
| 64 | 0·8393901 | 1·1192427 | 64 | 0·5780298 | 0·8200437 | 64 | 0·3025040 | 0·4744639 |
| 65 | 0·8160665 | 1·0948832 | 65 | 0·5547062 | 0·7959495 | 65 | 0·2791804 | 0·4506955 |
| 66 | 0·7914114 | 1·0690944 | 66 | 0·5300511 | 0·7704396 | 66 | 0·2545253 | 0·4255668 |
| 67 | 0·7652895 | 1·0417361 | 67 | 0·5039292 | 0·7433922 | 67 | 0·2284034 | 0·3989117 |
| 68 | 0·7375546 | 1·0126517 | 68 | 0·4761943 | 0·7146482 | 68 | 0·2006685 | 0·3706056 |
| 69 | 0·7080493 | 0·9816691 | 69 | 0·4466890 | 0·6840370 | 69 | 0·1711632 | 0·3404838 |
| 70 | 0·6766056 | 0·9486379 | 70 | 0·4152453 | 0·6513846 | 70 | 0·1397195 | 0·3083509 |
| 71 | 0·6430443 | 0·9133475 | 71 | 0·3816840 | 0·6165385 | 71 | 0·1061582 | 0·2740423 |
| 72 | 0·6071753 | 0·8756168 | 72 | 0·3458150 | 0·5792461 | 72 | 0·0702892 | 0·2373929 |
| 73 | 0·5687977 | 0·8352465 | 73 | 0·3074374 | 0·5393522 | 73 | 0·0319116 | 0·1981070 |
| 74 | 0·5276996 | 0·7919992 | 74 | 0·2663393 | 0·4966391 | 74 | 9·9908135 | 0·1560946 |
| 75 | 0·4836580 | 0·7456680 | 75 | 0·2222977 | 0·4508493 | 75 | 9·9467719 | 0·1110608 |
| 76 | 0·4364391 | 0·6960067 | 76 | 0·1750788 | 0·4017623 | 76 | 9·8995530 | 0·0627699 |
| 77 | 0·3857983 | 0·6427711 | 77 | 0·1244380 | 0·3491415 | 77 | 9·8489122 | 0·0109780 |
| 78 | 0·3314797 | 0·5857088 | 78 | 0·0701194 | 0·2926990 | 78 | 9·7945936 | $\bar{1}$·9554472 |
| 79 | 0·2732168 | 0·5245259 | 79 | 0·0118565 | 0·2322081 | 79 | 9·7363307 | $\bar{1}$·8958644 |
| 80 | 0·2107320 | 0·4589701 | 80 | 9·9493717 | 0·1673469 | 80 | 9·6738459 | $\bar{1}$·8319977 |
| 81 | 0·1437368 | 0·3887759 | 81 | 9·8823765 | 0·0978471 | 81 | 9·6068507 | $\bar{1}$·7635029 |
| 82 | 0·0719317 | 0·3135720 | 82 | 9·8105714 | 0·0234582 | 82 | 9·5350456 | $\bar{1}$·6901961 |
| 83 | 9·9950064 | 0·2331231 | 83 | 9·7336461 | $\bar{1}$·9437418 | 83 | 9·4581203 | $\bar{1}$·6117233 |
| 84 | 9·9126394 | 0·1470577 | 84 | 9·6512791 | $\bar{1}$·8584770 | 84 | 9·3757533 | $\bar{1}$·5275010 |
| 85 | 9·8244987 | 0·0551106 | 85 | 9·5631384 | $\bar{1}$·7673043 | 85 | 9·2876126 | $\bar{1}$·4375920 |
| 86 | 9·7302408 | $\bar{1}$·9567925 | 86 | 9·4688805 | $\bar{1}$·6699674 | 86 | 9·1933547 | $\bar{1}$·3414345 |
| 87 | 9·6295117 | $\bar{1}$·8519917 | 87 | 9·3681514 | $\bar{1}$·5658478 | 87 | 9·0926256 | $\bar{1}$·2387986 |
| 88 | 9·5219463 | $\bar{1}$·7401257 | 88 | 9·2605860 | $\bar{1}$·4549972 | 88 | 8·9850602 | $\bar{1}$·1290451 |
| 89 | 9·4071685 | $\bar{1}$·6209684 | 89 | 9·1458082 | $\bar{1}$·3366598 | 89 | 8·8702824 | $\bar{1}$·0124154 |
| 90 | 9·2847914 | $\bar{1}$·4941546 | 90 | 9·0234311 | $\bar{1}$·2105860 | 90 | 8·7479053 | $\bar{2}$·8876173 |
| 91 | 9·1544171 | $\bar{1}$·3590762 | 91 | 8·8930568 | $\bar{1}$·0766404 | 91 | 8·6175310 | $\bar{2}$·7551123 |
| 92 | 9·0156367 | $\bar{1}$·2153732 | 92 | 8·7542764 | $\bar{2}$·9339932 | 92 | 8·4787506 | $\bar{2}$·6138418 |
| 93 | 8·8680305 | $\bar{1}$·0633334 | 93 | 8·6066702 | $\bar{2}$·7817554 | 93 | 8·3311444 | $\bar{2}$·4638930 |
| 94 | 8·7111676 | $\bar{2}$·9014583 | 94 | 8·4498073 | $\bar{2}$·6222140 | 94 | 8·1742815 | $\bar{2}$·3031961 |
| 95 | 8·5446064 | $\bar{2}$·7291648 | 95 | 8·2832461 | $\bar{2}$·4517864 | 95 | 8·0077203 | $\bar{2}$·1367206 |
| 96 | 8·3678944 | $\bar{2}$·5477747 | 96 | 8·1065341 | $\bar{2}$·2695129 | 96 | 7·8310083 | $\bar{3}$·9590414 |
| 97 | 8·1805679 | $\bar{2}$·3560259 | 97 | 7·9192076 | $\bar{2}$·0791812 | 97 | 7·6436818 | $\bar{3}$·7634280 |
| 98 | 7·9821526 | $\bar{2}$·1492191 | 98 | 7·7207923 | $\bar{3}$·8750613 | 98 | 7·4452665 | $\bar{3}$·5682017 |
| 99 | 7·7721628 | $\bar{3}$·9344985 | 99 | 7·5108025 | $\bar{3}$·6532125 | 99 | 7·2352767 | $\bar{3}$·3424227 |
| 100 | 7·5501023 | $\bar{3}$·6989700 | 100 | 7·2887420 | $\bar{3}$·4313638 | 100 | 7·0132162 | $\bar{3}$·1139434 |
| 101 | 7·3154638 | $\bar{3}$·4771213 | 101 | 7·0541035 | $\bar{3}$·1760913 | 101 | 6·7785777 | $\bar{4}$·9030900 |
| 102 | 7·0677290 | $\bar{3}$·2304489 | 102 | 6·8063687 | $\bar{4}$·9542425 | 102 | 6·5308429 | $\bar{4}$·6020600 |
| 103 | 6·8063687 | $\bar{4}$·9542425 | 103 | 6·5450084 | $\bar{4}$·6989700 | 103 | 6·2694826 | $\bar{4}$·4771213 |
| 104 | 6·5308429 | $\bar{4}$·6020600 | 104 | 6·2694826 | $\bar{4}$·4771213 | 104 | 5·9939568 | |
| 105 | 6·2406003 | | 105 | 5·9792400 | | 105 | 5·7037142 | |
| 106 | 5·9350791 | | 106 | 5·6737188 | | 106 | 5·3981930 | |
| 107 | 5·6137062 | | 107 | 5·3523459 | | 107 | 5·0768201 | |
| 108 | 5·2758978 | | 108 | 5·0145375 | | 108 | 4·7390117 | |
| 109 | 4·9210590 | | 109 | 4·6596987 | | 109 | 4·3841729 | |

## JOINT LIVES :—Two Females.

**Equal Ages.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ | Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | **Equal Ages.** | | $x$ | $y$ | **Equal Ages.** | |
| 0 | 0 | 2,383,927 | 31,994,020 | 55 | 55 | 88,081·6 | 882,993·8 |
| 1 | 1 | 1,732,912 | 29,610,093 | 56 | 56 | 81,965·7 | 794,912·2 |
| 2 | 2 | 1,480,544 | 27,877,181 | 57 | 57 | 76,062·0 | 712,946·5 |
| 3 | 3 | 1,337,504 | 26,396,637 | 58 | 58 | 70,375·0 | 636,884·5 |
| 4 | 4 | 1,236,516 | 25,059,133 | 59 | 59 | 64,906·5 | 566,509·5 |
| 5 | 5 | 1,158,423 | 23,822,617 | 60 | 60 | 59,656·9 | 501,603·0 |
| 6 | 6 | 1,095,015 | 22,664,194 | 61 | 61 | 54,625·5 | 441,946·1 |
| 7 | 7 | 1,040,803 | 21,569,179 | 62 | 62 | 49,811·6 | 387,320·6 |
| 8 | 8 | 992,223 | 20,528,376 | 63 | 63 | 45,215·2 | 337,509·0 |
| 9 | 9 | 948,574 | 19,536,153 | 64 | 64 | 40,836·8 | 292,293·8 |
| 10 | 10 | 908,796 | 18,587,579 | 65 | 65 | 36,677·9 | 251,457·0 |
| 11 | 11 | 872,031 | 17,678,783 | 66 | 66 | 32,741·1 | 214,779·1 |
| 12 | 12 | 837,586 | 16,806,752 | 67 | 67 | 29,030·2 | 182,038·0 |
| 13 | 13 | 804,906 | 15,969,166 | 68 | 68 | 25,549·4 | 153,007·8 |
| 14 | 14 | 773,551 | 15,164,260 | 69 | 69 | 22,303·3 | 127,458·4 |
| 15 | 15 | 743,185 | 14,390,709 | 70 | 70 | 19,296·7 | 105,155·1 |
| 16 | 16 | 713,555 | 13,647,524 | 71 | 71 | 16,533·3 | 85,858·4 |
| 17 | 17 | 684,486 | 12,933,969 | 72 | 72 | 14,015·9 | 69,325·1 |
| 18 | 18 | 655,868 | 12,249,483 | 73 | 73 | 11,745·4 | 55,309·2 |
| 19 | 19 | 627,649 | 11,593,615 | 74 | 74 | 9,720·09 | 43,563·80 |
| 20 | 20 | 599,822 | 10,965,966 | 75 | 75 | 7,935·73 | 33,843·71 |
| 21 | 21 | 572,419 | 10,366,144 | 76 | 76 | 6,384·83 | 25,907·98 |
| 22 | 22 | 546,023 | 9,793,725 | 77 | 77 | 5,056·70 | 19,523·15 |
| 23 | 23 | 520,619 | 9,247,702 | 78 | 78 | 3,937·59 | 14,466·45 |
| 24 | 24 | 496,187 | 8,727,083 | 79 | 79 | 3,010·96 | 10,528·86 |
| 25 | 25 | 472,710 | 8,230,896 | 80 | 80 | 2,258·06 | 7,517·90 |
| 26 | 26 | 450,162 | 7,758,186 | 81 | 81 | 1,658·61 | 5,259·84 |
| 27 | 27 | 428,522 | 7,308,024 | 82 | 82 | 1,191·61 | 3,601·23 |
| 28 | 28 | 407,764 | 6,879,502 | 83 | 83 | 836·149 | 2,409·620 |
| 29 | 29 | 387,861 | 6,471,738 | 84 | 84 | 572·203 | 1,573·471 |
| 30 | 30 | 368,788 | 6,083,877 | 85 | 85 | 381·301 | 1,001·268 |
| 31 | 31 | 350,517 | 5,715,089 | 86 | 86 | 247·032 | 619·967 |
| 32 | 32 | 333,021 | 5,364,572 | 87 | 87 | 155·344 | 372·935 |
| 33 | 33 | 316,272 | 5,031,551 | 88 | 88 | 94·6594 | 217·5911 |
| 34 | 34 | 300,244 | 4,715,279 | 89 | 89 | 55·7966 | 122·9317 |
| 35 | 35 | 284,910 | 4,415,035 | 90 | 90 | 31·7581 | 67·1351 |
| 36 | 36 | 270,243 | 4,130,125 | 91 | 91 | 17·4223 | 35·3770 |
| 37 | 37 | 256,218 | 3,859,882 | 92 | 92 | 9·1948 | 17·9547 |
| 38 | 38 | 242,809 | 3,603,664 | 93 | 93 | 4·6594 | 8·7599 |
| 39 | 39 | 229,991 | 3,360,855 | 94 | 94 | 2·2626 | 4·1005 |
| 40 | 40 | 217,742 | 3,130,864 | 95 | 95 | 1·0507 | 1·8379 |
| 41 | 41 | 206,037 | 2,913,122 | 96 | 96 | ·4657 | ·7872 |
| 42 | 42 | 194,854 | 2,707,085 | 97 | 97 | ·1965 | ·3215 |
| 43 | 43 | 184,171 | 2,512,231 | 98 | 98 | ·0788 | ·1250 |
| 44 | 44 | 173,969 | 2,328,060 | 99 | 99 | ·0300 | ·0462 |
| 45 | 45 | 164,228 | 2,154,091 | 100 | 100 | ·0108 | ·0162 |
| 46 | 46 | 154,927 | 1,989,863 | 101 | 101 | ·0037 | ·0054 |
| 47 | 47 | 146,050 | 1,834,936 | 102 | 102 | ·0012 | ·0017 |
| 48 | 48 | 137,578 | 1,688,886 | 103 | 103 | ·0004 | ·0005 |
| 49 | 49 | 129,496 | 1,551,308 | 104 | 104 | ·0001 | ·0001 |
| 50 | 50 | 121,788 | 1,421,812 | 105 | 105 | ·0000 | ·0000 |
| 51 | 51 | 114,438 | 1,300,024 | | | | |
| 52 | 52 | 107,433 | 1,185,586 | | | | |
| 53 | 53 | 100,758 | 1,078,153 | | | | |
| 54 | 54 | 94,401·6 | 977,395·4 | | | | |

## JOINT LIVES :—Two Females.

### Difference of Age 1 Year.

| Ages | | $D_{x, y}$ | $N_{x, y}$ | Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | Difference of Age 1 Year. | | $x$ | $y$ | Difference of Age 1 Year. | |
| 1 | 0 | 2,032,520 | 30,759,894 | 56 | 55 | 84,968·6 | 837,596·3 |
| 2 | 1 | 1,601,766 | 28,727,374 | 57 | 56 | 78,958·7 | 752,627·7 |
| 3 | 2 | 1,407,208 | 27,125,608 | 58 | 57 | 73,163·2 | 673,669·0 |
| 4 | 3 | 1,286,019 | 25,718,400 | 59 | 58 | 67,585·5 | 600,505·8 |
| 5 | 4 | 1,196,832 | 24,432,381 | 60 | 59 | 62,226·4 | 532,920·3 |
| 6 | 5 | 1,126,273 | 23,235,549 | 61 | 60 | 57,085·8 | 470,693·9 |
| 7 | 6 | 1,067,565 | 22,109,276 | 62 | 61 | 52,163·0 | 413,608·1 |
| 8 | 7 | 1,016,223 | 21,041,711 | 63 | 62 | 47,457·8 | 361,445·1 |
| 9 | 8 | 970,153 | 20,025,488 | 64 | 63 | 42,970·2 | 313,987·3 |
| 10 | 9 | 928,472 | 19,055,335 | 65 | 64 | 38,701·5 | 271,017·1 |
| 11 | 10 | 890,224 | 18,126,863 | 66 | 65 | 34,653·6 | 232,315·6 |
| 12 | 11 | 854,635 | 17,236,639 | 67 | 66 | 30,829·9 | 197,662·0 |
| 13 | 12 | 821,083 | 16,382,004 | 68 | 67 | 27,234·2 | 166,832·1 |
| 14 | 13 | 789,073 | 15,560,921 | 69 | 68 | 23,871·2 | 139,597·9 |
| 15 | 14 | 758,216 | 14,771,848 | 70 | 69 | 20,745·6 | 115,726·7 |
| 16 | 15 | 728,219 | 14,013,632 | 71 | 70 | 17,861·6 | 94,981·1 |
| 17 | 16 | 698,869 | 13,285,413 | 72 | 71 | 15,222·7 | 77,119·5 |
| 18 | 17 | 670,024 | 12,586,544 | 73 | 72 | 12,830·5 | 61,896·8 |
| 19 | 18 | 641,604 | 11,916,520 | 74 | 73 | 10,684·8 | 49,066·3 |
| 20 | 19 | 613,578 | 11,274,916 | 75 | 74 | 8,782·71 | 38,381·51 |
| 21 | 20 | 585,960 | 10,661,338 | 76 | 75 | 7,118·16 | 29,598·80 |
| 22 | 21 | 559,065 | 10,075,378 | 77 | 76 | 5,682·09 | 22,480·64 |
| 23 | 22 | 533,170 | 9,516,313 | 78 | 77 | 4,462·20 | 16,798·55 |
| 24 | 23 | 508,256 | 8,983,143 | 79 | 78 | 3,443·24 | 12,336·35 |
| 25 | 24 | 484,306 | 8,474,887 | 80 | 79 | 2,607·47 | 8,893·11 |
| 26 | 25 | 461,298 | 7,990,581 | 81 | 80 | 1,935·26 | 6,285·64 |
| 27 | 26 | 439,209 | 7,529,283 | 82 | 81 | 1,405·85 | 4,350·38 |
| 28 | 27 | 418,014 | 7,090,074 | 83 | 82 | 998·180 | 2,944·531 |
| 29 | 28 | 397,688 | 6,672,060 | 84 | 83 | 691·698 | 1,946·351 |
| 30 | 29 | 378,204 | 6,274,372 | 85 | 84 | 467·099 | 1,254·653 |
| 31 | 30 | 359,536 | 5,896,168 | 86 | 85 | 306·910 | 787·554 |
| 32 | 31 | 341,657 | 5,536,632 | 87 | 86 | 195·895 | 480·644 |
| 33 | 32 | 324,538 | 5,194,975 | 88 | 87 | 121·263 | 284·749 |
| 34 | 33 | 308,154 | 4,870,437 | 89 | 88 | 72·6751 | 163·4857 |
| 35 | 34 | 292,477 | 4,562,283 | 90 | 89 | 42·0950 | 90·8106 |
| 36 | 35 | 277,480 | 4,269,806 | 91 | 90 | 23·5223 | 48·7156 |
| 37 | 36 | 263,137 | 3,992,326 | 92 | 91 | 12·6568 | 25·1933 |
| 38 | 37 | 249,423 | 3,729,189 | 93 | 92 | 6·5454 | 12·5365 |
| 39 | 38 | 236,313 | 3,479,766 | 94 | 93 | 3·2469 | 5·9911 |
| 40 | 39 | 223,783 | 3,243,453 | 95 | 94 | 1·5419 | 2·7442 |
| 41 | 40 | 211,808 | 3,019,670 | 96 | 95 | ·6995 | 1·2023 |
| 42 | 41 | 200,367 | 2,807,862 | 97 | 96 | ·3025 | ·5028 |
| 43 | 42 | 189,437 | 2,607,495 | 98 | 97 | ·1244 | ·2003 |
| 44 | 43 | 178,998 | 2,418,058 | 99 | 98 | ·0486 | ·0759 |
| 45 | 44 | 169,028 | 2,239,060 | 100 | 99 | ·0180 | ·0273 |
| 46 | 45 | 159,510 | 2,070,032 | 101 | 100 | ·0063 | ·0093 |
| 47 | 46 | 150,423 | 1,910,522 | 102 | 101 | ·0021 | ·0030 |
| 48 | 47 | 141,751 | 1,760,099 | 103 | 102 | ·0006 | ·0009 |
| 49 | 48 | 133,476 | 1,618,348 | 104 | 103 | ·0002 | ·0003 |
| 50 | 49 | 125,583 | 1,484,872 | 105 | 104 | ·0001 | ·0001 |
| 51 | 50 | 118,056 | 1,359,289 | | | | |
| 52 | 51 | 110,880 | 1,241,233 | | | | |
| 53 | 52 | 104,042 | 1,130,353 | | | | |
| 54 | 53 | 97,528·1 | 1,026,311·3 | | | | |
| 55 | 54 | 91,186·9 | 928,783·2 | | | | |

## JOINT LIVES:—Two Females.

**Difference of Age 2 Years.**

**Difference of Age 105 Years.**

| Ages<br>$x$ | <br>$y$ | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| | | **Difference of Age 2 Years.** | |
| 2 | 0 | 1,878,699 | 29,827,914 |
| 3 | 1 | 1,522,425 | 27,949,215 |
| 4 | 2 | 1,353,040 | 26,426,790 |
| 5 | 3 | 1,244,747 | 25,073,750 |
| 6 | 4 | 1,163,617 | 23,829,003 |
| 7 | 5 | 1,098,039 | 22,665,386 |
| 8 | 6 | 1,042,353 | 21,567,347 |
| 9 | 7 | 993,619 | 20,524,994 |
| 10 | 8 | 949,594 | 19,531,375 |
| 11 | 9 | 909,498 | 18,581,781 |
| 12 | 10 | 872,465 | 17,672,283 |
| 13 | 11 | 837,796 | 16,799,818 |
| 14 | 12 | 804,932 | 15,962,022 |
| 15 | 13 | 773,430 | 15,157,090 |
| 16 | 14 | 742,948 | 14,383,660 |
| 17 | 15 | 713,232 | 13,640,712 |
| 18 | 16 | 684,104 | 12,927,480 |
| 19 | 17 | 655,452 | 12,243,376 |
| 20 | 18 | 627,219 | 11,587,924 |
| 21 | 19 | 599,398 | 10,960,705 |
| 22 | 20 | 572,291 | 10,361,307 |
| 23 | 21 | 545,905 | 9,789,016 |
| 24 | 22 | 520,509 | 9,243,111 |
| 25 | 23 | 496,086 | 8,722,602 |
| 26 | 24 | 472,615 | 8,226,516 |
| 27 | 25 | 450,074 | 7,753,901 |
| 28 | 26 | 428,439 | 7,303,827 |
| 29 | 27 | 407,685 | 6,875,388 |
| 30 | 28 | 387,786 | 6,467,703 |
| 31 | 29 | 368,716 | 6,079,917 |
| 32 | 30 | 350,448 | 5,711,201 |
| 33 | 31 | 332,954 | 5,360,753 |
| 34 | 32 | 316,208 | 5,027,799 |
| 35 | 33 | 300,182 | 4,711,591 |
| 36 | 34 | 284,849 | 4,411,409 |
| 37 | 35 | 270,183 | 4,126,560 |
| 38 | 36 | 256,159 | 3,856,377 |
| 39 | 37 | 242,751 | 3,600,218 |
| 40 | 38 | 229,934 | 3,357,467 |
| 41 | 39 | 217,685 | 3,127,533 |
| 42 | 40 | 205,980 | 2,909,848 |
| 43 | 41 | 194,797 | 2,703,868 |
| 44 | 42 | 184,116 | 2,509,071 |
| 45 | 43 | 173,914 | 2,324,955 |
| 46 | 44 | 164,172 | 2,151,041 |
| 47 | 45 | 154,872 | 1,986,869 |
| 48 | 46 | 145,995 | 1,831,997 |
| 49 | 47 | 137,524 | 1,686,002 |
| 50 | 48 | 129,443 | 1,548,478 |
| 51 | 49 | 121,735 | 1,419,035 |
| 52 | 50 | 114,385 | 1,297,300 |
| 53 | 51 | 107,380 | 1,182,915 |
| 54 | 52 | 100,707 | 1,075,535 |
| 55 | 53 | 94,206·9 | 974,828·1 |
| 56 | 54 | 87,964·2 | 880,621·2 |
| 57 | 55 | 81,851·5 | 792,657·0 |
| 58 | 56 | 75,949·5 | 710,805·5 |
| 59 | 57 | 70,263·2 | 634,856·0 |
| 60 | 58 | 64,794·7 | 564,592·8 |
| 61 | 59 | 59,544·5 | 499,798·1 |
| 62 | 60 | 54,512·5 | 440,253·6 |
| 63 | 61 | 49,698·1 | 385,741·1 |
| 64 | 62 | 45,101·5 | 336,043·0 |
| 65 | 63 | 40,723·4 | 290,941·5 |
| 66 | 64 | 36,565·6 | 250,218·1 |
| 67 | 65 | 32,630·7 | 213,652·5 |
| 68 | 66 | 28,922·6 | 181,021·8 |
| 69 | 67 | 25,445·4 | 152,099·2 |
| 70 | 68 | 22,204·0 | 126,653·8 |
| 71 | 69 | 19,202·8 | 104,449·8 |
| 72 | 70 | 16,445·7 | 85,247·0 |
| 73 | 71 | 13,935·2 | 68,801·3 |
| 74 | 72 | 11,672·0 | 54,866·1 |
| 75 | 73 | 9,654·43 | 43,194·05 |
| 76 | 74 | 7,877·89 | 33,539·62 |
| 77 | 75 | 6,334·72 | 25,661·73 |
| 78 | 76 | 5,014·06 | 19,327·01 |
| 79 | 77 | 3,901·99 | 14,312·95 |
| 80 | 78 | 2,981·83 | 10,410·96 |
| 81 | 79 | 2,234·73 | 7,429·13 |
| 82 | 80 | 1,640·34 | 5,194·40 |
| 83 | 81 | 1,177·64 | 3,554·06 |
| 84 | 82 | 825·738 | 2,376·421 |
| 85 | 83 | 564·646 | 1,550·683 |
| 86 | 84 | 375·968 | 986·037 |
| 87 | 85 | 243·378 | 610·069 |
| 88 | 86 | 152·918 | 366·691 |
| 89 | 87 | 93·1003 | 213·7734 |
| 90 | 88 | 54·8288 | 120·6731 |
| 91 | 89 | 31·1786 | 65·8443 |
| 92 | 90 | 17·0883 | 34·6657 |
| 93 | 91 | 9·0099 | 17·5774 |
| 94 | 92 | 4·5612 | 8·5675 |
| 95 | 93 | 2·2126 | 4·0063 |
| 96 | 94 | 1·0264 | 1·7937 |
| 97 | 95 | ·4544 | ·7673 |
| 98 | 96 | ·1916 | ·3129 |
| 99 | 97 | ·0767 | ·1213 |
| 100 | 98 | ·0291 | ·0446 |
| 101 | 99 | ·0105 | ·0155 |
| 102 | 100 | ·0035 | ·0050 |
| 103 | 101 | ·0011 | ·0015 |
| 104 | 102 | ·0003 | ·0004 |
| 105 | 103 | ·0001 | ·0001 |
| | | **Difference of Age 105 Years.** | |
| 105 | 0 | 7·8593 | 7·8593 |

## JOINT LIVES :—Two Females.

**Difference of Age 3 Years.**

**Difference of Age 104 Years.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 3 Years.** | |
| 3 | 0 | 1,785,640 | 29,012,311 |
| 4 | 1 | 1,463,822 | 27,226,671 |
| 5 | 2 | 1,309,617 | 25,762,849 |
| 6 | 3 | 1,210,201 | 24,453,232 |
| 7 | 4 | 1,134,447 | 23,243,031 |
| 8 | 5 | 1,072,107 | 22,108,584 |
| 9 | 6 | 1,019,168 | 21,036,477 |
| 10 | 7 | 972,562 | 20,017,309 |
| 11 | 8 | 930,188 | 19,044,747 |
| 12 | 9 | 891,354 | 18,114,559 |
| 13 | 10 | 855,275 | 17,223,205 |
| 14 | 11 | 821,317 | 16,367,930 |
| 15 | 12 | 788,975 | 15,546,613 |
| 16 | 13 | 757,855 | 14,757,638 |
| 17 | 14 | 727,657 | 13,999,783 |
| 18 | 15 | 698,163 | 13,272,126 |
| 19 | 16 | 669,225 | 12,573,963 |
| 20 | 17 | 640,757 | 11,904,738 |
| 21 | 18 | 612,725 | 11,263,981 |
| 22 | 19 | 585,415 | 10,651,256 |
| 23 | 20 | 558,819 | 10,065,841 |
| 24 | 21 | 532,942 | 9,507,022 |
| 25 | 22 | 508,046 | 8,974,080 |
| 26 | 23 | 484,110 | 8,466,034 |
| 27 | 24 | 461,115 | 7,981,924 |
| 28 | 25 | 439,037 | 7,520,809 |
| 29 | 26 | 417,852 | 7,081,772 |
| 30 | 27 | 397,534 | 6,663,920 |
| 31 | 28 | 378,058 | 6,266,386 |
| 32 | 29 | 359,396 | 5,888,328 |
| 33 | 30 | 341,522 | 5,528,932 |
| 34 | 31 | 324,408 | 5,187,410 |
| 35 | 32 | 308,027 | 4,863,002 |
| 36 | 33 | 292,353 | 4,554,975 |
| 37 | 34 | 277,359 | 4,262,622 |
| 38 | 35 | 263,018 | 3,985,263 |
| 39 | 36 | 249,306 | 3,722,245 |
| 40 | 37 | 236,198 | 3,472,939 |
| 41 | 38 | 223,668 | 3,236,741 |
| 42 | 39 | 211,695 | 3,013,073 |
| 43 | 40 | 200,254 | 2,801,378 |
| 44 | 41 | 189,325 | 2,601,124 |
| 45 | 42 | 178,886 | 2,411,799 |
| 46 | 43 | 168,918 | 2,232,913 |
| 47 | 44 | 159,399 | 2,063,995 |
| 48 | 45 | 150,314 | 1,904,596 |
| 49 | 46 | 141,642 | 1,754,282 |
| 50 | 47 | 133,368 | 1,612,640 |
| 51 | 48 | 125,476 | 1,479,272 |
| 52 | 49 | 117,950 | 1,353,796 |
| 53 | 50 | 110,775 | 1,235,846 |
| 54 | 51 | 103,938 | 1,125,071 |
| 55 | 52 | 97,277·1 | 1,021,133·0 |
| 56 | 53 | 90,877·4 | 923,855·9 |
| 57 | 54 | 84,737·1 | 832,978·5 |
| 58 | 55 | 78,732·1 | 748,241·4 |
| 59 | 56 | 72,939·1 | 669,509·3 |
| 60 | 57 | 67,361·9 | 596,570·2 |
| 61 | 58 | 62,002·1 | 529,208·3 |
| 62 | 59 | 56,860·4 | 467,206·2 |
| 63 | 60 | 51,936·5 | 410,345·8 |
| 64 | 61 | 47,230·6 | 358,409·3 |
| 65 | 62 | 42,743·2 | 311,178·7 |
| 66 | 63 | 38,475·9 | 268,435·5 |
| 67 | 64 | 34,431·1 | 229,959·6 |
| 68 | 65 | 30,612·0 | 195,528·5 |
| 69 | 66 | 27,022·9 | 164,916·5 |
| 70 | 67 | 23,668·2 | 137,893·6 |
| 71 | 68 | 20,552·7 | 114,225·4 |
| 72 | 69 | 17,680·5 | 93,672·7 |
| 73 | 70 | 15,054·8 | 75,992·2 |
| 74 | 71 | 12,677·0 | 60,937·4 |
| 75 | 72 | 10,546·4 | 48,260·4 |
| 76 | 73 | 8,659·80 | 37,714·00 |
| 77 | 74 | 7,010·82 | 29,054·20 |
| 78 | 75 | 5,589·96 | 22,043·38 |
| 79 | 76 | 4,384·57 | 16,453·42 |
| 80 | 77 | 3,379·10 | 12,068·85 |
| 81 | 78 | 2,555·57 | 8,689·75 |
| 82 | 79 | 1,894·17 | 6,134·18 |
| 83 | 80 | 1,374·07 | 4,240·01 |
| 84 | 81 | 974·198 | 2,865·941 |
| 85 | 82 | 674·064 | 1,891·743 |
| 86 | 83 | 454·484 | 1,217·679 |
| 87 | 84 | 298·141 | 763·195 |
| 88 | 85 | 189·984 | 465·054 |
| 89 | 86 | 117·403 | 275·070 |
| 90 | 87 | 70·2383 | 157·6673 |
| 91 | 88 | 40·6101 | 87·4290 |
| 92 | 89 | 22·6504 | 46·8189 |
| 93 | 90 | 12·1645 | 24·1685 |
| 94 | 91 | 6·2785 | 12·0040 |
| 95 | 92 | 3·1082 | 5·7255 |
| 96 | 93 | 1·4730 | 2·6173 |
| 97 | 94 | ·6668 | 1·1443 |
| 98 | 95 | ·2878 | ·4775 |
| 99 | 96 | ·1181 | ·1897 |
| 100 | 97 | ·0460 | ·0716 |
| 101 | 98 | ·0170 | ·0256 |
| 102 | 99 | ·0059 | ·0086 |
| 103 | 100 | ·0019 | ·0027 |
| 104 | 101 | ·0006 | ·0008 |
| 105 | 102 | ·0002 | ·0002 |

**Difference of Age 104 Years.**

| $x$ | $y$ | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 104 | 0 | 15·3329 | 22·0337 |
| 105 | 1 | 6·7008 | 6·7008 |

## JOINT LIVES :—Two Females.

**Difference of Age 4 Years.**

**Difference of Age 103 Years.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 4 Years.** | |
| 4 | 0 | 1,716,906 | 28,257,726 |
| 5 | 1 | 1,416,843 | 26,540,820 |
| 6 | 2 | 1,273,271 | 25,123,977 |
| 7 | 3 | 1,179,863 | 23,850,706 |
| 8 | 4 | 1,107,655 | 22,670,843 |
| 9 | 5 | 1,048,260 | 21,563,188 |
| 10 | 6 | 997,569 | 20,514,928 |
| 11 | 7 | 952,687 | 19,517,359 |
| 12 | 8 | 911,632 | 18,564,672 |
| 13 | 9 | 873,792 | 17,653,040 |
| 14 | 10 | 838,451 | 16,779,248 |
| 15 | 11 | 805,034 | 15,940,797 |
| 16 | 12 | 773,087 | 15,135,763 |
| 17 | 13 | 742,258 | 14,362,676 |
| 18 | 14 | 712,284 | 13,620,418 |
| 19 | 15 | 682,978 | 12,908,134 |
| 20 | 16 | 654,221 | 12,225,156 |
| 21 | 17 | 625,950 | 11,570,935 |
| 22 | 18 | 598,431 | 10,944,985 |
| 23 | 19 | 571,635 | 10,346,554 |
| 24 | 20 | 545,549 | 9,774,919 |
| 25 | 21 | 520,181 | 9,229,370 |
| 26 | 22 | 495,781 | 8,709,189 |
| 27 | 23 | 472,331 | 8,213,408 |
| 28 | 24 | 449,808 | 7,741,077 |
| 29 | 25 | 428,189 | 7,291,269 |
| 30 | 26 | 407,448 | 6,863,080 |
| 31 | 27 | 387,562 | 6,455,632 |
| 32 | 28 | 368,502 | 6,068,070 |
| 33 | 29 | 350,242 | 5,699,568 |
| 34 | 30 | 332,756 | 5,349,326 |
| 35 | 31 | 316,015 | 5,016,570 |
| 36 | 32 | 299,994 | 4,700,555 |
| 37 | 33 | 284,666 | 4,400,561 |
| 38 | 34 | 270,004 | 4,115,895 |
| 39 | 35 | 255,982 | 3,845,891 |
| 40 | 36 | 242,576 | 3,589,909 |
| 41 | 37 | 229,761 | 3,347,333 |
| 42 | 38 | 217,514 | 3,117,572 |
| 43 | 39 | 205,810 | 2,900,058 |
| 44 | 40 | 194,629 | 2,694,248 |
| 45 | 41 | 183,948 | 2,499,619 |
| 46 | 42 | 173,747 | 2,315,671 |
| 47 | 43 | 164,007 | 2,141,924 |
| 48 | 44 | 154,708 | 1,977,917 |
| 49 | 45 | 145,832 | 1,823,209 |
| 50 | 46 | 137,362 | 1,677,377 |
| 51 | 47 | 129,281 | 1,540,015 |
| 52 | 48 | 121,575 | 1,410,734 |
| 53 | 49 | 114,227 | 1,289,159 |
| 54 | 50 | 107,224 | 1,174,932 |
| 55 | 51 | 100,399 | 1,067,708 |
| 56 | 52 | 93,839·1 | 967,309·2 |
| 57 | 53 | 87,543·5 | 873,470·1 |
| 58 | 54 | 81,507·8 | 785,926·6 |
| 59 | 55 | 75,611·3 | 704,418·8 |
| 60 | 56 | 69,927·2 | 628,807·5 |
| 61 | 57 | 64,458·7 | 558,880·3 |
| 62 | 58 | 59,207·2 | 494,421·6 |
| 63 | 59 | 54,173·5 | 435,214·4 |
| 64 | 60 | 49,357·8 | 381,040·9 |
| 65 | 61 | 44,761·0 | 331,683·1 |
| 66 | 62 | 40,384·3 | 286,922·1 |
| 67 | 63 | 36,229·9 | 246,537·8 |
| 68 | 64 | 32,301·0 | 210,307·9 |
| 69 | 65 | 28,601·4 | 178,006·9 |
| 70 | 66 | 25,135·5 | 149,405·5 |
| 71 | 67 | 21,908·1 | 124,270·0 |
| 72 | 68 | 18,923·5 | 102,361·9 |
| 73 | 69 | 16,185·2 | 83,438·4 |
| 74 | 70 | 13,695·4 | 67,253·2 |
| 75 | 71 | 11,454·4 | 53,557·8 |
| 76 | 72 | 9,459·87 | 42,103·37 |
| 77 | 73 | 7,706·67 | 32,643·50 |
| 78 | 74 | 6,186·58 | 24,936·83 |
| 79 | 75 | 4,888·16 | 18,750·25 |
| 80 | 76 | 3,797·01 | 13,862·09 |
| 81 | 77 | 2,896·05 | 10,065·08 |
| 82 | 78 | 2,166·12 | 7,169·03 |
| 83 | 79 | 1,586·70 | 5,002·91 |
| 84 | 80 | 1,136·69 | 3,416·21 |
| 85 | 81 | 795·255 | 2,279·523 |
| 86 | 82 | 542·555 | 1,484·268 |
| 87 | 83 | 360·404 | 941·713 |
| 88 | 84 | 232·732 | 581·309 |
| 89 | 85 | 145·861 | 348·577 |
| 90 | 86 | 88·5734 | 202·7158 |
| 91 | 87 | 52·0235 | 114·1424 |
| 92 | 88 | 29·5022 | 62·1189 |
| 93 | 89 | 16·1239 | 32·6167 |
| 94 | 90 | 8·4768 | 16·4928 |
| 95 | 91 | 4·2785 | 8·0160 |
| 96 | 92 | 2·0692 | 3·7375 |
| 97 | 93 | ·9569 | 1·6683 |
| 98 | 94 | ·4223 | ·7114 |
| 99 | 95 | ·1774 | ·2891 |
| 100 | 96 | ·0708 | ·1117 |
| 101 | 97 | ·0268 | ·0409 |
| 102 | 98 | ·0096 | ·0141 |
| 103 | 99 | ·0032 | ·0045 |
| 104 | 100 | ·0010 | ·0013 |
| 105 | 101 | ·0003 | ·0003 |

**Difference of Age 103 Years.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 103 | 0 | 28·9168 | 48·1831 |
| 104 | 1 | 13·0727 | 19·2663 |
| 105 | 2 | 6·1936 | 6·1936 |

## JOINT LIVES :—Two Females.

**Difference of Age 5 Years.**

**Difference of Age 102 Years.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 5 Years.** | |
| 5 | 0 | 1,661,805 | 27,543,092 |
| 6 | 1 | 1,377,521 | 25,881,287 |
| 7 | 2 | 1,241,352 | 24,503,766 |
| 8 | 3 | 1,151,999 | 23,262,414 |
| 9 | 4 | 1,083,017 | 22,110,415 |
| 10 | 5 | 1,026,046 | 21,027,398 |
| 11 | 6 | 977,183 | 20,001,352 |
| 12 | 7 | 933,682 | 19,024,169 |
| 13 | 8 | 893,670 | 18,090,487 |
| 14 | 9 | 856,604 | 17,196,817 |
| 15 | 10 | 821,829 | 16,340,213 |
| 16 | 11 | 788,823 | 15,518,384 |
| 17 | 12 | 757,176 | 14,729,561 |
| 18 | 13 | 726,576 | 13,972,385 |
| 19 | 14 | 696,792 | 13,245,809 |
| 20 | 15 | 667,666 | 12,549,017 |
| 21 | 16 | 639,103 | 11,881,351 |
| 22 | 17 | 611,347 | 11,242,248 |
| 23 | 18 | 584,344 | 10,630,901 |
| 24 | 19 | 558,061 | 10,046,557 |
| 25 | 20 | 532,486 | 9,488,496 |
| 26 | 21 | 507,623 | 8,956,010 |
| 27 | 22 | 483,718 | 8,448,387 |
| 28 | 23 | 460,749 | 7,964,669 |
| 29 | 24 | 438,693 | 7,503,920 |
| 30 | 25 | 417,528 | 7,065,227 |
| 31 | 26 | 397,227 | 6,647,699 |
| 32 | 27 | 377,765 | 6,250,472 |
| 33 | 28 | 359,116 | 5,872,707 |
| 34 | 29 | 341,252 | 5,513,591 |
| 35 | 30 | 324,147 | 5,172,339 |
| 36 | 31 | 307,774 | 4,848,192 |
| 37 | 32 | 292,106 | 4,540,418 |
| 38 | 33 | 277,117 | 4,248,312 |
| 39 | 34 | 262,780 | 3,971,195 |
| 40 | 35 | 249,072 | 3,708,415 |
| 41 | 36 | 235,966 | 3,459,343 |
| 42 | 37 | 223,439 | 3,223,377 |
| 43 | 38 | 211,467 | 2,999,938 |
| 44 | 39 | 200,029 | 2,788,471 |
| 45 | 40 | 189,101 | 2,588,442 |
| 46 | 41 | 178,663 | 2,399,341 |
| 47 | 42 | 168,696 | 2,220,678 |
| 48 | 43 | 159,179 | 2,051,982 |
| 49 | 44 | 150,095 | 1,892,803 |
| 50 | 45 | 141,425 | 1,742,708 |
| 51 | 46 | 133,152 | 1,601,283 |
| 52 | 47 | 125,262 | 1,468,131 |
| 53 | 48 | 117,738 | 1,342,869 |
| 54 | 49 | 110,565 | 1,225,131 |
| 55 | 50 | 103,573 | 1,114,566 |
| 56 | 51 | 96,850·3 | 1,010,992·8 |
| 57 | 52 | 90,396·5 | 914,142·5 |
| 58 | 53 | 84,207·2 | 823,746·0 |
| 59 | 54 | 78,277·0 | 739,558·8 |
| 60 | 55 | 72,489·2 | 661,261·8 |
| 61 | 56 | 66,913·5 | 588,772·6 |
| 62 | 57 | 61,553·0 | 521,859·1 |
| 63 | 58 | 56,409·4 | 460,306·1 |
| 64 | 59 | 51,483·7 | 403,896·7 |
| 65 | 60 | 46,777·0 | 352,413·0 |
| 66 | 61 | 42,290·6 | 305,636·0 |
| 67 | 62 | 38,026·9 | 263,345·4 |
| 68 | 63 | 33,988·5 | 225,318·5 |
| 69 | 64 | 30,179·4 | 191,330·0 |
| 70 | 65 | 26,603·8 | 161,150·6 |
| 71 | 66 | 23,266·3 | 134,546·8 |
| 72 | 67 | 20,171·4 | 111,280·5 |
| 73 | 68 | 17,323·0 | 91,109·1 |
| 74 | 69 | 14,723·8 | 73,786·1 |
| 75 | 70 | 12,374·7 | 59,062·3 |
| 76 | 71 | 10,274·3 | 46,687·6 |
| 77 | 72 | 8,418·69 | 36,413·27 |
| 78 | 73 | 6,800·62 | 27,994·58 |
| 79 | 74 | 5,409·88 | 21,193·96 |
| 80 | 75 | 4,233·12 | 15,784·08 |
| 81 | 76 | 3,254·22 | 11,550·96 |
| 82 | 77 | 2,454·71 | 8,296·74 |
| 83 | 78 | 1,814·50 | 5,842·03 |
| 84 | 79 | 1,312·58 | 4,027·53 |
| 85 | 80 | 927·901 | 2,714·946 |
| 86 | 81 | 640·101 | 1,787·045 |
| 87 | 82 | 430·244 | 1,146·944 |
| 88 | 83 | 281·335 | 716·700 |
| 89 | 84 | 178·681 | 435·365 |
| 90 | 85 | 110·043 | 256·684 |
| 91 | 86 | 65·6038 | 146·6407 |
| 92 | 87 | 37·7937 | 81·0369 |
| 93 | 88 | 21·0014 | 43·2432 |
| 94 | 89 | 11·2359 | 22·2418 |
| 95 | 90 | 5·7766 | 11·0059 |
| 96 | 91 | 2·8483 | 5·2293 |
| 97 | 92 | 1·3442 | 2·3810 |
| 98 | 93 | ·6060 | 1·0368 |
| 99 | 94 | ·2604 | ·4308 |
| 100 | 95 | ·1064 | ·1704 |
| 101 | 96 | ·0413 | ·0640 |
| 102 | 97 | ·0152 | ·0227 |
| 103 | 98 | ·0053 | ·0075 |
| 104 | 99 | ·0017 | ·0022 |
| 105 | 100 | ·0005 | ·0005 |
| | | **Difference of Age 102 Years.** | |
| 102 | 0 | 52·7851 | 95·4097 |
| 103 | 1 | 24·6543 | 42·6246 |
| 104 | 2 | 12·0834 | 17·9703 |
| 105 | 3 | 5·8869 | 5·8869 |

## JOINT LIVES :—Two Females.

**Difference of Age 6 Years.**

**Difference of Age 101 Years.**

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 6 Years.** | |
| 6 | 0 | 1,615,684 | 26,856,997 |
| 7 | 1 | 1,342,989 | 25,241,313 |
| 8 | 2 | 1,212,036 | 23,898,324 |
| 9 | 3 | 1,126,375 | 22,686,288 |
| 10 | 4 | 1,060,067 | 21,559,913 |
| 11 | 5 | 1,005,077 | 20,499,846 |
| 12 | 6 | 957,689 | 19,494,769 |
| 13 | 7 | 915,286 | 18,537,080 |
| 14 | 8 | 876,091 | 17,621,794 |
| 15 | 9 | 839,622 | 16,745,703 |
| 16 | 10 | 805,280 | 15,906,081 |
| 17 | 11 | 772,588 | 15,100,801 |
| 18 | 12 | 741,179 | 14,328,213 |
| 19 | 13 | 710,773 | 13,587,034 |
| 20 | 14 | 681,170 | 12,876,261 |
| 21 | 15 | 652,237 | 12,195,091 |
| 22 | 16 | 624,193 | 11,542,854 |
| 23 | 17 | 596,956 | 10,918,661 |
| 24 | 18 | 570,468 | 10,321,705 |
| 25 | 19 | 544,698 | 9,751,237 |
| 26 | 20 | 519,632 | 9,206,539 |
| 27 | 21 | 495,272 | 8,686,907 |
| 28 | 22 | 471,856 | 8,191,635 |
| 29 | 23 | 449,364 | 7,719,779 |
| 30 | 24 | 427,771 | 7,270,415 |
| 31 | 25 | 407,053 | 6,842,644 |
| 32 | 26 | 387,186 | 6,435,591 |
| 33 | 27 | 368,143 | 6,048,405 |
| 34 | 28 | 349,898 | 5,680,262 |
| 35 | 29 | 332,424 | 5,330,364 |
| 36 | 30 | 315,694 | 4,997,940 |
| 37 | 31 | 299,681 | 4,682,246 |
| 38 | 32 | 284,360 | 4,382,565 |
| 39 | 33 | 269,703 | 4,098,205 |
| 40 | 34 | 255,687 | 3,828,502 |
| 41 | 35 | 242,285 | 3,572,815 |
| 42 | 36 | 229,473 | 3,330,530 |
| 43 | 37 | 217,228 | 3,101,057 |
| 44 | 38 | 205,527 | 2,883,829 |
| 45 | 39 | 194,347 | 2,678,302 |
| 46 | 40 | 183,668 | 2,483,955 |
| 47 | 41 | 173,469 | 2,300,287 |
| 48 | 42 | 163,730 | 2,126,818 |
| 49 | 43 | 154,433 | 1,963,088 |
| 50 | 44 | 145,559 | 1,808,655 |
| 51 | 45 | 137,091 | 1,663,096 |
| 52 | 46 | 129,012 | 1,526,005 |
| 53 | 47 | 121,308 | 1,396,993 |
| 54 | 48 | 113,963 | 1,275,685 |
| 55 | 49 | 106,800 | 1,161,722 |
| 56 | 50 | 99,912·0 | 1,054,922·0 |
| 57 | 51 | 93,297·3 | 955,010·0 |
| 58 | 52 | 86,951·5 | 861,712·7 |
| 59 | 53 | 80,869·4 | 774,761·2 |
| 60 | 54 | 75,044·7 | 693,891·8 |
| 61 | 55 | 69,365·0 | 618,847·1 |
| 62 | 56 | 63,897·1 | 549,482·1 |
| 63 | 57 | 58,644·3 | 485,585·0 |
| 64 | 58 | 53,608·6 | 426,940·7 |
| 65 | 59 | 48,791·7 | 373,332·1 |
| 66 | 60 | 44,195·4 | 324,540·4 |
| 67 | 61 | 39,821·9 | 280,345·0 |
| 68 | 62 | 35,674·3 | 240,523·1 |
| 69 | 63 | 31,756·1 | 204,848·8 |
| 70 | 64 | 28,071·6 | 173,092·7 |
| 71 | 65 | 24,625·3 | 145,021·1 |
| 72 | 66 | 21,421·9 | 120,395·8 |
| 73 | 67 | 18,465·4 | 98,973·9 |
| 74 | 68 | 15,758·9 | 80,508·5 |
| 75 | 69 | 13,303·9 | 64,749·6 |
| 76 | 70 | 11,099·8 | 51,445·7 |
| 77 | 71 | 9,143·52 | 40,345·91 |
| 78 | 72 | 7,428·93 | 31,202·39 |
| 79 | 73 | 5,946·83 | 23,773·46 |
| 80 | 74 | 4,684·92 | 17,826·63 |
| 81 | 75 | 3,627·99 | 13,141·71 |
| 82 | 76 | 2,758·30 | 9,513·72 |
| 83 | 77 | 2,056·25 | 6,755·42 |
| 84 | 78 | 1,501·03 | 4,699·17 |
| 85 | 79 | 1,071·49 | 3,198·14 |
| 86 | 80 | 746·868 | 2,126·652 |
| 87 | 81 | 507·597 | 1,379·784 |
| 88 | 82 | 335·853 | 872·187 |
| 89 | 83 | 215·996 | 536·334 |
| 90 | 84 | 134·804 | 320·338 |
| 91 | 85 | 81·5055 | 185·5344 |
| 92 | 86 | 47·6594 | 104·0289 |
| 93 | 87 | 26·9038 | 56·3695 |
| 94 | 88 | 14·6347 | 29·4657 |
| 95 | 89 | 7·6568 | 14·8310 |
| 96 | 90 | 3·8455 | 7·1742 |
| 97 | 91 | 1·8504 | 3·3287 |
| 98 | 92 | ·8513 | 1·4783 |
| 99 | 93 | ·3736 | ·6270 |
| 100 | 94 | ·1561 | ·2534 |
| 101 | 95 | ·0620 | ·0973 |
| 102 | 96 | ·0233 | ·0353 |
| 103 | 97 | ·0083 | ·0120 |
| 104 | 98 | ·0028 | ·0037 |
| 105 | 99 | ·0009 | ·0009 |
| | | **Difference of Age 101 Years.** | |
| 101 | 0 | 93·3783 | 178·3162 |
| 102 | 1 | 45·0042 | 84·9379 |
| 103 | 2 | 22·7885 | 39·9337 |
| 104 | 3 | 11·4849 | 17·1452 |
| 105 | 4 | 5·6603 | 5·6603 |

## JOINT LIVES :—Two Females.

**Difference of Age 7 Years.**

**Difference of Age 100 Years.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 7 Years.** | |
| 7 | 0 | 1,575,182 | 26,191,976 |
| 8 | 1 | 1,311,273 | 24,616,794 |
| 9 | 2 | 1,185,076 | 23,305,521 |
| 10 | 3 | 1,102,505 | 22,120,445 |
| 11 | 4 | 1,038,403 | 21,017,940 |
| 12 | 5 | 985,027 | 19,979,537 |
| 13 | 6 | 938,820 | 18,994,510 |
| 14 | 7 | 897,282 | 18,055,690 |
| 15 | 8 | 858,723 | 17,158,408 |
| 16 | 9 | 822,715 | 16,299,685 |
| 17 | 10 | 788,707 | 15,476,970 |
| 18 | 11 | 756,266 | 14,688,263 |
| 19 | 12 | 725,059 | 13,931,997 |
| 20 | 13 | 694,838 | 13,206,938 |
| 21 | 14 | 665,429 | 12,512,100 |
| 22 | 15 | 637,021 | 11,846,671 |
| 23 | 16 | 609,500 | 11,209,650 |
| 24 | 17 | 582,781 | 10,600,150 |
| 25 | 18 | 556,808 | 10,017,369 |
| 26 | 19 | 531,549 | 9,460,561 |
| 27 | 20 | 506,988 | 8,929,012 |
| 28 | 21 | 483,127 | 8,422,024 |
| 29 | 22 | 460,197 | 7,938,897 |
| 30 | 23 | 438,176 | 7,478,700 |
| 31 | 24 | 417,039 | 7,040,524 |
| 32 | 25 | 396,764 | 6,623,485 |
| 33 | 26 | 377,324 | 6,226,721 |
| 34 | 27 | 358,694 | 5,849,397 |
| 35 | 28 | 340,846 | 5,490,703 |
| 36 | 29 | 323,754 | 5,149,857 |
| 37 | 30 | 307,392 | 4,826,103 |
| 38 | 31 | 291,734 | 4,518,711 |
| 39 | 32 | 276,752 | 4,226,977 |
| 40 | 33 | 262,423 | 3,950,225 |
| 41 | 34 | 248,719 | 3,687,802 |
| 42 | 35 | 235,618 | 3,439,083 |
| 43 | 36 | 223,094 | 3,203,465 |
| 44 | 37 | 211,126 | 2,980,371 |
| 45 | 38 | 199,690 | 2,769,245 |
| 46 | 39 | 188,764 | 2,569,555 |
| 47 | 40 | 178,329 | 2,380,791 |
| 48 | 41 | 168,363 | 2,202,462 |
| 49 | 42 | 158,848 | 2,034,099 |
| 50 | 43 | 149,766 | 1,875,251 |
| 51 | 44 | 141,098 | 1,725,485 |
| 52 | 45 | 132,828 | 1,584,387 |
| 53 | 46 | 124,941 | 1,451,559 |
| 54 | 47 | 117,420 | 1,326,618 |
| 55 | 48 | 110,082 | 1,209,198 |
| 56 | 49 | 103,025 | 1,099,116 |
| 57 | 50 | 96,246·7 | 996,090·8 |
| 58 | 51 | 89,741·7 | 899,844·1 |
| 59 | 52 | 83,504·9 | 810,102·4 |
| 60 | 53 | 77,530·1 | 726,597·5 |
| 61 | 54 | 71,810·4 | 649,067·4 |

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 7 Years.** | |
| 62 | 55 | 66,238·1 | 577,257·0 |
| 63 | 56 | 60,877·7 | 511,018·9 |
| 64 | 57 | 55,732·6 | 450,141·2 |
| 65 | 58 | 50,805·5 | 394,408·6 |
| 66 | 59 | 46,099·0 | 343,603·1 |
| 67 | 60 | 41,615·5 | 297,504·1 |
| 68 | 61 | 37,358·3 | 255,888·6 |
| 69 | 62 | 33,331·1 | 218,530·3 |
| 70 | 63 | 29,538·2 | 185,199·2 |
| 71 | 64 | 25,984·0 | 155,661·0 |
| 72 | 65 | 22,673·2 | 129,677·0 |
| 73 | 66 | 19,610·1 | 107,003·8 |
| 74 | 67 | 16,798·1 | 87,393·7 |
| 75 | 68 | 14,239·1 | 70,595·6 |
| 76 | 69 | 11,933·3 | 56,356·5 |
| 77 | 70 | 9,878·13 | 44,423·16 |
| 78 | 71 | 8,068·54 | 34,545·03 |
| 79 | 72 | 6,496·25 | 26,476·49 |
| 80 | 73 | 5,149·92 | 19,980·24 |
| 81 | 74 | 4,015·20 | 14,830·32 |
| 82 | 75 | 3,075·11 | 10,815·12 |
| 83 | 76 | 2,310·56 | 7,740·01 |
| 84 | 77 | 1,701·02 | 5,429·45 |
| 85 | 78 | 1,225·32 | 3,728·43 |
| 86 | 79 | 862·439 | 2,503·110 |
| 87 | 80 | 592·263 | 1,640·671 |
| 88 | 81 | 396·236 | 1,048·408 |
| 89 | 82 | 257·852 | 652·172 |
| 90 | 83 | 162·955 | 394·320 |
| 91 | 84 | 99·8453 | 231·3651 |
| 92 | 85 | 59·2115 | 131·5198 |
| 93 | 86 | 33·9267 | 72·3083 |
| 94 | 87 | 18·7478 | 38·3816 |
| 95 | 88 | 9·9730 | 19·6338 |
| 96 | 89 | 5·0972 | 9·6608 |
| 97 | 90 | 2·4982 | 4·5636 |
| 98 | 91 | 1·1718 | 2·0654 |
| 99 | 92 | ·5249 | ·8936 |
| 100 | 93 | ·2241 | ·3687 |
| 101 | 94 | ·0910 | ·1446 |
| 102 | 95 | ·0350 | ·0536 |
| 103 | 96 | ·0128 | ·0186 |
| 104 | 97 | ·0044 | ·0058 |
| 105 | 98 | ·0014 | ·0014 |

**Difference of Age 100 Years.**

| $x$ | $y$ | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 100 | 0 | 160·282 | 319·675 |
| 101 | 1 | 79·6137 | 159·3931 |
| 102 | 2 | 41·5983 | 79·7794 |
| 103 | 3 | 21·6597 | 38·1811 |
| 104 | 4 | 11·0428 | 16·5214 |
| 105 | 5 | 5·4786 | 5·4786 |

## JOINT LIVES :—Two Females.

### Difference of Age 8 Years.

### Difference of Age 99 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 8 Years.** | |
| 8 | 0 | 1,537,982 | 25,543,474 |
| 9 | 1 | 1,282,106 | 24,005,492 |
| 10 | 2 | 1,159,962 | 22,723,386 |
| 11 | 3 | 1,079,974 | 21,563,424 |
| 12 | 4 | 1,017,688 | 20,483,450 |
| 13 | 5 | 965,619 | 19,465,762 |
| 14 | 6 | 920,353 | 18,500,143 |
| 15 | 7 | 879,493 | 17,579,790 |
| 16 | 8 | 841,431 | 16,700,297 |
| 17 | 9 | 805,782 | 15,858,866 |
| 18 | 10 | 772,043 | 15,053,084 |
| 19 | 11 | 739,817 | 14,281,041 |
| 20 | 12 | 708,803 | 13,541,224 |
| 21 | 13 | 678,781 | 12,832,421 |
| 22 | 14 | 649,905 | 12,153,640 |
| 23 | 15 | 622,026 | 11,503,735 |
| 24 | 16 | 595,027 | 10,881,709 |
| 25 | 17 | 568,826 | 10,286,682 |
| 26 | 18 | 543,367 | 9,717,856 |
| 27 | 19 | 518,615 | 9,174,489 |
| 28 | 20 | 494,556 | 8,655,874 |
| 29 | 21 | 471,189 | 8,161,318 |
| 30 | 22 | 448,739 | 7,690,129 |
| 31 | 23 | 427,183 | 7,241,390 |
| 32 | 24 | 406,498 | 6,814,207 |
| 33 | 25 | 386,659 | 6,407,709 |
| 34 | 26 | 367,639 | 6,021,050 |
| 35 | 27 | 349,414 | 5,653,411 |
| 36 | 28 | 331,957 | 5,303,997 |
| 37 | 29 | 315,241 | 4,972,040 |
| 38 | 30 | 299,241 | 4,656,799 |
| 39 | 31 | 283,929 | 4,357,558 |
| 40 | 32 | 269,281 | 4,073,629 |
| 41 | 33 | 255,272 | 3,804,348 |
| 42 | 34 | 241,875 | 3,549,076 |
| 43 | 35 | 229,068 | 3,307,201 |
| 44 | 36 | 216,827 | 3,078,133 |
| 45 | 37 | 205,129 | 2,861,306 |
| 46 | 38 | 193,953 | 2,656,177 |
| 47 | 39 | 183,276 | 2,462,224 |
| 48 | 40 | 173,080 | 2,278,948 |
| 49 | 41 | 163,343 | 2,105,868 |
| 50 | 42 | 154,048 | 1,942,525 |
| 51 | 43 | 145,176 | 1,788,477 |
| 52 | 44 | 136,711 | 1,643,301 |
| 53 | 45 | 128,636 | 1,506,590 |
| 54 | 46 | 120,935 | 1,377,954 |
| 55 | 47 | 113,421 | 1,257,019 |
| 56 | 48 | 106,192 | 1,143,598 |
| 57 | 49 | 99,245·9 | 1,037,405·5 |
| 58 | 50 | 92,578·7 | 938,159·6 |
| 59 | 51 | 86,184·5 | 845,580·9 |
| 60 | 52 | 80,056·8 | 759,396·4 |
| 61 | 53 | 74,188·6 | 679,339·6 |
| 62 | 54 | 68,573·3 | 605,151·0 |
| 63 | 55 | 63,108·1 | 536,577·7 |
| 64 | 56 | 57,855·1 | 473,469·6 |
| 65 | 57 | 52,818·5 | 415,614·5 |
| 66 | 58 | 48,001·6 | 362,796·0 |
| 67 | 59 | 43,407·9 | 314,794·4 |
| 68 | 60 | 39,041·0 | 271,386·5 |
| 69 | 61 | 34,904·6 | 232,345·5 |
| 70 | 62 | 31,003·2 | 197,440·9 |
| 71 | 63 | 27,341·5 | 166,437·7 |
| 72 | 64 | 23,924·1 | 139,096·2 |
| 73 | 65 | 20,755·6 | 115,172·1 |
| 74 | 66 | 17,839·5 | 94,416·5 |
| 75 | 67 | 15,178·1 | 76,577·0 |
| 76 | 68 | 12,772·2 | 61,398·9 |
| 77 | 69 | 10,619·9 | 48,626·7 |
| 78 | 70 | 8,716·78 | 38,006·84 |
| 79 | 71 | 7,055·57 | 29,290·06 |
| 80 | 72 | 5,625·72 | 22,234·49 |
| 81 | 73 | 4,413·73 | 16,608·77 |
| 82 | 74 | 3,403·32 | 12,195·04 |
| 83 | 75 | 2,575·94 | 8,791·72 |
| 84 | 76 | 1,911·39 | 6,215·78 |
| 85 | 77 | 1,388·57 | 4,304·39 |
| 86 | 78 | 986·260 | 2,915·822 |
| 87 | 79 | 683·911 | 1,929·562 |
| 88 | 80 | 462·327 | 1,245·651 |
| 89 | 81 | 304·212 | 783·324 |
| 90 | 82 | 194·533 | 479·112 |
| 91 | 83 | 120·696 | 284·579 |
| 92 | 84 | 72·5349 | 163·8826 |
| 93 | 85 | 42·1502 | 91·3477 |
| 94 | 86 | 23·6417 | 49·1975 |
| 95 | 87 | 12·7758 | 25·5558 |
| 96 | 88 | 6·6391 | 12·7800 |
| 97 | 89 | 3·3114 | 6·1409 |
| 98 | 90 | 1·5820 | 2·8295 |
| 99 | 91 | ·7225 | 1·2475 |
| 100 | 92 | ·3148 | ·5250 |
| 101 | 93 | ·1305 | ·2102 |
| 102 | 94 | ·0514 | ·0797 |
| 103 | 95 | ·0192 | ·0283 |
| 104 | 96 | ·0068 | ·0091 |
| 105 | 97 | ·0023 | ·0023 |

**Difference of Age 99 Years.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 99 | 0 | 267·267 | 553·889 |
| 100 | 1 | 136·655 | 286·622 |
| 101 | 2 | 73·5885 | 149·9671 |
| 102 | 3 | 39·5378 | 76·3786 |
| 103 | 4 | 20·8259 | 36·8408 |
| 104 | 5 | 10·6884 | 16·0149 |
| 105 | 6 | 5·3265 | 5·3265 |

## JOINT LIVES :—Two Females.

### Difference of Age 9 Years.

### Difference of Age 98 Years.

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| | | **Difference of Age 9 Years.** | |
| 9 | 0 | 1,503,772 | 24,909,131 |
| 10 | 1 | 1,254,936 | 23,405,359 |
| 11 | 2 | 1,136,257 | 22,150,423 |
| 12 | 3 | 1,058,430 | 21,014,166 |
| 13 | 4 | 997,637 | 19,955,736 |
| 14 | 5 | 946,625 | 18,958,099 |
| 15 | 6 | 902,108 | 18,011,474 |
| 16 | 7 | 861,783 | 17,109,366 |
| 17 | 8 | 824,113 | 16,247,583 |
| 18 | 9 | 788,758 | 15,423,470 |
| 19 | 10 | 755,252 | 14,634,712 |
| 20 | 11 | 723,231 | 13,879,460 |
| 21 | 12 | 692,423 | 13,156,229 |
| 22 | 13 | 662,946 | 12,463,806 |
| 23 | 14 | 634,606 | 11,800,860 |
| 24 | 15 | 607,255 | 11,166,254 |
| 25 | 16 | 580,779 | 10,558,999 |
| 26 | 17 | 555,094 | 9,978,220 |
| 27 | 18 | 530,145 | 9,423,126 |
| 28 | 19 | 505,898 | 8,892,981 |
| 29 | 20 | 482,335 | 8,387,083 |
| 30 | 21 | 459,457 | 7,904,748 |
| 31 | 22 | 437,482 | 7,445,291 |
| 32 | 23 | 416,385 | 7,007,809 |
| 33 | 24 | 396,144 | 6,591,424 |
| 34 | 25 | 376,734 | 6,195,280 |
| 35 | 26 | 358,128 | 5,818,546 |
| 36 | 27 | 340,302 | 5,460,418 |
| 37 | 28 | 323,228 | 5,120,116 |
| 38 | 29 | 306,881 | 4,796,888 |
| 39 | 30 | 291,235 | 4,490,007 |
| 40 | 31 | 276,265 | 4,198,772 |
| 41 | 32 | 261,943 | 3,922,507 |
| 42 | 33 | 248,247 | 3,660,564 |
| 43 | 34 | 235,152 | 3,412,317 |
| 44 | 35 | 222,633 | 3,177,165 |
| 45 | 36 | 210,669 | 2,954,532 |
| 46 | 37 | 199,236 | 2,743,863 |
| 47 | 38 | 188,314 | 2,544,627 |
| 48 | 39 | 177,882 | 2,356,313 |
| 49 | 40 | 167,919 | 2,178,431 |
| 50 | 41 | 158,407 | 2,010,512 |
| 51 | 42 | 149,327 | 1,852,105 |
| 52 | 43 | 140,663 | 1,702,778 |
| 53 | 44 | 132,396 | 1,562,115 |
| 54 | 45 | 124,512 | 1,429,719 |
| 55 | 46 | 116,817 | 1,305,207 |
| 56 | 47 | 109,412 | 1,188,390 |
| 57 | 48 | 102,296 | 1,078,978 |
| 58 | 49 | 95,463·6 | 976,681·9 |
| 59 | 50 | 88,909·1 | 881,218·3 |
| 60 | 51 | 82,625·8 | 792,309·2 |
| 61 | 52 | 76,606·5 | 709,683·4 |
| 62 | 53 | 70,844·4 | 633,076·9 |
| 63 | 54 | 65,332·9 | 562,232·5 |
| 64 | 55 | 59,974·7 | 496,899·6 |
| 65 | 56 | 54,830·0 | 436,924·9 |
| 66 | 57 | 49,903·5 | 382,094·9 |
| 67 | 58 | 45,199·6 | 332,191·4 |
| 68 | 59 | 40,722·5 | 286,991·8 |
| 69 | 60 | 36,476·7 | 246,269·3 |
| 70 | 61 | 32,466·7 | 209,792·6 |
| 71 | 62 | 28,697·6 | 177,325·9 |
| 72 | 63 | 25,174·1 | 148,628·3 |
| 73 | 64 | 21,900·7 | 123,454·2 |
| 74 | 65 | 18,881·5 | 101,553·5 |
| 75 | 66 | 16,119·1 | 82,672·0 |
| 76 | 67 | 13,614·4 | 66,552·9 |
| 77 | 68 | 11,366·4 | 52,938·5 |
| 78 | 69 | 9,371·30 | 41,572·14 |
| 79 | 70 | 7,622·43 | 32,200·84 |
| 80 | 71 | 6,110·09 | 24,578·41 |
| 81 | 72 | 4,821·51 | 18,468·32 |
| 82 | 73 | 3,741·11 | 13,646·81 |
| 83 | 74 | 2,850·87 | 9,905·70 |
| 84 | 75 | 2,130·93 | 7,054·83 |
| 85 | 76 | 1,560·30 | 4,923·90 |
| 86 | 77 | 1,117·66 | 3,363·60 |
| 87 | 78 | 782·100 | 2,245·939 |
| 88 | 79 | 533·868 | 1,463·839 |
| 89 | 80 | 354·953 | 929·971 |
| 90 | 81 | 229·509 | 575·018 |
| 91 | 82 | 144·085 | 345·509 |
| 92 | 83 | 87·6827 | 201·4235 |
| 93 | 84 | 51·6346 | 113·7408 |
| 94 | 85 | 29·3723 | 62·1062 |
| 95 | 86 | 16·1108 | 32·7339 |
| 96 | 87 | 8·5051 | 16·6231 |
| 97 | 88 | 4·3131 | 8·1180 |
| 98 | 89 | 2·0970 | 3·8049 |
| 99 | 90 | ·9755 | 1·7079 |
| 100 | 91 | ·4333 | ·7324 |
| 101 | 92 | ·1834 | ·2991 |
| 102 | 93 | ·0738 | ·1157 |
| 103 | 94 | ·0282 | ·0419 |
| 104 | 95 | ·0102 | ·0137 |
| 105 | 96 | ·0035 | ·0035 |
| | | **Difference of Age 98 Years.** | |
| 98 | 0 | 433·446 | 931·330 |
| 99 | 1 | 227·870 | 497·884 |
| 100 | 2 | 126·313 | 270·014 |
| 101 | 3 | 69·9434 | 143·7014 |
| 102 | 4 | 38·0158 | 73·7580 |
| 103 | 5 | 20·1575 | 35·7422 |
| 104 | 6 | 10·3917 | 15·5847 |
| 105 | 7 | 5·1930 | 5·1930 |

## JOINT LIVES :—Two Females.

**Difference of Age 10 Years.**

**Difference of Age 97 Years.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 10 Years.** | |
| 10 | 0 | 1,471,905 | 24,286,718 |
| 11 | 1 | 1,229,290 | 22,814,813 |
| 12 | 2 | 1,113,590 | 21,585,523 |
| 13 | 3 | 1,037,576 | 20,471,933 |
| 14 | 4 | 978,013 | 19,434,357 |
| 15 | 5 | 927,859 | 18,456,344 |
| 16 | 6 | 883,942 | 17,528,485 |
| 17 | 7 | 844,047 | 16,644,543 |
| 18 | 8 | 806,702 | 15,800,496 |
| 19 | 9 | 771,603 | 14,993,794 |
| 20 | 10 | 738,320 | 14,222,191 |
| 21 | 11 | 706,518 | 13,483,871 |
| 22 | 12 | 676,270 | 12,777,353 |
| 23 | 13 | 647,340 | 12,101,083 |
| 24 | 14 | 619,537 | 11,453,743 |
| 25 | 15 | 592,715 | 10,834,206 |
| 26 | 16 | 566,759 | 10,241,491 |
| 27 | 17 | 541,588 | 9,674,732 |
| 28 | 18 | 517,145 | 9,133,144 |
| 29 | 19 | 493,397 | 8,615,999 |
| 30 | 20 | 470,326 | 8,122,602 |
| 31 | 21 | 447,931 | 7,652,276 |
| 32 | 22 | 426,423 | 7,204,345 |
| 33 | 23 | 405,780 | 6,777,922 |
| 34 | 24 | 385,976 | 6,372,142 |
| 35 | 25 | 366,987 | 5,986,166 |
| 36 | 26 | 348,788 | 5,619,179 |
| 37 | 27 | 331,353 | 5,270,391 |
| 38 | 28 | 314,656 | 4,939,038 |
| 39 | 29 | 298,672 | 4,624,382 |
| 40 | 30 | 283,373 | 4,325,710 |
| 41 | 31 | 268,736 | 4,042,337 |
| 42 | 32 | 254,736 | 3,773,601 |
| 43 | 33 | 241,347 | 3,518,865 |
| 44 | 34 | 228,546 | 3,277,518 |
| 45 | 35 | 216,310 | 3,048,972 |
| 46 | 36 | 204,617 | 2,832,662 |
| 47 | 37 | 193,444 | 2,628,045 |
| 48 | 38 | 182,771 | 2,434,601 |
| 49 | 39 | 172,578 | 2,251,830 |
| 50 | 40 | 162,844 | 2,079,252 |
| 51 | 41 | 153,553 | 1,916,408 |
| 52 | 42 | 144,685 | 1,762,855 |
| 53 | 43 | 136,223 | 1,618,170 |
| 54 | 44 | 128,152 | 1,481,947 |
| 55 | 45 | 120,272 | 1,353,795 |
| 56 | 46 | 112,689 | 1,233,523 |
| 57 | 47 | 105,398 | 1,120,834 |
| 58 | 48 | 98,397·5 | 1,015,435·5 |
| 59 | 49 | 91,679·6 | 917,038·0 |
| 60 | 50 | 85,237·8 | 825,358·4 |
| 61 | 51 | 79,064·7 | 740,120·6 |
| 62 | 52 | 73,153·2 | 661,055·9 |
| 63 | 53 | 67,496·6 | 587,902·7 |
| 64 | 54 | 62,089·1 | 520,406·1 |
| 65 | 55 | 56,838·8 | 458,317·0 |
| 66 | 56 | 51,803·9 | 401,478·2 |
| 67 | 57 | 46,990·4 | 349,674·3 |
| 68 | 58 | 42,403·3 | 302,683·9 |
| 69 | 59 | 38,047·8 | 260,280·6 |
| 70 | 60 | 33,929·0 | 222,232·8 |
| 71 | 61 | 30,052·3 | 188,303·8 |
| 72 | 62 | 26,422·6 | 158,251·5 |
| 73 | 63 | 23,044·9 | 131,828·9 |
| 74 | 64 | 19,923·3 | 108,784·0 |
| 75 | 65 | 17,060·6 | 88,860·7 |
| 76 | 66 | 14,458·4 | 71,800·1 |
| 77 | 67 | 12,116·0 | 57,341·7 |
| 78 | 68 | 10,030·1 | 45,225·7 |
| 79 | 69 | 8,194·78 | 35,195·57 |
| 80 | 70 | 6,600·98 | 27,000·79 |
| 81 | 71 | 5,236·63 | 20,399·81 |
| 82 | 72 | 4,086·75 | 15,163·18 |
| 83 | 73 | 3,133·83 | 11,076·43 |
| 84 | 74 | 2,358·36 | 7,942·60 |
| 85 | 75 | 1,739·51 | 5,584·24 |
| 86 | 76 | 1,255·89 | 3,844·73 |
| 87 | 77 | 886·301 | 2,588·843 |
| 88 | 78 | 610·516 | 1,702·542 |
| 89 | 79 | 409·880 | 1,092·026 |
| 90 | 80 | 267·790 | 682·146 |
| 91 | 81 | 169·991 | 414·356 |
| 92 | 82 | 104·674 | 244·365 |
| 93 | 83 | 62·4177 | 139·6913 |
| 94 | 84 | 35·9814 | 77·2736 |
| 95 | 85 | 20·0159 | 41·2922 |
| 96 | 86 | 10·7252 | 21·2763 |
| 97 | 87 | 5·5252 | 10·5511 |
| 98 | 88 | 2·7313 | 5·0259 |
| 99 | 89 | 1·2930 | 2·2946 |
| 100 | 90 | ·5850 | 1·0016 |
| 101 | 91 | ·2524 | ·4166 |
| 102 | 92 | ·1037 | ·1642 |
| 103 | 93 | ·0404 | ·0605 |
| 104 | 94 | ·0149 | ·0201 |
| 105 | 95 | ·0052 | ·0052 |

**Difference of Age 97 Years.**

| $x$ | $y$ | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 97 | 0 | 684·463 | 1,523·544 |
| 98 | 1 | 369·553 | 839·081 |
| 99 | 2 | 210·625 | 469·528 |
| 100 | 3 | 120·056 | 258·903 |
| 101 | 4 | 67·2511 | 138·8466 |
| 102 | 5 | 36·7958 | 71·5955 |
| 103 | 6 | 19·5981 | 34·7997 |
| 104 | 7 | 10·1312 | 15·2016 |
| 105 | 8 | 5·0704 | 5·0704 |

## JOINT LIVES :—Two Females.

### Difference of Age 11 Years.

### Difference of Age 96 Years.

| Ages $x$ | Ages $y$ | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| | | **Difference of Age 11 Years.** | |
| 11 | 0 | 1,441,825 | 23,674,493 |
| 12 | 1 | 1,204,767 | 22,232,668 |
| 13 | 2 | 1,091,650 | 21,027,901 |
| 14 | 3 | 1,017,167 | 19,936,251 |
| 15 | 4 | 958,624 | 18,919,084 |
| 16 | 5 | 909,174 | 17,960,460 |
| 17 | 6 | 865,749 | 17,051,286 |
| 18 | 7 | 826,214 | 16,185,537 |
| 19 | 8 | 789,157 | 15,359,323 |
| 20 | 9 | 754,305 | 14.570,166 |
| 21 | 10 | 721,258 | 13,815,861 |
| 22 | 11 | 690,035 | 13,094,603 |
| 23 | 12 | 660,351 | 12,404,568 |
| 24 | 13 | 631,968 | 11,744,217 |
| 25 | 14 | 604,703 | 11,112,249 |
| 26 | 15 | 578,406 | 10,507,546 |
| 27 | 16 | 552,968 | 9,929,140 |
| 28 | 17 | 528,307 | 9,376,172 |
| 29 | 18 | 504,367 | 8,847,865 |
| 30 | 19 | 481,113 | 8,343,498 |
| 31 | 20 | 458,527 | 7,862,385 |
| 32 | 21 | 436,609 | 7,403,858 |
| 33 | 22 | 415,562 | 6,967,249 |
| 34 | 23 | 395,364 | 6,551,687 |
| 35 | 24 | 375,990 | 6,156,323 |
| 36 | 25 | 357,416 | 5,780,333 |
| 37 | 26 | 339,617 | 5,422,917 |
| 38 | 27 | 322,566 | 5,083,300 |
| 39 | 28 | 306,239 | 4,760,734 |
| 40 | 29 | 290,609 | 4,454,495 |
| 41 | 30 | 275,651 | 4,163,886 |
| 42 | 31 | 261,342 | 3,888,235 |
| 43 | 32 | 247,655 | 3,626,893 |
| 44 | 33 | 234,567 | 3,379,238 |
| 45 | 34 | 222,055 | 3.144,671 |
| 46 | 35 | 210,096 | 2,922,616 |
| 47 | 36 | 198,668 | 2,712,520 |
| 48 | 37 | 187,750 | 2,513,852 |
| 49 | 38 | 177,321 | 2,326,102 |
| 50 | 39 | 167,362 | 2,148,781 |
| 51 | 40 | 157,854 | 1,981,419 |
| 52 | 41 | 148,778 | 1,823,565 |
| 53 | 42 | 140,118 | 1,674,787 |
| 54 | 43 | 131,856 | 1,534,669 |
| 55 | 44 | 123,788 | 1,402,813 |
| 56 | 45 | 116,022 | 1,279,025 |
| 57 | 46 | 108,554 | 1,163,003 |
| 58 | 47 | 101,382 | 1,054,449 |
| 59 | 48 | 94,497·3 | 953,066·8 |
| 60 | 49 | 87,893·9 | 858,569·5 |
| 61 | 50 | 81,564·2 | 770,675·6 |
| 62 | 51 | 75,500·6 | 689,111·4 |
| 63 | 52 | 69,696·4 | 613,610·8 |
| 64 | 53 | 64,145·4 | 543,914·4 |
| 65 | 54 | 58,842·6 | 479,769·0 |
| 66 | 55 | 53,701·9 | 420,926·4 |
| 67 | 56 | 48,779·9 | 367,224·5 |
| 68 | 57 | 44,083·3 | 318,444·6 |
| 69 | 58 | 39,618·1 | 274,361·3 |
| 70 | 59 | 35,390·4 | 234,743·2 |
| 71 | 60 | 31,405·8 | 199,352·8 |
| 72 | 61 | 27,669·9 | 167,947·0 |
| 73 | 62 | 24,187·9 | 140,277·1 |
| 74 | 63 | 20,964·2 | 116,089·2 |
| 75 | 64 | 18,001·9 | 95,125·0 |
| 76 | 65 | 15,303·0 | 77,123·1 |
| 77 | 66 | 12,867·1 | 61,820·1 |
| 78 | 67 | 10,691·5 | 48,953·0 |
| 79 | 68 | 8,770·86 | 38,261·46 |
| 80 | 69 | 7,096·63 | 29,490·60 |
| 81 | 70 | 5,657·35 | 22,393·97 |
| 82 | 71 | 4,438·61 | 16,736·62 |
| 83 | 72 | 3,423·36 | 12,298·01 |
| 84 | 73 | 2,592·44 | 8,874·65 |
| 85 | 74 | 1,925·17 | 6,282·21 |
| 86 | 75 | 1,400·13 | 4,357·04 |
| 87 | 76 | 995·914 | 2,956·911 |
| 88 | 77 | 691·856 | 1,960·997 |
| 89 | 78 | 468·726 | 1,269·141 |
| 90 | 79 | 309·228 | 800·415 |
| 91 | 80 | 198·344 | 491·187 |
| 92 | 81 | 123·494 | 292·843 |
| 93 | 82 | 74·5132 | 169·3488 |
| 94 | 83 | 43·4956 | 94·8356 |
| 95 | 84 | 24·5198 | 51·3400 |
| 96 | 85 | 13·3249 | 26·8202 |
| 97 | 86 | 6·9675 | 13·4953 |
| 98 | 87 | 3·4989 | 6·5278 |
| 99 | 88 | 1·6841 | 3·0289 |
| 100 | 89 | ·7754 | 1·3448 |
| 101 | 90 | ·3408 | ·5694 |
| 102 | 91 | ·1427 | ·2286 |
| 103 | 92 | ·0568 | ·0859 |
| 104 | 93 | ·0214 | ·0291 |
| 105 | 94 | ·0077 | ·0077 |
| | | **Difference of Age 96 Years.** | |
| 96 | 0 | 1,053·60 | 2,429·20 |
| 97 | 1 | 583·568 | 1,375·604 |
| 98 | 2 | 341·585 | 792·036 |
| 99 | 3 | 200·192 | 450·451 |
| 100 | 4 | 115·435 | 250·259 |
| 101 | 5 | 65·0928 | 134·8238 |
| 102 | 6 | 35·7746 | 69·7310 |
| 103 | 7 | 19·1068 | 33·9564 |
| 104 | 8 | 9·8920 | 14·8496 |
| 105 | 9 | 4·9576 | 4·9576 |

## JOINT LIVES :—TWO FEMALES.

**Difference of Age 12 Years.**

**Difference of Age 95 Years.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Difference of Age 12 Years.** | |
| 12 | 0 | 1,413,062 | 23,071,168 |
| 13 | 1 | 1,181,030 | 21,658,106 |
| 14 | 2 | 1,070,176 | 20,477,076 |
| 15 | 3 | 997,002 | 19,406,900 |
| 16 | 4 | 939,320 | 18,409,898 |
| 17 | 5 | 890,463 | 17,470,578 |
| 18 | 6 | 847,458 | 16,580,115 |
| 19 | 7 | 808,244 | 15,732,657 |
| 20 | 8 | 771,464 | 14,924,413 |
| 21 | 9 | 736,873 | 14,152,949 |
| 22 | 10 | 704,431 | 13,416,076 |
| 23 | 11 | 673,792 | 12,711,645 |
| 24 | 12 | 644,670 | 12,037,853 |
| 25 | 13 | 616,836 | 11,393,183 |
| 26 | 14 | 590,105 | 10,776,347 |
| 27 | 15 | 564,332 | 10,186,242 |
| 28 | 16 | 539,408 | 9,621,910 |
| 29 | 17 | 515,253 | 9,082,502 |
| 30 | 18 | 491,809 | 8,567,249 |
| 31 | 19 | 469,043 | 8,075,440 |
| 32 | 20 | 446,937 | 7,606,397 |
| 33 | 21 | 425,488 | 7,159,460 |
| 34 | 22 | 404,895 | 6,733,972 |
| 35 | 23 | 385,136 | 6,329,077 |
| 36 | 24 | 366,185 | 5,943,941 |
| 37 | 25 | 348,018 | 5,577,756 |
| 38 | 26 | 330,611 | 5,229,738 |
| 39 | 27 | 313,937 | 4,899,127 |
| 40 | 28 | 297,972 | 4,585,190 |
| 41 | 29 | 282,690 | 4,287,218 |
| 42 | 30 | 268,066 | 4,004,528 |
| 43 | 31 | 254,077 | 3,736,462 |
| 44 | 32 | 240,698 | 3,482,385 |
| 45 | 33 | 227,905 | 3,241,687 |
| 46 | 34 | 215,676 | 3,013,782 |
| 47 | 35 | 203,988 | 2,798,106 |
| 48 | 36 | 192,820 | 2,594,118 |
| 49 | 37 | 182,152 | 2,401,298 |
| 50 | 38 | 171,963 | 2,219,146 |
| 51 | 39 | 162,234 | 2,047,183 |
| 52 | 40 | 152,946 | 1,884,949 |
| 53 | 41 | 144,083 | 1,732,003 |
| 54 | 42 | 135,626 | 1,587,920 |
| 55 | 43 | 127,366 | 1,452,294 |
| 56 | 44 | 119,413 | 1,324,928 |
| 57 | 45 | 111,765 | 1,205,515 |
| 58 | 46 | 104,417 | 1,093,750 |
| 59 | 47 | 97,363·2 | 989,332·5 |
| 60 | 48 | 90,595·2 | 891,969·3 |
| 61 | 49 | 84,105·8 | 801,374·1 |
| 62 | 50 | 77,887·4 | 717,268·3 |
| 63 | 51 | 71,932·9 | 639,380·9 |
| 64 | 52 | 66,235·9 | 567,448·0 |
| 65 | 53 | 60,791·4 | 501,212·1 |
| 66 | 54 | 55,595·1 | 440,420·7 |
| 67 | 55 | 50,567·1 | 384,825·6 |
| 68 | 56 | 45,762·1 | 334,258·5 |
| 69 | 57 | 41,187·8 | 288,496·4 |
| 70 | 58 | 36,851·1 | 247,308·6 |
| 71 | 59 | 32,758·5 | 210,457·5 |
| 72 | 60 | 28,916·2 | 177,699·0 |
| 73 | 61 | 25,329·7 | 148,782·8 |
| 74 | 62 | 22,003·9 | 123,453·1 |
| 75 | 63 | 18,942·4 | 101,449·2 |
| 76 | 64 | 16,147·3 | 82,506·8 |
| 77 | 65 | 13,618·7 | 66,359·5 |
| 78 | 66 | 11,354·3 | 52,740·8 |
| 79 | 67 | 9,349·26 | 41,386·48 |
| 80 | 68 | 7,595·52 | 32,037·22 |
| 81 | 69 | 6,082·15 | 24,441·70 |
| 82 | 70 | 4,795·22 | 18,359·55 |
| 83 | 71 | 3,718·11 | 13,564·33 |
| 84 | 72 | 2,831·95 | 9,846·22 |
| 85 | 73 | 2,116·25 | 7,014·27 |
| 86 | 74 | 1,549·57 | 4,898·02 |
| 87 | 75 | 1,110·30 | 3,348·45 |
| 88 | 76 | 777·421 | 2,238·147 |
| 89 | 77 | 531·175 | 1,460·726 |
| 90 | 78 | 353·624 | 929·551 |
| 91 | 79 | 229·037 | 575·927 |
| 92 | 80 | 144·092 | 346·890 |
| 93 | 81 | 87·9100 | 202·7979 |
| 94 | 82 | 51·9243 | 114·8879 |
| 95 | 83 | 29·6404 | 62·9636 |
| 96 | 84 | 16·3232 | 33·3232 |
| 97 | 85 | 8·6564 | 17·0000 |
| 98 | 86 | 4·4123 | 8·3436 |
| 99 | 87 | 2·1575 | 3·9313 |
| 100 | 88 | 1·0100 | 1·7738 |
| 101 | 89 | ·4518 | ·7638 |
| 102 | 90 | ·1927 | ·3120 |
| 103 | 91 | ·0782 | ·1193 |
| 104 | 92 | ·0301 | ·0411 |
| 105 | 93 | ·0110 | ·0110 |
| | | **Difference of Age 95 Years.** | |
| 95 | 0 | 1,582·66 | 3,780·58 |
| 96 | 1 | 898·293 | 2,197·922 |
| 97 | 2 | 539·404 | 1,299·629 |
| 98 | 3 | 324·665 | 760·225 |
| 99 | 4 | 192·486 | 435·560 |
| 100 | 5 | 111·730 | 243·074 |
| 101 | 6 | 63·2862 | 131·3440 |
| 102 | 7 | 34·8778 | 68·0578 |
| 103 | 8 | 18·6556 | 33·1800 |
| 104 | 9 | 9·6719 | 14·5244 |
| 105 | 10 | 4·8525 | 4·8525 |

## JOINT LIVES :—Two Females.

**Difference of Age 13 Years.**

**Difference of Age 94 Years.**

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 13 Years.** | |
| 13 | 0 | 1,385,221 | 22,475,826 |
| 14 | 1 | 1,157,798 | 21,090,605 |
| 15 | 2 | 1,048,960 | 19,932,807 |
| 16 | 3 | 976,925 | 18,883,847 |
| 17 | 4 | 919,988 | 17,906,922 |
| 18 | 5 | 871,650 | 16,986,934 |
| 19 | 6 | 829,027 | 16,115,284 |
| 20 | 7 | 790,124 | 15,286,257 |
| 21 | 8 | 753,636 | 14,496,133 |
| 22 | 9 | 719,683 | 13,742,497 |
| 23 | 10 | 687,849 | 13,022,814 |
| 24 | 11 | 657,792 | 12,334,965 |
| 25 | 12 | 629,234 | 11,677,173 |
| 26 | 13 | 601,945 | 11,047,939 |
| 27 | 14 | 575,746 | 10,445,994 |
| 28 | 15 | 550,494 | 9,870,248 |
| 29 | 16 | 526,080 | 9,319,754 |
| 30 | 17 | 502,424 | 8,793,674 |
| 31 | 18 | 479,471 | 8,291,250 |
| 32 | 19 | 457,187 | 7,811,779 |
| 33 | 20 | 435,554 | 7,354,592 |
| 34 | 21 | 414,567 | 6,919,038 |
| 35 | 22 | 394,420 | 6,504,471 |
| 36 | 23 | 375,092 | 6,110,051 |
| 37 | 24 | 356,556 | 5,734,959 |
| 38 | 25 | 338,789 | 5,378,403 |
| 39 | 26 | 321,766 | 5,039,614 |
| 40 | 27 | 305,462 | 4,717,848 |
| 41 | 28 | 289,852 | 4,412,386 |
| 42 | 29 | 274,911 | 4,122,534 |
| 43 | 30 | 260,615 | 3,847,623 |
| 44 | 31 | 246,940 | 3,587,008 |
| 45 | 32 | 233,861 | 3,340,068 |
| 46 | 33 | 221,357 | 3,106,207 |
| 47 | 34 | 209,405 | 2,884,850 |
| 48 | 35 | 197,984 | 2,675,445 |
| 49 | 36 | 187,071 | 2,477,461 |
| 50 | 37 | 176,647 | 2,290,390 |
| 51 | 38 | 166,693 | 2,113,743 |
| 52 | 39 | 157,190 | 1,947,050 |
| 53 | 40 | 148,119 | 1,789,860 |
| 54 | 41 | 139,464 | 1,641,741 |
| 55 | 42 | 131,008 | 1,502,277 |
| 56 | 43 | 122,865 | 1,371,269 |
| 57 | 44 | 115,032 | 1,248,404 |
| 58 | 45 | 107,506 | 1,133,372 |
| 59 | 46 | 100,279 | 1,025,866 |
| 60 | 47 | 93,342·8 | 925,586·7 |
| 61 | 48 | 86,690·7 | 832,243·9 |
| 62 | 49 | 80,314·5 | 745,553·2 |
| 63 | 50 | 74,206·9 | 665,238·7 |
| 64 | 51 | 68,361·4 | 591,031·8 |
| 65 | 52 | 62,772·6 | 522,670·4 |
| 66 | 53 | 57,436·3 | 459,897·8 |
| 67 | 54 | 52,349·8 | 402,461·5 |
| 68 | 55 | 47,438·7 | 350,111·7 |
| 69 | 56 | 42,756·4 | 302,673·0 |
| 70 | 57 | 38,311·1 | 259,916·6 |
| 71 | 58 | 34,110·6 | 221,605·5 |
| 72 | 59 | 30,161·6 | 187,494·9 |
| 73 | 60 | 26,470·6 | 157,333·3 |
| 74 | 61 | 23,042·7 | 130,862·7 |
| 75 | 62 | 19,881·9 | 107,820·0 |
| 76 | 63 | 16,990·9 | 87,938·1 |
| 77 | 64 | 14,370·1 | 70,947·2 |
| 78 | 65 | 12,017·6 | 56,577·1 |
| 79 | 66 | 9,928·85 | 44,559·49 |
| 80 | 67 | 8,096·41 | 34,630·64 |
| 81 | 68 | 6,509·72 | 26,534·23 |
| 82 | 69 | 5,155·28 | 20,024·51 |
| 83 | 70 | 4,016·83 | 14,869·23 |
| 84 | 71 | 3,075·78 | 10,852·40 |
| 85 | 72 | 2,311·77 | 7,776·62 |
| 86 | 73 | 1,703·37 | 5,464·85 |
| 87 | 74 | 1,228·80 | 3,761·48 |
| 88 | 75 | 866·713 | 2,532·683 |
| 89 | 76 | 596·868 | 1,665·970 |
| 90 | 77 | 400·738 | 1,069·102 |
| 91 | 78 | 261·919 | 668·364 |
| 92 | 79 | 166·389 | 406·445 |
| 93 | 80 | 102·573 | 240·056 |
| 94 | 81 | 61·2598 | 137·4828 |
| 95 | 82 | 35·3842 | 76·2230 |
| 96 | 83 | 19·7320 | 40·8388 |
| 97 | 84 | 10·6042 | 21·1068 |
| 98 | 85 | 5·4818 | 10·5026 |
| 99 | 86 | 2·7207 | 5·0208 |
| 100 | 87 | 1·2939 | 2·3001 |
| 101 | 88 | ·5884 | 1·0062 |
| 102 | 89 | ·2554 | ·4178 |
| 103 | 90 | ·1055 | ·1624 |
| 104 | 91 | ·0415 | ·0569 |
| 105 | 92 | ·0154 | ·0154 |
| | | **Difference of Age 94 Years.** | |
| 94 | 0 | 2,322·47 | 5,750·16 |
| 95 | 1 | 1,349·37 | 3,427·69 |
| 96 | 2 | 830·311 | 2,078·317 |
| 97 | 3 | 512·685 | 1,248·006 |
| 98 | 4 | 312·168 | 735·321 |
| 99 | 5 | 186·308 | 423·153 |
| 100 | 6 | 108·630 | 236·845 |
| 101 | 7 | 61·6998 | 128·2149 |
| 102 | 8 | 34·0541 | 66·5151 |
| 103 | 9 | 18·2406 | 32·4610 |
| 104 | 10 | 9·4670 | 14·2204 |
| 105 | 11 | 4·7534 | 4·7534 |

## JOINT LIVES :—Two Females.

**Difference of Age 14 Years.**

**Difference of Age 93 Years.**

**Difference of Age 14 Years.**

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 14 | 0 | 1,357,973 | 21,887,863 |
| 15 | 1 | 1,134,845 | 20,529,890 |
| 16 | 2 | 1,027,837 | 19,395,045 |
| 17 | 3 | 956,819 | 18,367,208 |
| 18 | 4 | 900,551 | 17,410,389 |
| 19 | 5 | 852,692 | 16,509,838 |
| 20 | 6 | 810,440 | 15,657,146 |
| 21 | 7 | 771,865 | 14,846,706 |
| 22 | 8 | 736,055 | 14,074,841 |
| 23 | 9 | 702,741 | 13,338,786 |
| 24 | 10 | 671,515 | 12,636,045 |
| 25 | 11 | 642,042 | 11,964,530 |
| 26 | 12 | 614,044 | 11,322,488 |
| 27 | 13 | 587,299 | 10,708,444 |
| 28 | 14 | 561,628 | 10,121,145 |
| 29 | 15 | 536,891 | 9,559,517 |
| 30 | 16 | 512,982 | 9,022,626 |
| 31 | 17 | 489,820 | 8,509,644 |
| 32 | 18 | 467,352 | 8,019,824 |
| 33 | 19 | 445,542 | 7,552,472 |
| 34 | 20 | 424,374 | 7,106,930 |
| 35 | 21 | 403,842 | 6,682,556 |
| 36 | 22 | 384,134 | 6,278,714 |
| 37 | 23 | 365,229 | 5,894,580 |
| 38 | 24 | 347,100 | 5,529,351 |
| 39 | 25 | 329,726 | 5,182,251 |
| 40 | 26 | 313,080 | 4,852,525 |
| 41 | 27 | 297,138 | 4,539,445 |
| 42 | 28 | 281,876 | 4,242,307 |
| 43 | 29 | 267,269 | 3,960,431 |
| 44 | 30 | 253,294 | 3,693,162 |
| 45 | 31 | 239,926 | 3,439,868 |
| 46 | 32 | 227,143 | 3,199,942 |
| 47 | 33 | 214,922 | 2,972,799 |
| 48 | 34 | 203,242 | 2,757,877 |
| 49 | 35 | 192,080 | 2,554,635 |
| 50 | 36 | 181,418 | 2,362,555 |
| 51 | 37 | 171,234 | 2,181,137 |
| 52 | 38 | 161,510 | 2,009,903 |
| 53 | 39 | 152,228 | 1,848,393 |
| 54 | 40 | 143,371 | 1,696,165 |
| 55 | 41 | 134,715 | 1,552,794 |
| 56 | 42 | 126,378 | 1,418,079 |
| 57 | 43 | 118,357 | 1,291,701 |
| 58 | 44 | 110,648 | 1,173,344 |
| 59 | 45 | 103,245 | 1,062,696 |
| 60 | 46 | 96,137·7 | 959,450·7 |
| 61 | 47 | 89,319·9 | 863,313·0 |
| 62 | 48 | 82,782·9 | 773,993·1 |
| 63 | 49 | 76,519·3 | 691,210·2 |
| 64 | 50 | 70,522·5 | 614,690·9 |
| 65 | 51 | 64,786·9 | 544,168·4 |
| 66 | 52 | 59,308·2 | 479,381·5 |
| 67 | 53 | 54,083·5 | 420,073·3 |
| 68 | 54 | 49,111·1 | 365,989·8 |
| 69 | 55 | 44,322·8 | 316,878·7 |
| 70 | 56 | 39,770·1 | 272,555·9 |
| 71 | 57 | 35,462·0 | 232,785·8 |
| 72 | 58 | 31,406·5 | 197,323·8 |
| 73 | 59 | 27,610·7 | 165,917·3 |
| 74 | 60 | 24,080·5 | 138,306·6 |
| 75 | 61 | 20,820·5 | 114,226·1 |
| 76 | 62 | 17,833·6 | 93,405·6 |
| 77 | 63 | 15,120·8 | 75,572·0 |
| 78 | 64 | 12,680·6 | 60,451·2 |
| 79 | 65 | 10,508·8 | 47,770·6 |
| 80 | 66 | 8,598·34 | 37,261·81 |
| 81 | 67 | 6,939·01 | 28,663·47 |
| 82 | 68 | 5,517·69 | 21,724·46 |
| 83 | 69 | 4,318·44 | 16,206·77 |
| 84 | 70 | 3,322·89 | 11,888·33 |
| 85 | 71 | 2,510·81 | 8,565·44 |
| 86 | 72 | 1,860·75 | 6,054·63 |
| 87 | 73 | 1,350·77 | 4,193·88 |
| 88 | 74 | 959·217 | 2,843·106 |
| 89 | 75 | 665·423 | 1,883·889 |
| 90 | 76 | 450·300 | 1,218·466 |
| 91 | 77 | 296·815 | 768·166 |
| 92 | 78 | 190·277 | 471·351 |
| 93 | 79 | 118·445 | 281·074 |
| 94 | 80 | 71·4777 | 162·6286 |
| 95 | 81 | 41·7459 | 91·1509 |
| 96 | 82 | 23·5558 | 49·4050 |
| 97 | 83 | 12·8187 | 25·8492 |
| 98 | 84 | 6·7153 | 13·0305 |
| 99 | 85 | 3·3801 | 6·3152 |
| 100 | 86 | 1·6316 | 2·9351 |
| 101 | 87 | ·7538 | 1·3035 |
| 102 | 88 | ·3326 | ·5497 |
| 103 | 89 | ·1399 | ·2171 |
| 104 | 90 | ·0560 | ·0772 |
| 105 | 91 | ·0212 | ·0212 |

**Difference of Age 93 Years.**

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 93 | 0 | 3,332·82 | 8,556·84 |
| 94 | 1 | 1,980·12 | 5,224·02 |
| 95 | 2 | 1,247·25 | 3,243·90 |
| 96 | 3 | 789·182 | 1,996·649 |
| 97 | 4 | 492·950 | 1,207·467 |
| 98 | 5 | 302·149 | 714·517 |
| 99 | 6 | 181·137 | 412·368 |
| 100 | 7 | 105·906 | 231·231 |
| 101 | 8 | 60·2426 | 125·3253 |
| 102 | 9 | 33·2966 | 65·0827 |
| 103 | 10 | 17·8541 | 31·7861 |
| 104 | 11 | 9·2735 | 13·9320 |
| 105 | 12 | 4·6585 | 4·6585 |

## JOINT LIVES :—Two Females.

**Difference of Age 15 Years.**

**Difference of Age 92 Years.**

| Ages | | $D_{x,\ y}$ | $N_{x,\ y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 15 Years.** | |
| 15 | 0 | 1,331,052 | 21,306,955 |
| 16 | 1 | 1,111,993 | 19,975,903 |
| 17 | 2 | 1,006,683 | 18,863,910 |
| 18 | 3 | 936,604 | 17,857,227 |
| 19 | 4 | 880,964 | 16,920,623 |
| 20 | 5 | 833,575 | 16,039,659 |
| 21 | 6 | 791,712 | 15,206,084 |
| 22 | 7 | 753,858 | 14,414,372 |
| 23 | 8 | 718,728 | 13,660,514 |
| 24 | 9 | 686,054 | 12,941,786 |
| 25 | 10 | 655,436 | 12,255,732 |
| 26 | 11 | 626,542 | 11,600,296 |
| 27 | 12 | 599,103 | 10,973,754 |
| 28 | 13 | 572,897 | 10,374,651 |
| 29 | 14 | 547,750 | 9,801,754 |
| 30 | 15 | 523,524 | 9,254,004 |
| 31 | 16 | 500,113 | 8,730,480 |
| 32 | 17 | 477,439 | 8,230,367 |
| 33 | 18 | 455,448 | 7,752,928 |
| 34 | 19 | 434,106 | 7,297,480 |
| 35 | 20 | 413,395 | 6,863,374 |
| 36 | 21 | 393,310 | 6,449,979 |
| 37 | 22 | 374,033 | 6,056,669 |
| 38 | 23 | 355,543 | 5,682,636 |
| 39 | 24 | 337,815 | 5,327,093 |
| 40 | 25 | 320,825 | 4,989,278 |
| 41 | 26 | 304,549 | 4,668,453 |
| 42 | 27 | 288,962 | 4,363,904 |
| 43 | 28 | 274,041 | 4,074,942 |
| 44 | 29 | 259,761 | 3,800,901 |
| 45 | 30 | 246,100 | 3,541,140 |
| 46 | 31 | 233,033 | 3,295,040 |
| 47 | 32 | 220,539 | 3,062,007 |
| 48 | 33 | 208,596 | 2,841,468 |
| 49 | 34 | 197,181 | 2,632,872 |
| 50 | 35 | 186,276 | 2,435,691 |
| 51 | 36 | 175,858 | 2,249,415 |
| 52 | 37 | 165,910 | 2,073,557 |
| 53 | 38 | 156,413 | 1,907,647 |
| 54 | 39 | 147,348 | 1,751,234 |
| 55 | 40 | 138,488 | 1,603,886 |
| 56 | 41 | 129,954 | 1,465,398 |
| 57 | 42 | 121,741 | 1,335,444 |
| 58 | 43 | 113,847 | 1,213,703 |
| 59 | 44 | 106,263 | 1,099,856 |
| 60 | 45 | 98,981·3 | 993,593·2 |
| 61 | 46 | 91,994·4 | 894,611·9 |
| 62 | 47 | 85,293·5 | 802,617·5 |
| 63 | 48 | 78,871·0 | 717,324·0 |
| 64 | 49 | 72,720·1 | 638,453·0 |
| 65 | 50 | 66,835·0 | 565,732·9 |
| 66 | 51 | 61,211·4 | 498,897·9 |
| 67 | 52 | 55,846·1 | 437,686·5 |
| 68 | 53 | 50,737·6 | 381,840·4 |
| 69 | 54 | 45,885·4 | 331,102·8 |
| 70 | 55 | 41,227·2 | 285,217·4 |
| 71 | 56 | 36,812·5 | 243,990·2 |
| 72 | 57 | 32,650·9 | 207,177·7 |
| 73 | 58 | 28,750·3 | 174,526·8 |
| 74 | 59 | 25,117·7 | 145,776·5 |
| 75 | 60 | 21,758·2 | 120,658·8 |
| 76 | 61 | 18,675·5 | 98,900·6 |
| 77 | 62 | 15,870·8 | 80,225·1 |
| 78 | 63 | 13,343·1 | 64,354·3 |
| 79 | 64 | 11,088·6 | 51,011·2 |
| 80 | 65 | 9,100·59 | 39,922·56 |
| 81 | 66 | 7,369·18 | 30,821·97 |
| 82 | 67 | 5,881·56 | 23,452·79 |
| 83 | 68 | 4,622·02 | 17,571·23 |
| 84 | 69 | 3,572·40 | 12,949·21 |
| 85 | 70 | 2,712·53 | 9,376·81 |
| 86 | 71 | 2,020·95 | 6,664·28 |
| 87 | 72 | 1,475·56 | 4,643·33 |
| 88 | 73 | 1,054·42 | 3,167·77 |
| 89 | 74 | 736·443 | 2,113·353 |
| 90 | 75 | 502·019 | 1,376·910 |
| 91 | 76 | 333·524 | 874·891 |
| 92 | 77 | 215·628 | 541·367 |
| 93 | 78 | 135·451 | 325·739 |
| 94 | 79 | 82·5383 | 190·2882 |
| 95 | 80 | 48·7090 | 107·7499 |
| 96 | 81 | 27·7909 | 59·0409 |
| 97 | 82 | 15·3028 | 31·2500 |
| 98 | 83 | 8·1176 | 15·9472 |
| 99 | 84 | 4·1407 | 7·8296 |
| 100 | 85 | 2·0271 | 3·6889 |
| 101 | 86 | ·9506 | 1·6618 |
| 102 | 87 | ·4261 | ·7112 |
| 103 | 88 | ·1822 | ·2851 |
| 104 | 89 | ·0742 | ·1029 |
| 105 | 90 | ·0287 | 0287 |
| | | **Difference of Age 92 Years.** | |
| 92 | 0 | 4,681·86 | 12,471·47 |
| 93 | 1 | 2,841·54 | 7,789·61 |
| 94 | 2 | 1,830·26 | 4,948·07 |
| 95 | 3 | 1,185·47 | 3,117·81 |
| 96 | 4 | 758·804 | 1,932·338 |
| 97 | 5 | 477·130 | 1,173·534 |
| 98 | 6 | 293·764 | 696·404 |
| 99 | 7 | 176·597 | 402·640 |
| 100 | 8 | 103·405 | 226·043 |
| 101 | 9 | 58·9027 | 122·6382 |
| 102 | 10 | 32·5910 | 63·7355 |
| 103 | 11 | 17·4892 | 31·1445 |
| 104 | 12 | 9·0885 | 13·6553 |
| 105 | 13 | 4·5668 | 4·5668 |

## JOINT LIVES:—Two Females.

### Difference of Age 16 Years.

### Difference of Age 91 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 16 Years.** | |
| 16 | 0 | 1,304,248 | 20,733,006 |
| 17 | 1 | 1,089,107 | 19,428,758 |
| 18 | 2 | 985,415 | 18,339,651 |
| 19 | 3 | 916,233 | 17,354,236 |
| 20 | 4 | 861,214 | 16,438,003 |
| 21 | 5 | 814,312 | 15,576,789 |
| 22 | 6 | 773,242 | 14,762,477 |
| 23 | 7 | 736,112 | 13,989,235 |
| 24 | 8 | 701,661 | 13,253,123 |
| 25 | 9 | 669,627 | 12,551,462 |
| 26 | 10 | 639,614 | 11,881,835 |
| 27 | 11 | 611,297 | 11,242,221 |
| 28 | 12 | 584,412 | 10,630,924 |
| 29 | 13 | 558,741 | 10,046,512 |
| 30 | 14 | 534,113 | 9,487,771 |
| 31 | 15 | 510,391 | 8,953,658 |
| 32 | 16 | 487,471 | 8,443,267 |
| 33 | 17 | 465,278 | 7,955,796 |
| 34 | 18 | 443,757 | 7,490,518 |
| 35 | 19 | 422,875 | 7,046,761 |
| 36 | 20 | 402,614 | 6,623,886 |
| 37 | 21 | 382,967 | 6,221,272 |
| 38 | 22 | 364,114 | 5,838,305 |
| 39 | 23 | 346,031 | 5,474,191 |
| 40 | 24 | 328,695 | 5,128,160 |
| 41 | 25 | 312,082 | 4,799,465 |
| 42 | 26 | 296,168 | 4,487,383 |
| 43 | 27 | 280,930 | 4,191,215 |
| 44 | 28 | 266,343 | 3,910,285 |
| 45 | 29 | 252,384 | 3,643,942 |
| 46 | 30 | 239,030 | 3,391,558 |
| 47 | 31 | 226,258 | 3,152,528 |
| 48 | 32 | 214,048 | 2,926,270 |
| 49 | 33 | 202,376 | 2,712,222 |
| 50 | 34 | 191,223 | 2,509,846 |
| 51 | 35 | 180,567 | 2,318,623 |
| 52 | 36 | 170,391 | 2,138,056 |
| 53 | 37 | 160,674 | 1,967,665 |
| 54 | 38 | 151,399 | 1,806,991 |
| 55 | 39 | 142,331 | 1,655,592 |
| 56 | 40 | 133,594 | 1,513,261 |
| 57 | 41 | 125,186 | 1,379,667 |
| 58 | 42 | 117,102 | 1,254,481 |
| 59 | 43 | 109,334 | 1,137,379 |
| 60 | 44 | 101,875 | 1,028,045 |
| 61 | 45 | 94,715·4 | 926,170·2 |
| 62 | 46 | 87,847·4 | 831,454·8 |
| 63 | 47 | 81,263·0 | 743,607·4 |
| 64 | 48 | 74,955·0 | 662,344·4 |
| 65 | 49 | 68,917·7 | 587,389·4 |
| 66 | 50 | 63,146·4 | 518,471·7 |
| 67 | 31 | 57,638·2 | 455,325·3 |
| 68 | 52 | 52,391·2 | 397,687·1 |
| 69 | 53 | 47,405·1 | 345,295·9 |
| 70 | 54 | 42,680·6 | 297,890·8 |
| 71 | 55 | 38,161·2 | 255,210·2 |
| 72 | 56 | 33,894·3 | 217,049·0 |
| 73 | 57 | 29,889·4 | 183,154·7 |
| 74 | 58 | 26,154·4 | 153,265·3 |
| 75 | 59 | 22,695·4 | 127,110·9 |
| 76 | 60 | 19,516·6 | 104,415·5 |
| 77 | 61 | 16,620·0 | 84,898·9 |
| 78 | 62 | 14,004·9 | 68,278·9 |
| 79 | 63 | 11,668·0 | 54,274·0 |
| 80 | 64 | 9,602·69 | 42,605·97 |
| 81 | 65 | 7,799·64 | 33,003·28 |
| 82 | 66 | 6,246·17 | 25,203·64 |
| 83 | 67 | 4,926·82 | 18,957·47 |
| 84 | 68 | 3,823·53 | 14,030·65 |
| 85 | 69 | 2,916·21 | 10,207·12 |
| 86 | 70 | 2,183·32 | 7,290·91 |
| 87 | 71 | 1,602·61 | 5,107·59 |
| 88 | 72 | 1,151·84 | 3,504·98 |
| 89 | 73 | 809·538 | 2,353·143 |
| 90 | 74 | 555·600 | 1,543·605 |
| 91 | 75 | 371·831 | 988·005 |
| 92 | 76 | 242·296 | 616·174 |
| 93 | 77 | 153·497 | 373·878 |
| 94 | 78 | 94·3883 | 220·3807 |
| 95 | 79 | 56·2464 | 125·9924 |
| 96 | 80 | 32·4263 | 69·7460 |
| 97 | 81 | 18·0541 | 37·3197 |
| 98 | 82 | 9·6907 | 19·2656 |
| 99 | 83 | 5·0054 | 9·5749 |
| 100 | 84 | 2·4832 | 4·5695 |
| 101 | 85 | 1·1810 | 2·0863 |
| 102 | 86 | ·5373 | ·9053 |
| 103 | 87 | ·2334 | ·3680 |
| 104 | 88 | ·0966 | ·1346 |
| 105 | 89 | ·0380 | ·0380 |

**Difference of Age 91 Years.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 91 | 0 | 6,444·65 | 17,820·68 |
| 92 | 1 | 3,991·72 | 11,376·03 |
| 93 | 2 | 2,626·50 | 7,384·31 |
| 94 | 3 | 1,739·60 | 4,757·81 |
| 95 | 4 | 1,139·83 | 3,018·21 |
| 96 | 5 | 734·452 | 1,878·377 |
| 97 | 6 | 463·888 | 1,143·925 |
| 98 | 7 | 286·400 | 680·037 |
| 99 | 8 | 172·426 | 393·637 |
| 100 | 9 | 101·105 | 221·211 |
| 101 | 10 | 57·6544 | 120·1061 |
| 102 | 11 | 31·9250 | 62·4517 |
| 103 | 12 | 17·1403 | 30·5267 |
| 104 | 13 | 8·9095 | 13·3864 |
| 105 | 14 | 4·4769 | 4·4769 |

## JOINT LIVES:—Two Females.

**Difference of Age 17 Years.**

**Difference of Age 90 Years.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 17 Years.** | |
| 17 | 0 | 1,277,405 | 20,166,102 |
| 18 | 1 | 1,066,097 | 18,888,697 |
| 19 | 2 | 963,983 | 17,822,600 |
| 20 | 3 | 895,692 | 16,858,617 |
| 21 | 4 | 841,312 | 15,962,925 |
| 22 | 5 | 795,315 | 15,121,613 |
| 23 | 6 | 755,040 | 14,326,298 |
| 24 | 7 | 718,633 | 13,571,258 |
| 25 | 8 | 684,860 | 12,852,625 |
| 26 | 9 | 653,462 | 12,167,765 |
| 27 | 10 | 624,050 | 11,514,303 |
| 28 | 11 | 596,307 | 10,890,253 |
| 29 | 12 | 569,971 | 10,293,946 |
| 30 | 13 | 544,830 | 9,723,975 |
| 31 | 14 | 520,714 | 9,179,145 |
| 32 | 15 | 497,489 | 8,658,431 |
| 33 | 16 | 475,055 | 8,160,942 |
| 34 | 17 | 453,335 | 7,685,887 |
| 35 | 18 | 432,277 | 7,232,552 |
| 36 | 19 | 411,847 | 6,800,275 |
| 37 | 20 | 392,027 | 6,388,428 |
| 38 | 21 | 372,812 | 5,996,401 |
| 39 | 22 | 354,374 | 5,623,589 |
| 40 | 23 | 336,690 | 5,269,215 |
| 41 | 24 | 319,739 | 4,932,525 |
| 42 | 25 | 303,495 | 4,612,786 |
| 43 | 26 | 287,936 | 4,309,291 |
| 44 | 27 | 273,038 | 4,021,355 |
| 45 | 28 | 258,778 | 3,748,317 |
| 46 | 29 | 245,133 | 3,489,539 |
| 47 | 30 | 232,081 | 3,244,406 |
| 48 | 31 | 219,599 | 3,012,325 |
| 49 | 32 | 207,665 | 2,792,726 |
| 50 | 33 | 196,260 | 2,585,061 |
| 51 | 34 | 185,363 | 2,388,801 |
| 52 | 35 | 174,953 | 2,203,438 |
| 53 | 36 | 165,013 | 2,028,485 |
| 54 | 37 | 155,523 | 1,863,472 |
| 55 | 38 | 146,243 | 1,707,949 |
| 56 | 39 | 137,300 | 1,561,706 |
| 57 | 40 | 128,693 | 1,424,406 |
| 58 | 41 | 120,415 | 1,295,713 |
| 59 | 42 | 112,460 | 1,175,298 |
| 60 | 43 | 104,819 | 1,062,838 |
| 61 | 44 | 97,484·1 | 958,019·0 |
| 62 | 45 | 90,445·8 | 860,534·9 |
| 63 | 46 | 83,696·3 | 770,089·1 |
| 64 | 47 | 77,228·2 | 686,392·8 |
| 65 | 48 | 71,035·8 | 609,164·6 |
| 66 | 49 | 65,114·2 | 538,128·8 |
| 67 | 50 | 59,460·3 | 473,014·6 |
| 68 | 51 | 54,072·3 | 413,554·3 |
| 69 | 52 | 48,950·0 | 359,482·0 |
| 70 | 53 | 44,094·2 | 310,532·0 |
| 71 | 54 | 39,506·6 | 266,437·8 |
| 72 | 55 | 35,136·1 | 226,931·2 |
| 73 | 56 | 31,027·7 | 191,795·1 |
| 74 | 57 | 27,190·6 | 160,767·4 |
| 75 | 58 | 23,632·1 | 133,576·8 |
| 76 | 59 | 20,357·2 | 109,944·7 |
| 77 | 60 | 17,368·6 | 89,587·5 |
| 78 | 61 | 14,666·0 | 72,218·9 |
| 79 | 62 | 12,246·7 | 57,552·9 |
| 80 | 63 | 10,104·4 | 45,306·2 |
| 81 | 64 | 8,229·96 | 35,201·76 |
| 82 | 65 | 6,611·03 | 26,971·80 |
| 83 | 66 | 5,232·25 | 20,360·77 |
| 84 | 67 | 4,075·68 | 15,128·52 |
| 85 | 68 | 3,121·22 | 11,052·84 |
| 86 | 69 | 2,347·26 | 7,931·62 |
| 87 | 70 | 1,731·36 | 5,584·36 |
| 88 | 71 | 1,251·01 | 3,853·00 |
| 89 | 72 | 884·331 | 2,601·987 |
| 90 | 73 | 610·745 | 1,717·656 |
| 91 | 74 | 411·517 | 1,106·911 |
| 92 | 75 | 270·126 | 695·394 |
| 93 | 76 | 172·481 | 425·268 |
| 94 | 77 | 106·964 | 252·787 |
| 95 | 78 | 64·3216 | 145·8233 |
| 96 | 79 | 37·4440 | 81·5017 |
| 97 | 80 | 21·0655 | 44·0577 |
| 98 | 81 | 11·4330 | 22·9922 |
| 99 | 82 | 5·9754 | 11·5592 |
| 100 | 83 | 3·0018 | 5·5838 |
| 101 | 84 | 1·4467 | 2·5820 |
| 102 | 85 | ·6676 | 1·1353 |
| 103 | 86 | ·2944 | ·4677 |
| 104 | 87 | ·1238 | ·1733 |
| 105 | 88 | ·0495 | ·0495 |

**Difference of Age 90 Years.**

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | | |
| 90 | 0 | 8,701·08 | 24,988·87 |
| 91 | 1 | 5,494·66 | 16,287·79 |
| 92 | 2 | 3,689·63 | 10,793·13 |
| 93 | 3 | 2,496·40 | 7,103·50 |
| 94 | 4 | 1,672·64 | 4,607·10 |
| 95 | 5 | 1,103·25 | 2,934·46 |
| 96 | 6 | 714·068 | 1,831·206 |
| 97 | 7 | 452·259 | 1,117·138 |
| 98 | 8 | 279·636 | 664·879 |
| 99 | 9 | 168·591 | 385·243 |
| 100 | 10 | 98·9626 | 216·6519 |
| 101 | 11 | 56·4762 | 117·6893 |
| 102 | 12 | 31·2881 | 61·2131 |
| 103 | 13 | 16·8026 | 29·9250 |
| 104 | 14 | 8·7342 | 13·1224 |
| 105 | 15 | 4·3882 | 4·3882 |

## JOINT LIVES:—Two Females.

### Difference of Age 18 Years.

### Difference of Age 89 Years.

| Ages |  | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | Difference of Age 18 Years. |  |
| 18 | 0 | 1,250,417 | 19,606,474 |
| 19 | 1 | 1,042,910 | 18,356,057 |
| 20 | 2 | 942,371 | 17,313,147 |
| 21 | 3 | 874,993 | 16,370,776 |
| 22 | 4 | 821,685 | 15,495,783 |
| 23 | 5 | 776,593 | 14,674,098 |
| 24 | 6 | 737,111 | 13,897,505 |
| 25 | 7 | 701,425 | 13,160,394 |
| 26 | 8 | 668,327 | 12,458,969 |
| 27 | 9 | 637,561 | 11,790,642 |
| 28 | 10 | 608,748 | 11,153,081 |
| 29 | 11 | 581,573 | 10,544,333 |
| 30 | 12 | 555,780 | 9,962,760 |
| 31 | 13 | 531,162 | 9,406,980 |
| 32 | 14 | 507,551 | 8,875,818 |
| 33 | 15 | 484,818 | 8,368,267 |
| 34 | 16 | 462,861 | 7,883,449 |
| 35 | 17 | 441,607 | 7,420,588 |
| 36 | 18 | 421,004 | 6,978,981 |
| 37 | 19 | 401,017 | 6,557,977 |
| 38 | 20 | 381,631 | 6,156,960 |
| 39 | 21 | 362,838 | 5,775,329 |
| 40 | 22 | 344,807 | 5,412,491 |
| 41 | 23 | 327,516 | 5,067,684 |
| 42 | 24 | 310,940 | 4,740,168 |
| 43 | 25 | 295,059 | 4,429,228 |
| 44 | 26 | 279,847 | 4,134,169 |
| 45 | 27 | 265,283 | 3,854,322 |
| 46 | 28 | 251,344 | 3,589,039 |
| 47 | 29 | 238,006 | 3,337,695 |
| 48 | 30 | 225,249 | 3,099,689 |
| 49 | 31 | 213,051 | 2,874,440 |
| 50 | 32 | 201,390 | 2,661,389 |
| 51 | 33 | 190,246 | 2,459,999 |
| 52 | 34 | 179,600 | 2,269,753 |
| 53 | 35 | 169,431 | 2,090,153 |
| 54 | 36 | 159,723 | 1,920,722 |
| 55 | 37 | 150,227 | 1,760,999 |
| 56 | 38 | 141,074 | 1,610,772 |
| 57 | 39 | 132,263 | 1,469,698 |
| 58 | 40 | 123,788 | 1,337,435 |
| 59 | 41 | 115,642 | 1,213,647 |
| 60 | 42 | 107,816 | 1,098,005 |
| 61 | 43 | 100,302 | 990,189 |
| 62 | 44 | 93,089·7 | 889,887·1 |
| 63 | 45 | 86,171·8 | 796,797·4 |
| 64 | 46 | 79,540·7 | 710,625·6 |
| 65 | 47 | 73,190·1 | 631,084·9 |
| 66 | 48 | 67,115·4 | 557,894·8 |
| 67 | 49 | 61,313·1 | 490,779·4 |
| 68 | 50 | 55,781·7 | 429,466·3 |
| 69 | 51 | 50,520·8 | 373,684·6 |
| 70 | 52 | 45,531·2 | 323,163·8 |
| 71 | 53 | 40,815·0 | 277,632·6 |
| 72 | 54 | 36,374·8 | 236,817·6 |
| 73 | 55 | 32,164·4 | 200,442·8 |
| 74 | 56 | 28,226·1 | 168,278·4 |
| 75 | 57 | 24,568·4 | 140,052·3 |
| 76 | 58 | 21,197·5 | 115,483·9 |
| 77 | 59 | 18,116·7 | 94,286·4 |
| 78 | 60 | 15,326·6 | 76,169·7 |
| 79 | 61 | 12,824·8 | 60,843·1 |
| 80 | 62 | 10,605·5 | 48,018·3 |
| 81 | 63 | 8,659·93 | 37,412·76 |
| 82 | 64 | 6,975·78 | 28,752·83 |
| 83 | 65 | 5,537·89 | 21,777·05 |
| 84 | 66 | 4,328·34 | 16,239·16 |
| 85 | 67 | 3,327·05 | 11,910·82 |
| 86 | 68 | 2,512·27 | 8,583·77 |
| 87 | 69 | 1,861·37 | 6,071·50 |
| 88 | 70 | 1,351·52 | 4,210·13 |
| 89 | 71 | 960·470 | 2,858·605 |
| 90 | 72 | 667·172 | 1,898·135 |
| 91 | 73 | 452·362 | 1,230·963 |
| 92 | 74 | 298·956 | 778·601 |
| 93 | 75 | 192·291 | 479·645 |
| 94 | 76 | 120·193 | 287·354 |
| 95 | 77 | 72·8913 | 167·1613 |
| 96 | 78 | 42·8198 | 94·2700 |
| 97 | 79 | 24·3252 | 51·4502 |
| 98 | 80 | 13·3400 | 27·1250 |
| 99 | 81 | 7·0497 | 13·7850 |
| 100 | 82 | 3·5835 | 6·7353 |
| 101 | 83 | 1·7488 | 3·1518 |
| 102 | 84 | ·8178 | 1·4030 |
| 103 | 85 | ·3657 | ·5852 |
| 104 | 86 | ·1561 | ·2195 |
| 105 | 87 | ·0634 | ·0634 |

**Difference of Age 89 Years.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 89 | 0 | 11,533·2 | 34,417·8 |
| 90 | 1 | 7,418·49 | 22,884·56 |
| 91 | 2 | 5,078·83 | 15,466·07 |
| 92 | 3 | 3,506·87 | 10,387·24 |
| 93 | 4 | 2,400·30 | 6,880·37 |
| 94 | 5 | 1,618·96 | 4,480·07 |
| 95 | 6 | 1,072·63 | 2,861·11 |
| 96 | 7 | 696·168 | 1,788·475 |
| 97 | 8 | 441·579 | 1,092·307 |
| 98 | 9 | 273·416 | 650·728 |
| 99 | 10 | 165·018 | 377·312 |
| 100 | 11 | 96·9402 | 212·2942 |
| 101 | 12 | 55·3495 | 115·3540 |
| 102 | 13 | 30·6716 | 60·0045 |
| 103 | 14 | 16·4721 | 29·3329 |
| 104 | 15 | 8·5610 | 12·8608 |
| 105 | 16 | 4·2998 | 4·2998 |

## JOINT LIVES:—Two Females.

### Difference of Age 19 Years.

### Difference of Age 88 Years.

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | Difference of Age 19 Years. | |
| 19 | 0 | 1,223,221 | 19,054,481 |
| 20 | 1 | 1,019,529 | 17,831,260 |
| 21 | 2 | 920,593 | 16,811,731 |
| 22 | 3 | 854,581 | 15,891,138 |
| 23 | 4 | 802,343 | 15,036,557 |
| 24 | 5 | 758,152 | 14,234,214 |
| 25 | 6 | 719,461 | 13,476,062 |
| 26 | 7 | 684,492 | 12,756,601 |
| 27 | 8 | 652,065 | 12,072,109 |
| 28 | 9 | 621,928 | 11,420,044 |
| 29 | 10 | 593,706 | 10,798,116 |
| 30 | 11 | 567,093 | 10,204,410 |
| 31 | 12 | 541,837 | 9,637,317 |
| 32 | 13 | 517,736 | 9,095,480 |
| 33 | 14 | 494,624 | 8,577,744 |
| 34 | 15 | 472,374 | 8,083,120 |
| 35 | 16 | 450,887 | 7,610,746 |
| 36 | 17 | 430,090 | 7,159,859 |
| 37 | 18 | 409,933 | 6,729,769 |
| 38 | 19 | 390,383 | 6,319,836 |
| 39 | 20 | 371,421 | 5,929,453 |
| 40 | 21 | 353,043 | 5,558,032 |
| 41 | 22 | 335,411 | 5,204,989 |
| 42 | 23 | 318,503 | 4,869,578 |
| 43 | 24 | 302,297 | 4,551,075 |
| 44 | 25 | 286,770 | 4,248,778 |
| 45 | 26 | 271,899 | 3,962,008 |
| 46 | 27 | 257,662 | 3,690,109 |
| 47 | 28 | 244,036 | 3,432,447 |
| 48 | 29 | 231,001 | 3,188,411 |
| 49 | 30 | 218,533 | 2,957,410 |
| 50 | 31 | 206,612 | 2,738,877 |
| 51 | 32 | 195,218 | 2,532,265 |
| 52 | 33 | 184,331 | 2,337,047 |
| 53 | 34 | 173,931 | 2,152,716 |
| 54 | 35 | 164,000 | 1,978,785 |
| 55 | 36 | 154,284 | 1,814,785 |
| 56 | 37 | 144,918 | 1,660,501 |
| 57 | 38 | 135,899 | 1,515,583 |
| 58 | 39 | 127,223 | 1,379,684 |
| 59 | 40 | 118,882 | 1,252,461 |
| 60 | 41 | 110,867 | 1,133,579 |
| 61 | 42 | 103,170 | 1,022,712 |
| 62 | 43 | 95,780·4 | 919,541·5 |
| 63 | 44 | 88,690·8 | 823,761·1 |
| 64 | 45 | 81,893·3 | 735,070·3 |
| 65 | 46 | 75,381·7 | 653,177·0 |
| 66 | 47 | 69,150·8 | 577,795·3 |
| 67 | 48 | 63,197·5 | 508,644·5 |
| 68 | 49 | 57,520·0 | 445,447·0 |
| 69 | 50 | 52,117·9 | 387,927·0 |
| 70 | 51 | 46,992·2 | 335,809·1 |
| 71 | 52 | 42,145·2 | 288,816·9 |
| 72 | 53 | 37,579·5 | 246,671·7 |
| 73 | 54 | 33,298·4 | 209,092·2 |
| 74 | 55 | 29,260·2 | 175,793·8 |
| 75 | 56 | 25,504·1 | 146,533·6 |
| 76 | 57 | 22,037·3 | 121,029·5 |
| 77 | 58 | 18,864·4 | 98,992·2 |
| 78 | 59 | 15,986·7 | 80,127·8 |
| 79 | 60 | 13,402·4 | 64,141·1 |
| 80 | 61 | 11,106·2 | 50,738·7 |
| 81 | 62 | 9,089·45 | 39,632·49 |
| 82 | 63 | 7,340·23 | 30,543·04 |
| 83 | 64 | 5,843·43 | 23,202·81 |
| 84 | 65 | 4,581·17 | 17,359·38 |
| 85 | 66 | 3,533·30 | 12,778·21 |
| 86 | 67 | 2,677·94 | 9,244·91 |
| 87 | 68 | 1,992·22 | 6,566·97 |
| 88 | 69 | 1,453·00 | 4,574·75 |
| 89 | 70 | 1,037·64 | 3,121·75 |
| 90 | 71 | 724·614 | 2,084·113 |
| 91 | 72 | 494·155 | 1,359·499 |
| 92 | 73 | 328·629 | 865·344 |
| 93 | 74 | 212·814 | 536·715 |
| 94 | 75 | 133·997 | 323·901 |
| 95 | 76 | 81·9062 | 189·9043 |
| 96 | 77 | 48·5248 | 107·9981 |
| 97 | 78 | 27·8175 | 59·4733 |
| 98 | 79 | 15·4042 | 31·6558 |
| 99 | 80 | 8·2256 | 16·2516 |
| 100 | 81 | 4·2278 | 8·0260 |
| 101 | 82 | 2·0877 | 3·7982 |
| 102 | 83 | ·9886 | 1·7105 |
| 103 | 84 | ·4480 | ·7219 |
| 104 | 85 | ·1939 | ·2739 |
| 105 | 86 | ·0800 | ·0800 |

**Difference of Age 88 Years.**

| $x$ | $y$ | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 88 | 0 | 15,022·0 | 46,603·2 |
| 89 | 1 | 9,833·14 | 31,581·20 |
| 90 | 2 | 6,857·05 | 21,748·06 |
| 91 | 3 | 4,827·25 | 14,891·01 |
| 92 | 4 | 3,371·88 | 10,063·76 |
| 93 | 5 | 2,323·27 | 6,691·88 |
| 94 | 6 | 1,574·03 | 4,368·61 |
| 95 | 7 | 1,045·75 | 2,794·58 |
| 96 | 8 | 679·727 | 1,748·831 |
| 97 | 9 | 431·757 | 1,069·104 |
| 98 | 10 | 267·622 | 637·347 |
| 99 | 11 | 161·646 | 369·725 |
| 100 | 12 | 95·0063 | 208·0790 |
| 101 | 13 | 54·2590 | 113·0727 |
| 102 | 14 | 30·0683 | 58·8137 |
| 103 | 15 | 16·1455 | 28·7454 |
| 104 | 16 | 8·3886 | 12·5999 |
| 105 | 17 | 4·2113 | 4·2113 |

## JOINT LIVES:—Two Females.

### Difference of Age 20 Years.

### Difference of Age 87 Years.

| **Ages** | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 20 Years.** | |
| 20 | 0 | 1,195,797 | 18,510,539 |
| 21 | 1 | 995,968 | 17,314,742 |
| 22 | 2 | 899,117 | 16,318,774 |
| 23 | 3 | 834,464 | 15,419,657 |
| 24 | 4 | 783,290 | 14,585,193 |
| 25 | 5 | 739,998 | 13,801,903 |
| 26 | 6 | 702,093 | 13,061,905 |
| 27 | 7 | 667,837 | 12,359,812 |
| 28 | 8 | 636,076 | 11,691,975 |
| 29 | 9 | 606,560 | 11,055,899 |
| 30 | 10 | 578,924 | 10,449,339 |
| 31 | 11 | 552,867 | 9,870,415 |
| 32 | 12 | 528,141 | 9,317,548 |
| 33 | 13 | 504,548 | 8,789,407 |
| 34 | 14 | 481,928 | 8,284,859 |
| 35 | 15 | 460,153 | 7,802,931 |
| 36 | 16 | 439,128 | 7,342,778 |
| 37 | 17 | 418,781 | 6,903,650 |
| 38 | 18 | 399,062 | 6,484,869 |
| 39 | 19 | 379,939 | 6,085,807 |
| 40 | 20 | 361,395 | 5,705,868 |
| 41 | 21 | 343,423 | 5,344,473 |
| 42 | 22 | 326,182 | 5,001,050 |
| 43 | 23 | 309,650 | 4,674,868 |
| 44 | 24 | 293,805 | 4,365,218 |
| 45 | 25 | 278,625 | 4,071,413 |
| 46 | 26 | 264,088 | 3,792,788 |
| 47 | 27 | 250,171 | 3,528,700 |
| 48 | 28 | 236,853 | 3,278,529 |
| 49 | 29 | 224,113 | 3,041,676 |
| 50 | 30 | 211,929 | 2,817,563 |
| 51 | 31 | 200,281 | 2,605,634 |
| 52 | 32 | 189,149 | 2,405,353 |
| 53 | 33 | 178,513 | 2,216,204 |
| 54 | 34 | 168,355 | 2,037,691 |
| 55 | 35 | 158,415 | 1,869,336 |
| 56 | 36 | 148,831 | 1,710,921 |
| 57 | 37 | 139,601 | 1,562,090 |
| 58 | 38 | 130,720 | 1,422,489 |
| 59 | 39 | 122,180 | 1,291,769 |
| 60 | 40 | 113,973 | 1,169,589 |
| 61 | 41 | 106,089 | 1,055,616 |
| 62 | 42 | 98,518·9 | 949,527·3 |
| 63 | 43 | 91,254·3 | 851,008·4 |
| 64 | 44 | 84,287·3 | 759,754·1 |
| 65 | 45 | 77,611·3 | 675,466·8 |
| 66 | 46 | 71,221·4 | 597,855·5 |
| 67 | 47 | 65,114·2 | 526,634·1 |
| 68 | 48 | 59,287·8 | 461,519·9 |
| 69 | 49 | 53,741·9 | 402,232·1 |
| 70 | 50 | 48,477·8 | 348,490·2 |
| 71 | 51 | 43,497·6 | 300,012·4 |
| 72 | 52 | 38,804·2 | 256,514·8 |
| 73 | 53 | 34,401·2 | 217,710·6 |
| 74 | 54 | 30,291·8 | 183,309·4 |
| 75 | 55 | 26,438·5 | 153,017·6 |
| 76 | 56 | 22,876·6 | 126,579·1 |
| 77 | 57 | 19,611·8 | 103,702·5 |
| 78 | 58 | 16,646·5 | 84,090·7 |
| 79 | 59 | 13,979·7 | 67,444·2 |
| 80 | 60 | 11,606·4 | 53,464·5 |
| 81 | 61 | 9,518·53 | 41,858·11 |
| 82 | 62 | 7,704·29 | 32,339·58 |
| 83 | 63 | 6,148·71 | 24,635·29 |
| 84 | 64 | 4,833·93 | 18,486·58 |
| 85 | 65 | 3,739·70 | 13,652·65 |
| 86 | 66 | 2,843·96 | 9,912·95 |
| 87 | 67 | 2,123·60 | 7,068·99 |
| 88 | 68 | 1,555·15 | 4,945·39 |
| 89 | 69 | 1,115·55 | 3,390·24 |
| 90 | 70 | 782·831 | 2,274·691 |
| 91 | 71 | 536·701 | 1,491·860 |
| 92 | 72 | 358·991 | 955·159 |
| 93 | 73 | 233·937 | 596·168 |
| 94 | 74 | 148·299 | 362·231 |
| 95 | 75 | 91·3136 | 213·9321 |
| 96 | 76 | 54·5261 | 122·6185 |
| 97 | 77 | 31·5237 | 68·0924 |
| 98 | 78 | 17·6158 | 36·5687 |
| 99 | 79 | 9·4984 | 18·9529 |
| 100 | 80 | 4·9329 | 9·4545 |
| 101 | 81 | 2·4630 | 4·5216 |
| 102 | 82 | 1·1801 | 2·0586 |
| 103 | 83 | ·5416 | ·8785 |
| 104 | 84 | ·2375 | ·3369 |
| 105 | 85 | ·0994 | ·0994 |

**Difference of Age 87 Years.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 87 | 0 | 19,243·9 | 62,089·2 |
| 88 | 1 | 12,807·7 | 42,845·3 |
| 89 | 2 | 9,088·97 | 30,037·64 |
| 90 | 3 | 6,517·40 | 20,948·67 |
| 91 | 4 | 4,641·44 | 14,431·27 |
| 92 | 5 | 3,263·67 | 9,789·83 |
| 93 | 6 | 2,258·79 | 6,526·16 |
| 94 | 7 | 1,534·57 | 4,267·37 |
| 95 | 8 | 1,021·05 | 2,732·80 |
| 96 | 9 | 664·608 | 1,711·746 |
| 97 | 10 | 422·607 | 1,047·138 |
| 98 | 11 | 262·153 | 624·531 |
| 99 | 12 | 158·421 | 362·378 |
| 100 | 13 | 93·1344 | 203·9570 |
| 101 | 14 | 53·1917 | 110·8226 |
| 102 | 15 | 29·4722 | 57·6309 |
| 103 | 16 | 15·8204 | 28·1587 |
| 104 | 17 | 8·2160 | 12·3383 |
| 105 | 18 | 4·1223 | 4·1223 |

## JOINT LIVES:—Two Females.

**Difference of Age 21 Years.**

**Difference of Age 86 Years.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Difference of Age 21 Years.** | |
| 21 | 0 | 1,168,163 | 17,975,143 |
| 22 | 1 | 972,733 | 16,806,980 |
| 23 | 2 | 877,952 | 15,834,247 |
| 24 | 3 | 814,649 | 14,956,295 |
| 25 | 4 | 764,535 | 14,141,646 |
| 26 | 5 | 722,134 | 13,377,111 |
| 27 | 6 | 685,009 | 12,654,977 |
| 28 | 7 | 651,461 | 11,969,968 |
| 29 | 8 | 620,359 | 11,318,507 |
| 30 | 9 | 591,458 | 10,698,148 |
| 31 | 10 | 564,401 | 10,106,690 |
| 32 | 11 | 538,892 | 9,542,289 |
| 33 | 12 | 514,689 | 9,003,397 |
| 34 | 13 | 491,598 | 8,488,708 |
| 35 | 14 | 469,460 | 7,997,110 |
| 36 | 15 | 448,153 | 7,527,650 |
| 37 | 16 | 427,581 | 7,079,497 |
| 38 | 17 | 407,675 | 6,651,916 |
| 39 | 18 | 388,387 | 6,244,241 |
| 40 | 19 | 369,683 | 5,855,854 |
| 41 | 20 | 351,547 | 5,486,171 |
| 42 | 21 | 333,973 | 5,134,624 |
| 43 | 22 | 317,115 | 4,800,651 |
| 44 | 23 | 300,951 | 4,483,536 |
| 45 | 24 | 285,460 | 4,182,585 |
| 46 | 25 | 270,621 | 3,897,125 |
| 47 | 26 | 256,410 | 3,626,504 |
| 48 | 27 | 242,807 | 3,370,094 |
| 49 | 28 | 229,791 | 3,127,287 |
| 50 | 29 | 217,340 | 2,897,496 |
| 51 | 30 | 205,434 | 2,680,156 |
| 52 | 31 | 194,054 | 2,474,722 |
| 53 | 32 | 183,179 | 2,280,668 |
| 54 | 33 | 172,791 | 2 097,489 |
| 55 | 34 | 162,622 | 1,924,698 |
| 56 | 35 | 152,816 | 1,762,076 |
| 57 | 36 | 143,371 | 1,609,260 |
| 58 | 37 | 134,281 | 1,465,889 |
| 59 | 38 | 125,538 | 1,331,608 |
| 60 | 39 | 117,135 | 1,206,070 |
| 61 | 40 | 109,061 | 1,088,935 |
| 62 | 41 | 101,307 | 979,874 |
| 63 | 42 | 93,863·4 | 878,566·6 |
| 64 | 43 | 86,723·5 | 784,703·2 |
| 65 | 44 | 79,880·1 | 697,979·7 |
| 66 | 45 | 73,328·0 | 618,099·6 |
| 67 | 46 | 67,063·9 | 544,771·6 |
| 68 | 47 | 61,085·8 | 477,707·7 |
| 69 | 48 | 55,393·6 | 416,621·9 |
| 70 | 49 | 49,988·5 | 361,228·3 |
| 71 | 50 | 44,872·7 | 311,239·8 |
| 72 | 51 | 40,049·4 | 266,367·1 |
| 73 | 52 | 35,522·3 | 226,317·7 |
| 74 | 53 | 31,295·0 | 190,795·4 |
| 75 | 54 | 27,370·5 | 159,500·4 |
| 76 | 55 | 23,714·7 | 132,129·9 |
| 77 | 56 | 20,358·7 | 108,415·2 |
| 78 | 57 | 17,306·1 | 88,056·5 |
| 79 | 58 | 14,556·7 | 70,750·4 |
| 80 | 59 | 12,106·3 | 56,193·7 |
| 81 | 60 | 9,947·24 | 44,087·41 |
| 82 | 61 | 8,067·98 | 34,140·17 |
| 83 | 62 | 6,453·68 | 26,072·19 |
| 84 | 63 | 5,086·48 | 19,618·51 |
| 85 | 64 | 3,946·02 | 14,532·03 |
| 86 | 65 | 3,010·08 | 10,586·01 |
| 87 | 66 | 2,255·25 | 7,575·93 |
| 88 | 67 | 1,657·70 | 5,320·68 |
| 89 | 68 | 1,193·97 | 3,662·98 |
| 90 | 69 | 841·612 | 2,469·014 |
| 91 | 70 | 579·821 | 1,627·402 |
| 92 | 71 | 389·899 | 1,047·581 |
| 93 | 72 | 255·551 | 657·682 |
| 94 | 73 | 163·018 | 402·131 |
| 95 | 74 | 101·059 | 239·113 |
| 96 | 75 | 60·7888 | 138·0541 |
| 97 | 76 | 35·4224 | 77·2653 |
| 98 | 77 | 19·9628 | 41·8429 |
| 99 | 78 | 10·8621 | 21·8801 |
| 100 | 79 | 5·6963 | 11·0180 |
| 101 | 80 | 2·8739 | 5·3217 |
| 102 | 81 | 1·3923 | 2·4478 |
| 103 | 82 | ·6465 | 1·0555 |
| 104 | 83 | ·2872 | ·4090 |
| 105 | 84 | ·1218 | ·1218 |

**Difference of Age 86 Years.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 86 | 0 | 24,267·4 | 81,459·3 |
| 87 | 1 | 16,407·2 | 57,191·9 |
| 88 | 2 | 11,838·4 | 40,784·7 |
| 89 | 3 | 8,638·76 | 28,946·30 |
| 90 | 4 | 6,266·53 | 20,307·54 |
| 91 | 5 | 4,492·48 | 14,041·01 |
| 92 | 6 | 3,173·09 | 9,548·53 |
| 93 | 7 | 2,202·17 | 6,375·44 |
| 94 | 8 | 1,498·33 | 4,173·27 |
| 95 | 9 | 998·338 | 2,674·943 |
| 96 | 10 | 650·524 | 1,676·605 |
| 97 | 11 | 413·970 | 1,026·081 |
| 98 | 12 | 256·923 | 612·111 |
| 99 | 13 | 155·300 | 355·188 |
| 100 | 14 | 91·3024 | 199·8882 |
| 101 | 15 | 52·1372 | 108·5858 |
| 102 | 16 | 28·8787 | 56·4486 |
| 103 | 17 | 15·4948 | 27·5699 |
| 104 | 18 | 8·0424 | 12·0751 |
| 105 | 19 | 4·0327 | 4·0327 |

## JOINT LIVES:—TWO FEMALES.

**Difference of Age 22 Years.**

**Difference of Age 85 Years.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 22 Years.** | |
| 22 | 0 | 1,140,912 | 17,448,838 |
| 23 | 1 | 949,835 | 16,307,926 |
| 24 | 2 | 857,104 | 15,358,091 |
| 25 | 3 | 795,142 | 14,500,987 |
| 26 | 4 | 746,078 | 13,705,845 |
| 27 | 5 | 704,563 | 12,959,767 |
| 28 | 6 | 668,212 | 12,255,204 |
| 29 | 7 | 635,364 | 11,586,992 |
| 30 | 8 | 604,913 | 10,951,628 |
| 31 | 9 | 576,620 | 10,346,715 |
| 32 | 10 | 550,134 | 9,770,095 |
| 33 | 11 | 525,166 | 9,219,961 |
| 34 | 12 | 501,478 | 8,694,795 |
| 35 | 13 | 478,880 | 8,193,317 |
| 36 | 14 | 457,217 | 7,714,437 |
| 37 | 15 | 436,368 | 7,257,220 |
| 38 | 16 | 416,242 | 6,820,852 |
| 39 | 17 | 396,769 | 6,404,610 |
| 40 | 18 | 377,902 | 6,007,841 |
| 41 | 19 | 359,609 | 5,629,939 |
| 42 | 20 | 341,873 | 5,270,330 |
| 43 | 21 | 324,689 | 4,928,457 |
| 44 | 22 | 308,207 | 4,603,768 |
| 45 | 23 | 292,404 | 4,295,561 |
| 46 | 24 | 277,260 | 4,003,157 |
| 47 | 25 | 262,753 | 3,725,897 |
| 48 | 26 | 248,863 | 3,463,144 |
| 49 | 27 | 235,567 | 3,214,281 |
| 50 | 28 | 222,847 | 2,978,714 |
| 51 | 29 | 210,680 | 2,755,867 |
| 52 | 30 | 199,047 | 2,545,187 |
| 53 | 31 | 187,929 | 2,346,140 |
| 54 | 32 | 177,307 | 2,158,211 |
| 55 | 33 | 166,906 | 1,980,904 |
| 56 | 34 | 156,875 | 1,813,998 |
| 57 | 35 | 147,210 | 1,657,123 |
| 58 | 36 | 137,907 | 1,509,913 |
| 59 | 37 | 128,958 | 1,372,006 |
| 60 | 38 | 120,355 | 1,243,048 |
| 61 | 39 | 112,086 | 1,122,693 |
| 62 | 40 | 104,144 | 1,010,607 |
| 63 | 41 | 96,519·3 | 906,463·1 |
| 64 | 42 | 89,203·1 | 809,943·8 |
| 65 | 43 | 82,188·9 | 720,740·7 |
| 66 | 44 | 75,471·6 | 638,551·8 |
| 67 | 45 | 69,047·5 | 563,080·2 |
| 68 | 46 | 62,914·9 | 494,032·7 |
| 69 | 47 | 57,073·6 | 431,117·8 |
| 70 | 48 | 51,524·8 | 374,044·2 |
| 71 | 49 | 46,270·9 | 322,519·4 |
| 72 | 50 | 41,315·5 | 276,248·5 |
| 73 | 51 | 36,662·2 | 234,933·0 |
| 74 | 52 | 32,314·9 | 198,270·8 |
| 75 | 53 | 28,277·0 | 165,955·9 |
| 76 | 54 | 24,550·7 | 137,678·9 |
| 77 | 55 | 21,104·6 | 113,128·2 |
| 78 | 56 | 17,965·2 | 92,023·6 |
| 79 | 57 | 15,133·4 | 74,058·4 |
| 80 | 58 | 12,606·0 | 58,925·0 |
| 81 | 59 | 10,375·7 | 46,319·0 |
| 82 | 60 | 8,431·36 | 35,943·25 |
| 83 | 61 | 6,758·33 | 27,511·89 |
| 84 | 62 | 5,338·76 | 20,753·56 |
| 85 | 63 | 4,152·18 | 15,414·80 |
| 86 | 64 | 3,176·16 | 11,262·62 |
| 87 | 65 | 2,386·98 | 8,086·46 |
| 88 | 66 | 1,760·47 | 5,699·48 |
| 89 | 67 | 1,272·71 | 3,939·01 |
| 90 | 68 | 900·776 | 2,666·299 |
| 91 | 69 | 623·358 | 1,765·523 |
| 92 | 70 | 421·224 | 1,142·165 |
| 93 | 71 | 277·553 | 720·941 |
| 94 | 72 | 178·079 | 443·388 |
| 95 | 73 | 111·090 | 265·309 |
| 96 | 74 | 67·2767 | 154·2185 |
| 97 | 75 | 39·4909 | 86·9418 |
| 98 | 76 | 22·4317 | 47·4509 |
| 99 | 77 | 12·3093 | 25·0192 |
| 100 | 78 | 6·5141 | 12·7099 |
| 101 | 79 | 3·3186 | 6·1958 |
| 102 | 80 | 1·6245 | 2·8772 |
| 103 | 81 | ·7627 | 1·2527 |
| 104 | 82 | ·3428 | ·4900 |
| 105 | 83 | ·1472 | ·1472 |

**Difference of Age 85 Years.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 85 | 0 | 30,149·5 | 105,325·4 |
| 86 | 1 | 20,690·2 | 75,175·9 |
| 87 | 2 | 15,165·5 | 54,485·7 |
| 88 | 3 | 11,252·0 | 39,320·2 |
| 89 | 4 | 8,306·23 | 28,068·21 |
| 90 | 5 | 6,065·41 | 19,761·98 |
| 91 | 6 | 4,367·80 | 13,696·57 |
| 92 | 7 | 3,093·54 | 9,328·77 |
| 93 | 8 | 2,150·16 | 6,235·23 |
| 94 | 9 | 1,465·00 | 4,085·07 |
| 95 | 10 | 977·181 | 2,620·070 |
| 96 | 11 | 637·230 | 1,642·889 |
| 97 | 12 | 405·712 | 1,005·659 |
| 98 | 13 | 251·861 | 599·947 |
| 99 | 14 | 152·245 | 348·086 |
| 100 | 15 | 89·4924 | 195·8414 |
| 101 | 16 | 51·0873 | 106·3490 |
| 102 | 17 | 28·2844 | 55·2617 |
| 103 | 18 | 15·1675 | 26·9773 |
| 104 | 19 | 7·8675 | 11·8098 |
| 105 | 20 | 3·9423 | 3·9423 |

## JOINT LIVES:—Two Females.

### Difference of Age 23 Years.

### Difference of Age 84 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 23 Years.** | |
| 23 | 0 | 1,114,054 | 16,931,595 |
| 24 | 1 | 927,281 | 15,817,541 |
| 25 | 2 | 836,581 | 14,890,260 |
| 26 | 3 | 775,947 | 14,053,679 |
| 27 | 4 | 727,925 | 13,277,732 |
| 28 | 5 | 687,286 | 12,549,807 |
| 29 | 6 | 651,701 | 11,862,521 |
| 30 | 7 | 619,544 | 11,210,820 |
| 31 | 8 | 589,738 | 10,591,276 |
| 32 | 9 | 562,045 | 10,001,538 |
| 33 | 10 | 536,122 | 9,439,493 |
| 34 | 11 | 511,686 | 8,903,371 |
| 35 | 12 | 488,504 | 8,391,685 |
| 36 | 13 | 466,391 | 7,903,181 |
| 37 | 14 | 445,194 | 7,436,790 |
| 38 | 15 | 424,796 | 6,991,596 |
| 39 | 16 | 405,107 | 6,566,800 |
| 40 | 17 | 386,058 | 6,161,693 |
| 41 | 18 | 367,604 | 5,775,635 |
| 42 | 19 | 349,714 | 5,408,031 |
| 43 | 20 | 332,370 | 5,058,317 |
| 44 | 21 | 315,568 | 4,725,947 |
| 45 | 22 | 299,453 | 4,410,379 |
| 46 | 23 | 284,003 | 4,110,926 |
| 47 | 24 | 269,199 | 3,826,923 |
| 48 | 25 | 255,019 | 3,557,724 |
| 49 | 26 | 241,442 | 3,302,705 |
| 50 | 27 | 228,449 | 3,061,263 |
| 51 | 28 | 216,018 | 2,832,814 |
| 52 | 29 | 204,130 | 2,616,796 |
| 53 | 30 | 192,765 | 2,412,666 |
| 54 | 31 | 181,905 | 2,219,901 |
| 55 | 32 | 171,269 | 2,037,996 |
| 56 | 33 | 161,008 | 1,866,727 |
| 57 | 34 | 151,120 | 1,705,719 |
| 58 | 35 | 141,600 | 1,554.599 |
| 59 | 36 | 132,441 | 1,412,999 |
| 60 | 37 | 123,633 | 1,280,558 |
| 61 | 38 | 115,167 | 1,156,925 |
| 62 | 39 | 107,034 | 1,041,758 |
| 63 | 40 | 99,223·2 | 934,723·9 |
| 64 | 41 | 91,727·1 | 835,500·7 |
| 65 | 42 | 84,538·8 | 743,773·6 |
| 66 | 43 | 77,653·0 | 659,234·8 |
| 67 | 44 | 71,065·9 | 581,581·8 |
| 68 | 45 | 64,775·8 | 510,515·9 |
| 69 | 46 | 58,782·6 | 445,740·1 |
| 70 | 47 | 53,087·4 | 386,957·5 |
| 71 | 48 | 47,693·0 | 333,870·1 |
| 72 | 49 | 42,602·9 | 286,177·1 |
| 73 | 50 | 37,821·2 | 243,574·2 |
| 74 | 51 | 33,351·9 | 205,753·0 |
| 75 | 52 | 29,198·6 | 172,401·1 |
| 76 | 53 | 25,363·8 | 143,202·5 |
| 77 | 54 | 21,848·6 | 117,838·7 |
| 78 | 55 | 18,623·4 | 95,990·1 |
| 79 | 56 | 15,709·7 | 77,366·7 |
| 80 | 57 | 13,105·4 | 61,657·0 |
| 81 | 58 | 10,803·9 | 48,551·6 |
| 82 | 59 | 8,794·50 | 37,747·65 |
| 83 | 60 | 7,062·72 | 28,953·15 |
| 84 | 61 | 5,590·78 | 21,890·43 |
| 85 | 62 | 4,358·12 | 16,299·65 |
| 86 | 63 | 3,342·09 | 11,941·53 |
| 87 | 64 | 2,518·68 | 8,599·44 |
| 88 | 65 | 1,863·30 | 6,080·76 |
| 89 | 66 | 1,351·61 | 4,217·46 |
| 90 | 67 | 960·178 | 2,865·851 |
| 91 | 68 | 667·179 | 1,905·673 |
| 92 | 69 | 452·853 | 1,238·494 |
| 93 | 70 | 299·852 | 785·641 |
| 94 | 71 | 193·412 | 485·789 |
| 95 | 72 | 121·354 | 292·377 |
| 96 | 73 | 73·9542 | 171·0227 |
| 97 | 74 | 43·7057 | 97·0685 |
| 98 | 75 | 25·0082 | 53·3628 |
| 99 | 76 | 13·8316 | 28·3546 |
| 100 | 77 | 7·3820 | 14·5230 |
| 101 | 78 | 3·7950 | 7·1410 |
| 102 | 79 | 1·8759 | 3·3460 |
| 103 | 80 | ·8900 | 1·4701 |
| 104 | 81 | ·4044 | ·5801 |
| 105 | 82 | ·1757 | ·1757 |

**Difference of Age 84 Years.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 84 | 0 | 36,933·6 | 134,315·7 |
| 85 | 1 | 25,705·3 | 97,382·1 |
| 86 | 2 | 19,124·4 | 71,676·8 |
| 87 | 3 | 14,414·3 | 52,552·4 |
| 88 | 4 | 10,818·9 | 38,138·1 |
| 89 | 5 | 8,039·66 | 27,319·19 |
| 90 | 6 | 5,897·08 | 19,279·53 |
| 91 | 7 | 4,258·30 | 13,382·45 |
| 92 | 8 | 3,020·49 | 9,124·15 |
| 93 | 9 | 2,102·33 | 6,103·66 |
| 94 | 10 | 1,433·96 | 4,001·33 |
| 95 | 11 | 957·211 | 2,567·374 |
| 96 | 12 | 624·517 | 1,610·163 |
| 97 | 13 | 397·719 | 985·646 |
| 98 | 14 | 246·907 | 587·927 |
| 99 | 15 | 149·227 | 341·020 |
| 100 | 16 | 87·6903 | 191·7929 |
| 101 | 17 | 50·0359 | 104·1026 |
| 102 | 18 | 27·6868 | 54·0667 |
| 103 | 19 | 14·8376 | 26·3799 |
| 104 | 20 | 7·6911 | 11·5423 |
| 105 | 21 | 3·8512 | 3·8512 |

## JOINT LIVES:—Two Females.

### Difference of Age 24 Years.

### Difference of Age 83 Years.

| Ages |  | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 24 Years.** |  |
| 24 | 0 | 1,087,601 | 16,423,355 |
| 25 | 1 | 905,077 | 15,335,754 |
| 26 | 2 | 816,385 | 14,430,677 |
| 27 | 3 | 757,067 | 13,614,292 |
| 28 | 4 | 710,075 | 12,857,225 |
| 29 | 5 | 670,304 | 12,147,150 |
| 30 | 6 | 635,475 | 11,476,846 |
| 31 | 7 | 604,002 | 10,841,371 |
| 32 | 8 | 574,831 | 10,237,369 |
| 33 | 9 | 547,729 | 9,662,538 |
| 34 | 10 | 522,361 | 9,114,809 |
| 35 | 11 | 498,448 | 8,592,448 |
| 36 | 12 | 475,765 | 8,094,000 |
| 37 | 13 | 454,127 | 7,618,235 |
| 38 | 14 | 433,388 | 7,164,108 |
| 39 | 15 | 413,432 | 6,730,720 |
| 40 | 16 | 394,171 | 6,317,288 |
| 41 | 17 | 375,538 | 5,923,117 |
| 42 | 18 | 357,489 | 5,547,579 |
| 43 | 19 | 339,993 | 5,190,090 |
| 44 | 20 | 323,033 | 4,850,097 |
| 45 | 21 | 306,606 | 4,527,064 |
| 46 | 22 | 290,850 | 4,220,458 |
| 47 | 23 | 275,747 | 3,929,608 |
| 48 | 24 | 261,275 | 3,653,861 |
| 49 | 25 | 247,415 | 3,392,586 |
| 50 | 26 | 234,146 | 3,145,171 |
| 51 | 27 | 221,448 | 2,911,025 |
| 52 | 28 | 209,301 | 2,689,577 |
| 53 | 29 | 197,687 | 2,480,276 |
| 54 | 30 | 186,586 | 2,282,589 |
| 55 | 31 | 175,710 | 2,096,003 |
| 56 | 32 | 165,216 | 1,920,293 |
| 57 | 33 | 155,101 | 1,755,077 |
| 58 | 34 | 145,361 | 1,599,976 |
| 59 | 35 | 135,987 | 1,454,615 |
| 60 | 36 | 126,972 | 1,318,628 |
| 61 | 37 | 118,305 | 1,191,656 |
| 62 | 38 | 109,976 | 1,073,351 |
| 63 | 39 | 101,976 | 963,375 |
| 64 | 40 | 94,296·7 | 861,398·5 |
| 65 | 41 | 86,930·9 | 767,101·8 |
| 66 | 42 | 79,873·2 | 680,170·9 |
| 67 | 43 | 73,120·0 | 600,297·7 |
| 68 | 44 | 66,669·4 | 527,177·7 |
| 69 | 45 | 60,521·2 | 460,508·3 |
| 70 | 46 | 54,677·0 | 399,987·1 |
| 71 | 47 | 49,139·4 | 345,310·1 |
| 72 | 48 | 43,912·3 | 296,170·7 |
| 73 | 49 | 38,999·7 | 252,258·4 |
| 74 | 50 | 34,406·2 | 213,258·7 |
| 75 | 51 | 30,135·5 | 178,852·5 |
| 76 | 52 | 26,190·4 | 148,717·0 |
| 77 | 53 | 22,572·2 | 122,526·6 |
| 78 | 54 | 19,279·9 | 99,954·4 |
| 79 | 55 | 16,285·3 | 80,674·5 |
| 80 | 56 | 13,604·5 | 64,389·2 |
| 81 | 57 | 11,232·0 | 50,784·7 |
| 82 | 58 | 9,157·49 | 39,552·71 |
| 83 | 59 | 7,366·92 | 30,395·22 |
| 84 | 60 | 5,842·59 | 23,028·30 |
| 85 | 61 | 4,563·85 | 17,185·71 |
| 86 | 62 | 3,507·86 | 12,621·86 |
| 87 | 63 | 2,650·27 | 9,114·00 |
| 88 | 64 | 1,966·11 | 6,463·73 |
| 89 | 65 | 1,430·56 | 4,497·62 |
| 90 | 66 | 1,019·70 | 3,067·06 |
| 91 | 67 | 711·177 | 2,047·361 |
| 92 | 68 | 484·688 | 1,336·184 |
| 93 | 69 | 322·367 | 851·496 |
| 94 | 70 | 208·951 | 529·129 |
| 95 | 71 | 131·802 | 320·178 |
| 96 | 72 | 80·7869 | 188·3759 |
| 97 | 73 | 48·0437 | 107·5890 |
| 98 | 74 | 27·6773 | 59·5453 |
| 99 | 75 | 15·4203 | 31·8680 |
| 100 | 76 | 8·2949 | 16·4477 |
| 101 | 77 | 4·3006 | 8·1528 |
| 102 | 78 | 2·1453 | 3·8522 |
| 103 | 79 | 1·0277 | 1·7069 |
| 104 | 80 | ·4719 | ·6792 |
| 105 | 81 | ·2073 | ·2073 |

**Difference of Age 83 Years.**

| $x$ | $y$ | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 83 | 0 | 44,646·6 | 169,059·5 |
| 84 | 1 | 31,489·3 | 124,412·9 |
| 85 | 2 | 23,759·9 | 92,923·6 |
| 86 | 3 | 18,177·1 | 69,163·7 |
| 87 | 4 | 13,859·5 | 50,986·6 |
| 88 | 5 | 10,471·7 | 37,127·1 |
| 89 | 6 | 7,816·53 | 26,655·44 |
| 90 | 7 | 5,749·25 | 18,838·91 |
| 91 | 8 | 4,157·74 | 13,089·66 |
| 92 | 9 | 2,953·30 | 8,931·92 |
| 93 | 10 | 2,057·78 | 5,978·62 |
| 94 | 11 | 1,404·65 | 3,920·84 |
| 95 | 12 | 938·116 | 2,516·187 |
| 96 | 13 | 612·213 | 1,578·071 |
| 97 | 14 | 389·895 | 965·858 |
| 98 | 15 | 242·012 | 575·963 |
| 99 | 16 | 146·222 | 333·951 |
| 100 | 17 | 85·8855 | 187·7285 |
| 101 | 18 | 48·9788 | 101·8430 |
| 102 | 19 | 27·0846 | 52·8642 |
| 103 | 20 | 14·5049 | 25·7796 |
| 104 | 21 | 7·5134 | 11·2747 |
| 105 | 22 | 3·7613 | 3·7613 |

## JOINT LIVES:—Two Females.

**Difference of Age 25 Years.**

**Difference of Age 82 Years.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 25 Years.** | |
| 25 | 0 | 1,061,558 | 15,924,052 |
| 26 | 1 | 883,228 | 14,862,494 |
| 27 | 2 | 796,521 | 13,979,266 |
| 28 | 3 | 738,502 | 13,182,745 |
| 29 | 4 | 692,529 | 12,444,243 |
| 30 | 5 | 653,615 | 11,751,714 |
| 31 | 6 | 619,533 | 11,098,099 |
| 32 | 7 | 588,735 | 10,478,566 |
| 33 | 8 | 560,190 | 9,889,831 |
| 34 | 9 | 533,670 | 9,329,641 |
| 35 | 10 | 508,847 | 8,795,971 |
| 36 | 11 | 485,449 | 8,287,124 |
| 37 | 12 | 463,254 | 7,801,675 |
| 38 | 13 | 442,084 | 7,338,421 |
| 39 | 14 | 421,794 | 6,896,337 |
| 40 | 15 | 402,271 | 6,474,543 |
| 41 | 16 | 383,430 | 6,072,272 |
| 42 | 17 | 365,205 | 5,688,842 |
| 43 | 18 | 347,552 | 5,323,637 |
| 44 | 19 | 330,442 | 4,976,085 |
| 45 | 20 | 313,859 | 4,645,643 |
| 46 | 21 | 297,797 | 4,331,784 |
| 47 | 22 | 282,394 | 4,033,987 |
| 48 | 23 | 267,630 | 3,751,593 |
| 49 | 24 | 253,485 | 3,483,963 |
| 50 | 25 | 239,938 | 3,230,478 |
| 51 | 26 | 226,971 | 2,990,540 |
| 52 | 27 | 214,563 | 2,763,569 |
| 53 | 28 | 202,696 | 2,549,006 |
| 54 | 29 | 191,350 | 2,346,310 |
| 55 | 30 | 180,232 | 2,154,960 |
| 56 | 31 | 169,500 | 1,974,728 |
| 57 | 32 | 159,155 | 1,805,228 |
| 58 | 33 | 149,190 | 1,646,073 |
| 59 | 34 | 139,599 | 1,496,883 |
| 60 | 35 | 130,372 | 1,357,284 |
| 61 | 36 | 121,500 | 1,226,912 |
| 62 | 37 | 112,972 | 1,105,412 |
| 63 | 38 | 104,779 | 992,440 |
| 64 | 39 | 96,912·9 | 887,660·7 |
| 65 | 40 | 89,366·1 | 790,747·8 |
| 66 | 41 | 82,133·2 | 701,381·7 |
| 67 | 42 | 75,210·6 | 619,248·5 |
| 68 | 43 | 68,596·4 | 544,037·9 |
| 69 | 44 | 62,290·4 | 475,441·5 |
| 70 | 45 | 56,294·3 | 413,151·1 |
| 71 | 46 | 50,610·8 | 356,856·8 |
| 72 | 47 | 45,244·0 | 306,246·0 |
| 73 | 48 | 40,198·4 | 261,002·0 |
| 74 | 49 | 35,478·4 | 220,803·6 |
| 75 | 50 | 31,088·2 | 185,325·2 |
| 76 | 51 | 27,030·8 | 154,237·0 |
| 77 | 52 | 23,307·8 | 127,206·2 |
| 78 | 53 | 19,918·4 | 103,898·4 |
| 79 | 54 | 16,859·4 | 83,980·0 |
| 80 | 55 | 14,103·0 | 67,120·6 |
| 81 | 56 | 11,659·7 | 53,017·6 |
| 82 | 57 | 9,520·31 | 41,357·85 |
| 83 | 58 | 7,670·98 | 31,837·54 |
| 84 | 59 | 6,094·23 | 24,166·56 |
| 85 | 60 | 4,769·41 | 18,072·33 |
| 86 | 61 | 3,673·45 | 13,302·92 |
| 87 | 62 | 2,781·71 | 9,629·47 |
| 88 | 63 | 2,068·83 | 6,847·76 |
| 89 | 64 | 1,509·49 | 4,778·93 |
| 90 | 65 | 1,079·27 | 3,269·44 |
| 91 | 66 | 755·265 | 2,190·165 |
| 92 | 67 | 516·651 | 1,434·900 |
| 93 | 68 | 345·029 | 918·249 |
| 94 | 69 | 224·640 | 573·220 |
| 95 | 70 | 142·391 | 348·580 |
| 96 | 71 | 87·7424 | 206·1885 |
| 97 | 72 | 52·4825 | 118·4461 |
| 98 | 73 | 30·4243 | 65·9636 |
| 99 | 74 | 17·0661 | 35·5393 |
| 100 | 75 | 9·2476 | 18·4732 |
| 101 | 76 | 4·8325 | 9·2256 |
| 102 | 77 | 2·4311 | 4·3931 |
| 103 | 78 | 1·1752 | 1·9620 |
| 104 | 79 | ·5449 | .7868 |
| 105 | 80 | ·2419 | ·2419 |

**Difference of Age 82 Years.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 82 | 0 | 53,298·3 | 210,174·4 |
| 83 | 1 | 38,065·4 | 156,876·1 |
| 84 | 2 | 29,106·2 | 118,810·7 |
| 85 | 3 | 22,583·0 | 89,704·5 |
| 86 | 4 | 17,477·4 | 67,121·5 |
| 87 | 5 | 13,414·7 | 49,644·1 |
| 88 | 6 | 10,181·0 | 36,229·4 |
| 89 | 7 | 7,620·58 | 26,048·35 |
| 90 | 8 | 5,613·47 | 18,427·77 |
| 91 | 9 | 4,065·26 | 12,814·30 |
| 92 | 10 | 2,890·72 | 8,749·04 |
| 93 | 11 | 2,015·73 | 5,858·32 |
| 94 | 12 | 1,376·63 | 3,842·59 |
| 95 | 13 | 919·633 | 2,465·962 |
| 96 | 14 | 600·170 | 1,546·329 |
| 97 | 15 | 382·166 | 946·159 |
| 98 | 16 | 237·138 | 563·993 |
| 99 | 17 | 143·212 | 326·855 |
| 100 | 18 | 84·0710 | 183·6425 |
| 101 | 19 | 47·9135 | 99·5715 |
| 102 | 20 | 26·4774 | 51·6580 |
| 103 | 21 | 14·1697 | 25·1806 |
| 104 | 22 | 7·3381 | 11·0109 |
| 105 | 23 | 3·6728 | 3·6728 |

## JOINT LIVES:—Two Females.

### Difference of Age 26 Years.

### Difference of Age 81 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 26 Years.** | |
| 26 | 0 | 1,035,931 | 15,433,606 |
| 27 | 1 | 861,737 | 14,397,675 |
| 28 | 2 | 776,989 | 13,535,938 |
| 29 | 3 | 720,254 | 12,758,949 |
| 30 | 4 | 675,287 | 12,038,695 |
| 31 | 5 | 637,218 | 11,363,408 |
| 32 | 6 | 603,873 | 10,726,190 |
| 33 | 7 | 573,739 | 10,122,317 |
| 34 | 8 | 545,811 | 9,548,578 |
| 35 | 9 | 519,864 | 9,002,767 |
| 36 | 10 | 495,576 | 8,482,903 |
| 37 | 11 | 472,684 | 7,987,327 |
| 38 | 12 | 450,969 | 7,514,643 |
| 39 | 13 | 430,257 | 7,063,674 |
| 40 | 14 | 410,408 | 6,633,417 |
| 41 | 15 | 391,310 | 6,223,009 |
| 42 | 16 | 372,879 | 5,831,699 |
| 43 | 17 | 355,053 | 5,458,820 |
| 44 | 18 | 337,788 | 5,103,767 |
| 45 | 19 | 321,057 | 4,765,979 |
| 46 | 20 | 304,842 | 4,444,922 |
| 47 | 21 | 289,140 | 4,140,080 |
| 48 | 22 | 274,082 | 3,850,940 |
| 49 | 23 | 259,650 | 3,576,858 |
| 50 | 24 | 245,824 | 3,317,208 |
| 51 | 25 | 232,585 | 3,071,384 |
| 52 | 26 | 219,914 | 2,838.799 |
| 53 | 27 | 207,791 | 2,618,885 |
| 54 | 28 | 196,198 | 2,411,094 |
| 55 | 29 | 184,834 | 2,214,896 |
| 56 | 30 | 173,862 | 2,030,062 |
| 57 | 31 | 163,282 | 1,856,200 |
| 58 | 32 | 153,089 | 1,692,918 |
| 59 | 33 | 143,276 | 1,539,829 |
| 60 | 34 | 133,834 | 1,396,553 |
| 61 | 35 | 124,753 | 1,262,719 |
| 62 | 36 | 116,023 | 1,137,966 |
| 63 | 37 | 107,633 | 1,021,943 |
| 64 | 38 | 99,576·7 | 914,309·5 |
| 65 | 39 | 91,845·5 | 814,732·8 |
| 66 | 40 | 84,434·1 | 722,887·3 |
| 67 | 41 | 77,338·7 | 638,453·2 |
| 68 | 42 | 70,557·7 | 561,114·5 |
| 69 | 43 | 64,090·8 | 490,556·8 |
| 70 | 44 | 57,939·9 | 426,466·0 |
| 71 | 45 | 52,107·8 | 368,526·1 |
| 72 | 46 | 46,598·8 | 316,418·3 |
| 73 | 47 | 41,417·5 | 269,819·5 |
| 74 | 48 | 36,568·8 | 228,402·0 |
| 75 | 49 | 32,056·9 | 191,833·2 |
| 76 | 50 | 27,885·4 | 159,776·3 |
| 77 | 51 | 24,055·8 | 131,890·9 |
| 78 | 52 | 20,567·6 | 107,835·1 |
| 79 | 53 | 17,417·8 | 87,267·5 |
| 80 | 54 | 14,600·1 | 69,849·7 |
| 81 | 55 | 12,086·9 | 55,249·6 |
| 82 | 56 | 9,882·87 | 43,162·65 |
| 83 | 57 | 7,974·91 | 33,279·78 |
| 84 | 58 | 6,345·77 | 25,304·87 |
| 85 | 59 | 4,974·83 | 18,959·10 |
| 86 | 60 | 3,838·90 | 13,984·27 |
| 87 | 61 | 2,913·03 | 10,145·37 |
| 88 | 62 | 2,171·44 | 7,232·34 |
| 89 | 63 | 1,588·35 | 5,060·90 |
| 90 | 64 | 1,138·81 | 3,472·55 |
| 91 | 65 | 799·382 | 2,333·736 |
| 92 | 66 | 548·680 | 1,534·354 |
| 93 | 67 | 367·782 | 985·674 |
| 94 | 68 | 240·433 | 617·892 |
| 95 | 69 | 153·083 | 377·459 |
| 96 | 70 | 94·7918 | 224·3762 |
| 97 | 71 | 57·0011 | 129·5844 |
| 98 | 72 | 33·2352 | 72·5833 |
| 99 | 73 | 18·7599 | 39·3481 |
| 100 | 74 | 10·2346 | 20·5882 |
| 101 | 75 | 5·3876 | 10·3536 |
| 102 | 76 | 2·7317 | 4·9660 |
| 103 | 77 | 1·3318 | 2·2343 |
| 104 | 78 | ·6232 | ·9025 |
| 105 | 79 | ·2793 | ·2793 |

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 81 Years.** | |
| 81 | 0 | 62,880·9 | 258,251·5 |
| 82 | 1 | 45,441·8 | 195,370·6 |
| 83 | 2 | 35,184·6 | 149,928·8 |
| 84 | 3 | 27,664·5 | 114,744·2 |
| 85 | 4 | 21,713·7 | 87,079·7 |
| 86 | 5 | 16,916·5 | 65,366·0 |
| 87 | 6 | 13,042·4 | 48,449·5 |
| 88 | 7 | 9,925·81 | 35,407·08 |
| 89 | 8 | 7,440·61 | 25,481·27 |
| 90 | 9 | 5,488·61 | 18,040·66 |
| 91 | 10 | 3.979·11 | 12,552·05 |
| 92 | 11 | 2,831·64 | 8,572·94 |
| 93 | 12 | 1,975·52 | 5,741·30 |
| 94 | 13 | 1,349·51 | 3,765·78 |
| 95 | 14 | 901·543 | 2,416·268 |
| 96 | 15 | 588·272 | 1,514·725 |
| 97 | 16 | 374·470 | 926·453 |
| 98 | 17 | 232·258 | 551·983 |
| 99 | 18 | 140·187 | 319·725 |
| 100 | 19 | 82·2425 | 179·5375 |
| 101 | 20 | 46·8393 | 97·2950 |
| 102 | 21 | 25·8655 | 50·4557 |
| 103 | 22 | 13·8392 | 24·5902 |
| 104 | 23 | 7·1654 | 10·7510 |
| 105 | 24 | 3·5856 | 3·5856 |

## JOINT LIVES:—Two Females.

**Difference of Age 27 Years.**

**Difference of Age 80 Years.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Difference of Age 27 Years.** | |
| 27 | 0 | 1,010,725 | 14,951,938 |
| 28 | 1 | 840,606 | 13,941,213 |
| 29 | 2 | 757,790 | 13,100,607 |
| 30 | 3 | 702,321 | 12,342,817 |
| 31 | 4 | 658,346 | 11,640,496 |
| 32 | 5 | 621,111 | 10,982,150 |
| 33 | 6 | 588,492 | 10,361,039 |
| 34 | 7 | 559,013 | 9,772,547 |
| 35 | 8 | 531,690 | 9,213,534 |
| 36 | 9 | 506,306 | 8,681,844 |
| 37 | 10 | 482,545 | 8,175,538 |
| 38 | 11 | 460,149 | 7,692,993 |
| 39 | 12 | 438,905 | 7,232,844 |
| 40 | 13 | 418,642 | 6,793,939 |
| 41 | 14 | 399,224 | 6,375,297 |
| 42 | 15 | 380,542 | 5,976,073 |
| 43 | 16 | 362,514 | 5,595,531 |
| 44 | 17 | 345,079 | 5,233,017 |
| 45 | 18 | 328,195 | 4,887,938 |
| 46 | 19 | 311,833 | 4,559,743 |
| 47 | 20 | 295,979 | 4,247,910 |
| 48 | 21 | 280,629 | 3,951,931 |
| 49 | 22 | 265,910 | 3,671,302 |
| 50 | 23 | 251,804 | 3,405,392 |
| 51 | 24 | 238,291 | 3,153,588 |
| 52 | 25 | 225,354 | 2,915,297 |
| 53 | 26 | 212,973 | 2,689,943 |
| 54 | 27 | 201,130 | 2,476,970 |
| 55 | 28 | 189,516 | 2,275,840 |
| 56 | 29 | 178,301 | 2,086,324 |
| 57 | 30 | 167,483 | 1,908,023 |
| 58 | 31 | 157,059 | 1,740,540 |
| 59 | 32 | 147,021 | 1,583,481 |
| 60 | 33 | 137,360 | 1,436,460 |
| 61 | 34 | 128,066 | 1,299,100 |
| 62 | 35 | 119,129 | 1,171,034 |
| 63 | 36 | 110,540 | 1,051,905 |
| 64 | 37 | 102,289 | 941,365 |
| 65 | 38 | 94,370·1 | 839,076·3 |
| 66 | 39 | 86,776·6 | 744,706·2 |
| 67 | 40 | 79,505·3 | 657,929·6 |
| 68 | 41 | 72,554·1 | 578,424·3 |
| 69 | 42 | 65,923·3 | 505,870·2 |
| 70 | 43 | 59,614·5 | 439,946·9 |
| 71 | 44 | 53,631·0 | 380,332·4 |
| 72 | 45 | 47,977·1 | 326,701·4 |
| 73 | 46 | 42,657·6 | 278,724·3 |
| 74 | 47 | 37,677·8 | 236,066·7 |
| 75 | 48 | 33,042·2 | 198,388·9 |
| 76 | 49 | 28,754·3 | 165,346·7 |
| 77 | 50 | 24,816·2 | 136,592·4 |
| 78 | 51 | 21,227·6 | 111,776·2 |
| 79 | 52 | 17,985·4 | 90,548·6 |
| 80 | 53 | 15,083·7 | 72,563·2 |
| 81 | 54 | 12,513·0 | 57,479·5 |
| 82 | 55 | 10,244·9 | 44,966·5 |
| 83 | 56 | 8,278·62 | 34,721·60 |
| 84 | 57 | 6,597·18 | 26,442·98 |
| 85 | 58 | 5,180·16 | 19,845·80 |
| 86 | 59 | 4,004·24 | 14,665·64 |
| 87 | 60 | 3,044·23 | 10,661·40 |
| 88 | 61 | 2,273·94 | 7,617·17 |
| 89 | 62 | 1,667·13 | 5,343·23 |
| 90 | 63 | 1,198·31 | 3,676·10 |
| 91 | 64 | 843·487 | 2,477·794 |
| 92 | 65 | 580·730 | 1,634·307 |
| 93 | 66 | 390·583 | 1,053·577 |
| 94 | 67 | 256·288 | 662·994 |
| 95 | 68 | 163·845 | 406·706 |
| 96 | 69 | 101·910 | 242·861 |
| 97 | 70 | 61·5807 | 140·9513 |
| 98 | 71 | 36·0967 | 79·3706 |
| 99 | 72 | 20·4932 | 43·2739 |
| 100 | 73 | 11·2505 | 22·7807 |
| 101 | 74 | 5·9626 | 11·5302 |
| 102 | 75 | 3·0455 | 5·5676 |
| 103 | 76 | 1·4965 | 2·5221 |
| 104 | 77 | ·7062 | 1·0256 |
| 105 | 78 | ·3194 | ·3194 |

**Difference of Age 80 Years.**

| x | y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 80 | 0 | 73,369·2 | 313,842·6 |
| 81 | 1 | 53,611·8 | 240,473·4 |
| 82 | 2 | 42,002·8 | 186,861·6 |
| 83 | 3 | 33,441·8 | 144,858·8 |
| 84 | 4 | 26,599·6 | 111,417·0 |
| 85 | 5 | 21,016·9 | 84,817·4 |
| 86 | 6 | 16,447·0 | 63,800·5 |
| 87 | 7 | 12,715·4 | 47,353·5 |
| 88 | 8 | 9,691·40 | 34,638·07 |
| 89 | 9 | 7,275·11 | 24,946·67 |
| 90 | 10 | 5,372·30 | 17,671·56 |
| 91 | 11 | 3,897·79 | 12,299·26 |
| 92 | 12 | 2,775·15 | 8,401·47 |
| 93 | 13 | 1,936·59 | 5,626·32 |
| 94 | 14 | 1,322·96 | 3,689·73 |
| 95 | 15 | 883·670 | 2,366·774 |
| 96 | 16 | 576·426 | 1,483·104 |
| 97 | 17 | 366·763 | 906·678 |
| 98 | 18 | 227·351 | 539·915 |
| 99 | 19 | 137·138 | 312·564 |
| 100 | 20 | 80·3987 | 175·4260 |
| 101 | 21 | 45·7569 | 95·0273 |
| 102 | 22 | 25·2621 | 49·2704 |
| 103 | 23 | 13·5134 | 24·0083 |
| 104 | 24 | 6·9952 | 10·4949 |
| 105 | 25 | 3·4997 | 3·4997 |

## JOINT LIVES:—Two Females.

**Difference of Age 28 Years.**

**Difference of Age 79 Years.**

**Difference of Age 28 Years.**

| Ages $x$ | Ages $y$ | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| 28 | 0 | 985,940 | 14,478,959 |
| 29 | 1 | 819,835 | 13,493,019 |
| 30 | 2 | 738,923 | 12,673,184 |
| 31 | 3 | 684,702 | 11,934,261 |
| 32 | 4 | 641,705 | 11,249,559 |
| 33 | 5 | 605,291 | 10,607,854 |
| 34 | 6 | 573,386 | 10,002,563 |
| 35 | 7 | 544,550 | 9,429,177 |
| 36 | 8 | 517,824 | 8,884,627 |
| 37 | 9 | 492,993 | 8,366,803 |
| 38 | 10 | 469,749 | 7,873,810 |
| 39 | 11 | 447,839 | 7,404,061 |
| 40 | 12 | 427,057 | 6,956,222 |
| 41 | 13 | 407,235 | 6,529,165 |
| 42 | 14 | 388,239 | 6,121,930 |
| 43 | 15 | 369,964 | 5,733,691 |
| 44 | 16 | 352,330 | 5,363,727 |
| 45 | 17 | 335,278 | 5,011,397 |
| 46 | 18 | 318,766 | 4,676,119 |
| 47 | 19 | 302,767 | 4,357,353 |
| 48 | 20 | 287,267 | 4,054,586 |
| 49 | 21 | 272,261 | 3,767,319 |
| 50 | 22 | 257,874 | 3,495,058 |
| 51 | 23 | 244,087 | 3,237,184 |
| 52 | 24 | 230,882 | 2,993,097 |
| 53 | 25 | 218,241 | 2,762,215 |
| 54 | 26 | 206,146 | 2,543,974 |
| 55 | 27 | 194,280 | 2,337,828 |
| 56 | 28 | 182,819 | 2,143,548 |
| 57 | 29 | 171,760 | 1,960,729 |
| 58 | 30 | 161,101 | 1,788,969 |
| 59 | 31 | 150,834 | 1,627,868 |
| 60 | 32 | 140,950 | 1,477,034 |
| 61 | 33 | 131,440 | 1,336,084 |
| 62 | 34 | 122,293 | 1,204,644 |
| 63 | 35 | 113,500 | 1,082,351 |
| 64 | 36 | 105,052 | 968,851 |
| 65 | 37 | 96,940·8 | 863,798·7 |
| 66 | 38 | 89,161·9 | 766,857·9 |
| 67 | 39 | 81,711·1 | 677,696·0 |
| 68 | 40 | 74,586·6 | 595,984·9 |
| 69 | 41 | 67,788·6 | 521,398·3 |
| 70 | 42 | 61,319·0 | 453,609·7 |
| 71 | 43 | 55,181·2 | 392,290·7 |
| 72 | 44 | 49,379·6 | 337,109·5 |
| 73 | 45 | 43,919·4 | 287,729·9 |
| 74 | 46 | 38,806·0 | 243,810·5 |
| 75 | 47 | 34,044·3 | 205,004·5 |
| 76 | 48 | 29,638·1 | 170,960·2 |
| 77 | 49 | 25,589·5 | 141,322·1 |
| 78 | 50 | 21,898·6 | 115,732·6 |
| 79 | 51 | 18,562·5 | 93,834·0 |
| 80 | 52 | 15,575·3 | 75,271·5 |
| 81 | 53 | 12,927·4 | 59,696·2 |
| 82 | 54 | 10,606·1 | 46,768·8 |
| 83 | 55 | 8,581·92 | 36,162·66 |
| 84 | 56 | 6,848·43 | 27,580·74 |
| 85 | 57 | 5,385·40 | 20,732·31 |
| 86 | 58 | 4,169·51 | 15,346·91 |
| 87 | 59 | 3,175·35 | 11,177·40 |
| 88 | 60 | 2,376·36 | 8,002·05 |
| 89 | 61 | 1,745·83 | 5,625·69 |
| 90 | 62 | 1,257·74 | 3,879·86 |
| 91 | 63 | 887·554 | 2,622·119 |
| 92 | 64 | 612·770 | 1,734·565 |
| 93 | 65 | 413·398 | 1,121·795 |
| 94 | 66 | 272·176 | 708·397 |
| 95 | 67 | 174·649 | 436·221 |
| 96 | 68 | 109·074 | 261·572 |
| 97 | 69 | 66·2046 | 152·4977 |
| 98 | 70 | 38·9968 | 86·2931 |
| 99 | 71 | 22·2576 | 47·2963 |
| 100 | 72 | 12·2899 | 25·0387 |
| 101 | 73 | 6·5544 | 12·7488 |
| 102 | 74 | 3·3705 | 6·1944 |
| 103 | 75 | 1·6684 | 2·8239 |
| 104 | 76 | ·7935 | 1·1555 |
| 105 | 77 | ·3620 | ·3620 |

**Difference of Age 79 Years.**

| Ages $x$ | Ages $y$ | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| 79 | 0 | 84,722·5 | 377,449·4 |
| 80 | 1 | 62,554·1 | 292,726·9 |
| 81 | 2 | 49,554·5 | 230,172·8 |
| 82 | 3 | 39,922·2 | 180,618·3 |
| 83 | 4 | 32,154·5 | 140,696·1 |
| 84 | 5 | 25,745·9 | 108,541·6 |
| 85 | 6 | 20,433·6 | 82,795·7 |
| 86 | 7 | 16,034·7 | 62,362·1 |
| 87 | 8 | 12,415·1 | 46,327·4 |
| 88 | 9 | 9,475·83 | 33,912·29 |
| 89 | 10 | 7,120·94 | 24,436·46 |
| 90 | 11 | 5,262·51 | 17,315·52 |
| 91 | 12 | 3,820·03 | 12,053·01 |
| 92 | 13 | 2,720·48 | 8,232·98 |
| 93 | 14 | 1,898·50 | 5,512·50 |
| 94 | 15 | 1,296·74 | 3,614·00 |
| 95 | 16 | 865·876 | 2,317·255 |
| 96 | 17 | 564·563 | 1,451·379 |
| 97 | 18 | 359·014 | 886·816 |
| 98 | 19 | 222·406 | 527·802 |
| 99 | 20 | 134·063 | 305·396 |
| 100 | 21 | 78·5407 | 171·3330 |
| 101 | 22 | 44·6894 | 92·7923 |
| 102 | 23 | 24·6675 | 48·1029 |
| 103 | 24 | 13·1925 | 23·4354 |
| 104 | 25 | 6·8277 | 10·2429 |
| 105 | 26 | 3·4152 | 3·4152 |

# JOINT LIVES:—Two Females.

## Difference of Age 29 Years.

## Difference of Age 78 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 29 Years.** | |
| 29 | 0 | 961,578 | 14,014,562 |
| 30 | 1 | 799,423 | 13,052,984 |
| 31 | 2 | 720,386 | 12,253,561 |
| 32 | 3 | 667,395 | 11,533,175 |
| 33 | 4 | 625,360 | 10,865,780 |
| 34 | 5 | 589,754 | 10,240,420 |
| 35 | 6 | 558,552 | 9,650,666 |
| 36 | 7 | 530,349 | 9,092,114 |
| 37 | 8 | 504,208 | 8,561,765 |
| 38 | 9 | 479,919 | 8,057,557 |
| 39 | 10 | 457,182 | 7,577,638 |
| 40 | 11 | 435,749 | 7,120,456 |
| 41 | 12 | 415,419 | 6,684,707 |
| 42 | 13 | 396,029 | 6,269,288 |
| 43 | 14 | 377,447 | 5,873,259 |
| 44 | 15 | 359,571 | 5,495,812 |
| 45 | 16 | 342,323 | 5,136,241 |
| 46 | 17 | 325,646 | 4,793,918 |
| 47 | 18 | 309,499 | 4,468,272 |
| 48 | 19 | 293,855 | 4,158,773 |
| 49 | 20 | 278,702 | 3,864,918 |
| 50 | 21 | 264,033 | 3,586,216 |
| 51 | 22 | 249,972 | 3,322,183 |
| 52 | 23 | 236,498 | 3,072,211 |
| 53 | 24 | 223,595 | 2,835,713 |
| 54 | 25 | 211,245 | 2,612,118 |
| 55 | 26 | 199,126 | 2,400,873 |
| 56 | 27 | 187,414 | 2,201,747 |
| 57 | 28 | 176,112 | 2,014,333 |
| 58 | 29 | 165,214 | 1,838,221 |
| 59 | 30 | 154,715 | 1,673,007 |
| 60 | 31 | 144,605 | 1,518,292 |
| 61 | 32 | 134,875 | 1,373,687 |
| 62 | 33 | 125,515 | 1,238,812 |
| 63 | 34 | 116,514 | 1,113,297 |
| 64 | 35 | 107,865 | 996,783 |
| 65 | 36 | 99,558·7 | 888,917·5 |
| 66 | 37 | 91,590·8 | 789,358·8 |
| 67 | 38 | 83,957·1 | 697,768·0 |
| 68 | 39 | 76,656·0 | 613,810·9 |
| 69 | 40 | 69,687·6 | 537,154·9 |
| 70 | 41 | 63,054·1 | 467,467·3 |
| 71 | 42 | 56,758·9 | 404,413·2 |
| 72 | 43 | 50,806·8 | 347,654·3 |
| 73 | 44 | 45,203·2 | 296,847·5 |
| 74 | 45 | 39,953·8 | 251,644·3 |
| 75 | 46 | 35,063·7 | 211,690·5 |
| 76 | 47 | 30,536·9 | 176,626·8 |
| 77 | 48 | 26,376·0 | 146,089·9 |
| 78 | 49 | 22,581·0 | 119,713·9 |
| 79 | 50 | 19,149·4 | 97,132·9 |
| 80 | 51 | 16,075·1 | 77,983·5 |
| 81 | 52 | 13,348·7 | 61,908·4 |
| 82 | 53 | 10,957·4 | 48,559·7 |
| 83 | 54 | 8,884·47 | 37,602·26 |
| 84 | 55 | 7,099·33 | 28,717·79 |
| 85 | 56 | 5,590·49 | 21,618·46 |
| 86 | 57 | 4,334·71 | 16,027·97 |
| 87 | 58 | 3,306·41 | 11,693·26 |
| 88 | 59 | 2,478·71 | 8,386·85 |
| 89 | 60 | 1,824·46 | 5,908·14 |
| 90 | 61 | 1,317·12 | 4,083·68 |
| 91 | 62 | 931·575 | 2,766·564 |
| 92 | 63 | 644·784 | 1,834·989 |
| 93 | 64 | 436·206 | 1,190·205 |
| 94 | 65 | 288·075 | 753·999 |
| 95 | 66 | 185·476 | 465·924 |
| 96 | 67 | 116·267 | 280·448 |
| 97 | 68 | 70·8587 | 164·1805 |
| 98 | 69 | 41·9250 | 93·3218 |
| 99 | 70 | 24·0458 | 51·3968 |
| 100 | 71 | 13·3480 | 27·3510 |
| 101 | 72 | 7·1600 | 14·0030 |
| 102 | 73 | 3·7051 | 6·8430 |
| 103 | 74 | 1·8465 | 3·1379 |
| 104 | 75 | ·8847 | 1·2914 |
| 105 | 76 | ·4067 | ·4067 |

**Difference of Age 78 Years.**

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 78 | 0 | 96,886·1 | 449,514·4 |
| 79 | 1 | 72,233·8 | 352,628·3 |
| 80 | 2 | 57,820·0 | 280,394·5 |
| 81 | 2 | 47,099·9 | 222,574·5 |
| 82 | 4 | 38,385·5 | 175,474·6 |
| 83 | 5 | 31,122·6 | 137,089·1 |
| 84 | 6 | 25,031·4 | 105,966·5 |
| 85 | 7 | 19,921·3 | 80,935·1 |
| 86 | 8 | 15,656·0 | 61,013·8 |
| 87 | 9 | 12,139·0 | 45,357·8 |
| 88 | 10 | 9,275·02 | 33,218·75 |
| 89 | 11 | 6,975·41 | 23,943·73 |
| 90 | 12 | 5,157·53 | 16,968·32 |
| 91 | 13 | 3,744·77 | 11,810·79 |
| 92 | 14 | 2,666·96 | 8,066·02 |
| 93 | 15 | 1,860·86 | 5,399·06 |
| 94 | 16 | 1,270·62 | 3,538·20 |
| 95 | 17 | 848·055 | 2,267·580 |
| 96 | 18 | 552·635 | 1,419·525 |
| 97 | 19 | 351·206 | 866·890 |
| 98 | 20 | 217·420 | 515·684 |
| 99 | 21 | 130·965 | 298·264 |
| 100 | 22 | 76·7085 | 167·2992 |
| 101 | 23 | 43·6374 | 90·5907 |
| 102 | 24 | 24·0817 | 46·9533 |
| 103 | 25 | 12·8766 | 22·8716 |
| 104 | 26 | 6·6629 | 9·9950 |
| 105 | 27 | 3·3321 | 3·3321 |

## JOINT LIVES:—Two Females.

**Difference of Age 30 Years.**

**Difference of Age 77 Years.**

### Difference of Age 30 Years.

| Ages $x$ | Ages $y$ | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 30 | 0 | 937,637 | 13,558,649 |
| 31 | 1 | 779,368 | 12,621,012 |
| 32 | 2 | 702,176 | 11,841,644 |
| 33 | 3 | 650,396 | 11,139,468 |
| 34 | 4 | 609,308 | 10,489,072 |
| 35 | 5 | 574,497 | 9,879,764 |
| 36 | 6 | 543,986 | 9,305,267 |
| 37 | 7 | 516,403 | 8,761,281 |
| 38 | 8 | 490,837 | 8,244,878 |
| 39 | 9 | 467,080 | 7,754,041 |
| 40 | 10 | 444,840 | 7,286,961 |
| 41 | 11 | 423,875 | 6,842,121 |
| 42 | 12 | 403,988 | 6,418,246 |
| 43 | 13 | 385,020 | 6,014,258 |
| 44 | 14 | 366,844 | 5,629,238 |
| 45 | 15 | 349,359 | 5,262,394 |
| 46 | 16 | 332,489 | 4,913,035 |
| 47 | 17 | 316,179 | 4,580,546 |
| 48 | 18 | 300,389 | 4,264,367 |
| 49 | 19 | 285,093 | 3,963,978 |
| 50 | 20 | 270,279 | 3,678,885 |
| 51 | 21 | 255,942 | 3,408,606 |
| 52 | 22 | 242,200 | 3,152,664 |
| 53 | 23 | 229,034 | 2,910,464 |
| 54 | 24 | 216,428 | 2,681,430 |
| 55 | 25 | 204,052 | 2,465,002 |
| 56 | 26 | 192,088 | 2,260,950 |
| 57 | 27 | 180,539 | 2,068,862 |
| 58 | 28 | 169,400 | 1,888,323 |
| 59 | 29 | 158,665 | 1,718,923 |
| 60 | 30 | 148,326 | 1,560,258 |
| 61 | 31 | 138,373 | 1,411,932 |
| 62 | 32 | 128,796 | 1,273,559 |
| 63 | 33 | 119,584 | 1,144,763 |
| 64 | 34 | 110,729 | 1,025,179 |
| 65 | 35 | 102,225 | 914,450 |
| 66 | 36 | 94,064·2 | 812,225·0 |
| 67 | 37 | 86,244·2 | 718,160·8 |
| 68 | 38 | 78,763·0 | 631,916·6 |
| 69 | 39 | 71,621·0 | 553,153·6 |
| 70 | 40 | 64,820·4 | 481,532·6 |
| 71 | 41 | 58,364·9 | 416,712·2 |
| 72 | 42 | 52,259·5 | 358,347·3 |
| 73 | 43 | 46,509·8 | 306,087·8 |
| 74 | 44 | 41,121·7 | 259,578·0 |
| 75 | 45 | 36,100·8 | 218,456·3 |
| 76 | 46 | 31,451·3 | 182,355·5 |
| 77 | 47 | 27,175·9 | 150,904·2 |
| 78 | 48 | 23,275·0 | 123,728·3 |
| 79 | 49 | 19,746·1 | 100,453·3 |
| 80 | 50 | 16,583·2 | 80,707·2 |
| 81 | 51 | 13,777·1 | 64,124·0 |
| 82 | 52 | 11,314·5 | 50,346·9 |
| 83 | 53 | 9,178·71 | 39,032·37 |
| 84 | 54 | 7,349·62 | 29,853·66 |
| 85 | 55 | 5,795·31 | 22,504·04 |
| 86 | 56 | 4,499·79 | 16,708·73 |
| 87 | 57 | 3,437·41 | 12,208·94 |
| 88 | 58 | 2,581·02 | 8,771·53 |
| 89 | 59 | 1,903·04 | 6,190·51 |
| 90 | 60 | 1,376·44 | 4,287·47 |
| 91 | 61 | 975·551 | 2,911·026 |
| 92 | 62 | 676·764 | 1,935·475 |
| 93 | 63 | 458·995 | 1,258·711 |
| 94 | 64 | 303·969 | 799·716 |
| 95 | 65 | 196·311 | 495·747 |
| 96 | 66 | 123·474 | 299·436 |
| 97 | 67 | 75·5316 | 175·9617 |
| 98 | 68 | 44·8723 | 100·4301 |
| 99 | 69 | 25·8513 | 55·5578 |
| 100 | 70 | 14·4205 | 29·7065 |
| 101 | 71 | 7·7764 | 15·2860 |
| 102 | 72 | 4·0474 | 7·5096 |
| 103 | 73 | 2·0297 | 3·4622 |
| 104 | 74 | ·9791 | 1·4325 |
| 105 | 75 | ·4534 | ·4534 |

### Difference of Age 77 Years.

| Ages $x$ | Ages $y$ | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 77 | 0 | 109,794 | 530,414 |
| 78 | 1 | 82,604·5 | 420,619·7 |
| 79 | 2 | 66,767·2 | 338,015·2 |
| 80 | 3 | 54,956·0 | 271,248·0 |
| 81 | 4 | 45,286·9 | 216,292·0 |
| 82 | 5 | 37,153·6 | 171,005·1 |
| 83 | 6 | 30,258·8 | 133,851·5 |
| 84 | 7 | 24,403·9 | 103,592·7 |
| 85 | 8 | 19,450·9 | 79,188·8 |
| 86 | 9 | 15,307·8 | 59,737·9 |
| 87 | 10 | 11,881·7 | 44,430·1 |
| 88 | 11 | 9,085·48 | 32,548·43 |
| 89 | 12 | 6,836·26 | 23,462·95 |
| 90 | 13 | 5,055·91 | 16,626·69 |
| 91 | 14 | 3,671·11 | 11,570·78 |
| 92 | 15 | 2,614·09 | 7,899·67 |
| 93 | 16 | 1,823·39 | 5,285·58 |
| 94 | 17 | 1,244·47 | 3,462·19 |
| 95 | 18 | 830·138 | 2,217·716 |
| 96 | 19 | 540·615 | 1,387·578 |
| 97 | 20 | 343·332 | 846·963 |
| 98 | 21 | 212·395 | 503·631 |
| 99 | 22 | 127·910 | 291·236 |
| 100 | 23 | 74·9027 | 163·3260 |
| 101 | 24 | 42·6012 | 88·4233 |
| 102 | 25 | 23·5051 | 45·8221 |
| 103 | 26 | 12·5658 | 22·3170 |
| 104 | 27 | 6·5008 | 9·7512 |
| 105 | 28 | 3·2504 | 3·2504 |

## JOINT LIVES:—Two Females.

### Difference of Age 31 Years.

### Difference of Age 76 Years.

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | Difference of Age 31 Years. | |
| 31 | 0 | 914,115 | 13,111,107 |
| 32 | 1 | 759,668 | 12,196,992 |
| 33 | 2 | 684,291 | 11,437,324 |
| 34 | 3 | 633,702 | 10,753,033 |
| 35 | 4 | 593,545 | 10,119,331 |
| 36 | 5 | 559,514 | 9,525,786 |
| 37 | 6 | 529,681 | 8,966,272 |
| 38 | 7 | 502,709 | 8,436,591 |
| 39 | 8 | 477,706 | 7,933,882 |
| 40 | 9 | 454,471 | 7,456,176 |
| 41 | 10 | 432,718 | 7,001,705 |
| 42 | 11 | 412,212 | 6,568,987 |
| 43 | 12 | 392,759 | 6,156,775 |
| 44 | 13 | 374,204 | 5,764,016 |
| 45 | 14 | 356,424 | 5,389,812 |
| 46 | 15 | 339,322 | 5,033,388 |
| 47 | 16 | 322,823 | 4,694,066 |
| 48 | 17 | 306,872 | 4,371,243 |
| 49 | 18 | 291,432 | 4,064,371 |
| 50 | 19 | 276,478 | 3,772,939 |
| 51 | 20 | 261,997 | 3,496,461 |
| 52 | 21 | 247,985 | 3,234,464 |
| 53 | 22 | 234,555 | 2,986,479 |
| 54 | 23 | 221,692 | 2,751,924 |
| 55 | 24 | 209,057 | 2,530,232 |
| 56 | 25 | 196,840 | 2,321,175 |
| 57 | 26 | 185,041 | 2,124,335 |
| 58 | 27 | 173,658 | 1,939,294 |
| 59 | 28 | 162,685 | 1,765,636 |
| 60 | 29 | 152,114 | 1,602,951 |
| 61 | 30 | 141,934 | 1,450,837 |
| 62 | 31 | 132,136 | 1,308,903 |
| 63 | 32 | 122,709 | 1,176,767 |
| 64 | 33 | 113,646 | 1,054,058 |
| 65 | 34 | 104,940 | 940,412 |
| 66 | 35 | 96,583·0 | 835,472·2 |
| 67 | 36 | 88,573·2 | 738,889·2 |
| 68 | 37 | 80,908·6 | 650,316·0 |
| 69 | 38 | 73,589·7 | 569,407·4 |
| 70 | 39 | 66,618·8 | 495,817·7 |
| 71 | 40 | 59,999·9 | 429,198·9 |
| 72 | 41 | 53,738·2 | 369,199·0 |
| 73 | 42 | 47,839·6 | 315,460·8 |
| 74 | 43 | 42,310·3 | 267,621·2 |
| 75 | 44 | 37,156·1 | 225,310·9 |
| 76 | 45 | 32,381·5 | 188,154·8 |
| 77 | 46 | 27,989·7 | 155,773·3 |
| 78 | 47 | 23,980·9 | 127,783·6 |
| 79 | 48 | 20,353·0 | 103,802·7 |
| 80 | 49 | 17,100·0 | 83,449·7 |
| 81 | 50 | 14,212·6 | 66,349·7 |
| 82 | 51 | 11,677·6 | 52,137·1 |
| 83 | 52 | 9,477·85 | 40,459·50 |
| 84 | 53 | 7,593·03 | 30,981·65 |
| 85 | 54 | 5,999·62 | 23,388·62 |
| 86 | 55 | 4,664·65 | 17,389·00 |
| 87 | 56 | 3,568·31 | 12,724·35 |
| 88 | 57 | 2,683·28 | 9,156·04 |
| 89 | 58 | 1,981·59 | 6,472·76 |
| 90 | 59 | 1,435·72 | 4,491·17 |
| 91 | 60 | 1,019·49 | 3,055·45 |
| 92 | 61 | 708·712 | 2,035·961 |
| 93 | 62 | 481·761 | 1,327·249 |
| 94 | 63 | 319·849 | 845·488 |
| 95 | 64 | 207·142 | 525·639 |
| 96 | 65 | 130·687 | 318·497 |
| 97 | 66 | 80·2140 | 187·8097 |
| 98 | 67 | 47·8314 | 107·5957 |
| 99 | 68 | 27·6687 | 59·7643 |
| 100 | 69 | 15·5032 | 32·0956 |
| 101 | 70 | 8·4012 | 16·5924 |
| 102 | 71 | 4·3959 | 8·1912 |
| 103 | 72 | 2·2173 | 3·7953 |
| 104 | 73 | 1·0762 | 1·5780 |
| 105 | 74 | ·5018 | ·5018 |

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | Difference of Age 76 Years. | |
| 76 | 0 | 123,373 | 620,455 |
| 77 | 1 | 93,610·0 | 497,081·8 |
| 78 | 2 | 76,353·0 | 403,471·8 |
| 79 | 3 | 63,460·0 | 327,118·8 |
| 80 | 4 | 52,840·6 | 263,658·8 |
| 81 | 5 | 43,833·5 | 210,818·2 |
| 82 | 6 | 36,122·5 | 166,984·7 |
| 83 | 7 | 29,500·3 | 130,862·2 |
| 84 | 8 | 23,827·6 | 101,361·9 |
| 85 | 9 | 19,018·2 | 77,534·3 |
| 86 | 10 | 14,983·4 | 58,516·1 |
| 87 | 11 | 11,638·9 | 43,532·7 |
| 88 | 12 | 8,904·23 | 31,893·81 |
| 89 | 13 | 6,701·57 | 22,989·58 |
| 90 | 14 | 4,956·46 | 16,288·01 |
| 91 | 15 | 3,598·33 | 11,331·55 |
| 92 | 16 | 2,561·45 | 7,733·22 |
| 93 | 17 | 1,785·86 | 5,171·77 |
| 94 | 18 | 1,218·18 | 3,385·91 |
| 95 | 19 | 812·083 | 2,167·730 |
| 96 | 20 | 528·495 | 1,355·647 |
| 97 | 21 | 335·398 | 827·152 |
| 98 | 22 | 207·441 | 491·754 |
| 99 | 23 | 124·899 | 284·313 |
| 100 | 24 | 73·1241 | 159·4144 |
| 101 | 25 | 41·5811 | 86·2903 |
| 102 | 26 | 22·9377 | 44·7092 |
| 103 | 27 | 12·2600 | 21·7715 |
| 104 | 28 | 6·3414 | 9·5115 |
| 105 | 29 | 3·1701 | 3·1701 |

## JOINT LIVES:—Two Females.

### Difference of Age 32 Years.

### Difference of Age 75 Years.

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 32 Years.** | |
| 32 | 0 | 891,009 | 12,671,829 |
| 33 | 1 | 740,319 | 11,780,820 |
| 34 | 2 | 666,727 | 11,040,501 |
| 35 | 3 | 617,307 | 10,373,774 |
| 36 | 4 | 578,066 | 9,756,467 |
| 37 | 5 | 544,802 | 9,178,401 |
| 38 | 6 | 515,635 | 8,633,599 |
| 39 | 7 | 489,260 | 8,117,964 |
| 40 | 8 | 464,810 | 7,628,704 |
| 41 | 9 | 442,087 | 7,163,894 |
| 42 | 10 | 420,811 | 6,721,807 |
| 43 | 11 | 400,753 | 6,300,996 |
| 44 | 12 | 381,725 | 5,900,243 |
| 45 | 13 | 363,576 | 5,518,518 |
| 46 | 14 | 346,185 | 5,154,942 |
| 47 | 15 | 329,457 | 4,808,757 |
| 48 | 16 | 313,320 | 4,479,300 |
| 49 | 17 | 297,722 | 4,165,980 |
| 50 | 18 | 282,625 | 3,868,258 |
| 51 | 19 | 268,005 | 3,585,633 |
| 52 | 20 | 253,851 | 3,317,628 |
| 53 | 21 | 240,158 | 3,063,777 |
| 54 | 22 | 227,036 | 2,823,619 |
| 55 | 23 | 214,142 | 2,596,583 |
| 56 | 24 | 201,669 | 2,382,441 |
| 57 | 25 | 189,619 | 2,180,772 |
| 58 | 26 | 177,989 | 1,991,153 |
| 59 | 27 | 166,775 | 1,813,164 |
| 60 | 28 | 155,968 | 1,646,389 |
| 61 | 29 | 145,558 | 1,490,421 |
| 62 | 30 | 135,536 | 1,344,863 |
| 63 | 31 | 125,892 | 1,209,327 |
| 64 | 32 | 116,617 | 1,083,435 |
| 65 | 33 | 107,704 | 966,818 |
| 66 | 34 | 99,148·0 | 859,114·2 |
| 67 | 35 | 90,945·0 | 759,966·2 |
| 68 | 36 | 83,093·6 | 669,021·2 |
| 69 | 37 | 75,594·4 | 585,927·6 |
| 70 | 38 | 68,450·0 | 510,333·2 |
| 71 | 39 | 61,664·6 | 441,883·2 |
| 72 | 40 | 55,243·6 | 380,218·6 |
| 73 | 41 | 49,193·2 | 324,975·0 |
| 74 | 42 | 43,520·0 | 275,781·8 |
| 75 | 43 | 38,230·0 | 232,261·8 |
| 76 | 44 | 33,328·1 | 194,031·8 |
| 77 | 45 | 28,817·5 | 160,703·7 |
| 78 | 46 | 24,699·0 | 131,886·2 |
| 79 | 47 | 20,970·2 | 107,187·2 |
| 80 | 48 | 17,625·5 | 86,217·0 |
| 81 | 49 | 14,655·5 | 68,591·5 |
| 82 | 50 | 12,046·7 | 53,936·0 |
| 83 | 51 | 9,781·98 | 41,889·29 |
| 84 | 52 | 7,840·48 | 32,107·31 |
| 85 | 53 | 6,198·32 | 24,266·83 |
| 86 | 54 | 4,829·10 | 18,068·51 |
| 87 | 55 | 3,699·05 | 13,239·41 |
| 88 | 56 | 2,785·47 | 9,540·36 |
| 89 | 57 | 2,060·10 | 6,754·89 |
| 90 | 58 | 1,494·98 | 4,694·79 |
| 91 | 59 | 1,063·40 | 3,199·81 |
| 92 | 60 | 740·632 | 2,136·408 |
| 93 | 61 | 504·503 | 1,395·776 |
| 94 | 62 | 335·713 | 891·273 |
| 95 | 63 | 217·964 | 555·560 |
| 96 | 64 | 137·897 | 337·596 |
| 97 | 65 | 84·8995 | 199·6991 |
| 98 | 66 | 50·7966 | 114·7996 |
| 99 | 67 | 29·4933 | 64·0030 |
| 100 | 68 | 16·5931 | 34·5097 |
| 101 | 69 | 9·0320 | 17·9166 |
| 102 | 70 | 4·7490 | 8·8846 |
| 103 | 71 | 2·4082 | 4·1356 |
| 104 | 72 | 1·1757 | 1·7274 |
| 105 | 73 | ·5517 | ·5517 |
| | | **Difference of Age 75 Years.** | |
| 75 | 0 | 137,543 | 719,872 |
| 76 | 1 | 105,187 | 582,329 |
| 77 | 2 | 86,525·6 | 477,141·6 |
| 78 | 3 | 72,570·9 | 390,616·0 |
| 79 | 4 | 61,017·2 | 318,045·1 |
| 80 | 5 | 51,144·7 | 257,027·9 |
| 81 | 6 | 42,616·9 | 205,883·2 |
| 82 | 7 | 35,216·9 | 163,266·3 |
| 83 | 8 | 28,803·6 | 128,049·4 |
| 84 | 9 | 23,297·6 | 99,245·8 |
| 85 | 10 | 18,615·2 | 75,948·2 |
| 86 | 11 | 14,677·2 | 57,333·0 |
| 87 | 12 | 11,406·8 | 42,655·8 |
| 88 | 13 | 8,728·80 | 31,248·96 |
| 89 | 14 | 6,569·75 | 22,520·16 |
| 90 | 15 | 4,858·20 | 15,950·41 |
| 91 | 16 | 3,525·87 | 11,092·21 |
| 92 | 17 | 2,508·73 | 7,566·34 |
| 93 | 18 | 1,748·13 | 5,057·61 |
| 94 | 19 | 1,191·69 | 3,309·48 |
| 95 | 20 | 793·877 | 2,117·788 |
| 96 | 21 | 516·282 | 1,323·911 |
| 97 | 22 | 327·574 | 807·629 |
| 98 | 23 | 202·557 | 480·055 |
| 99 | 24 | 121·933 | 277·498 |
| 100 | 25 | 71·3732 | 155·5654 |
| 101 | 26 | 40·5774 | 84·1922 |
| 102 | 27 | 22·3795 | 43·6148 |
| 103 | 28 | 11·9594 | 21·2353 |
| 104 | 29 | 6·1847 | 9·2759 |
| 105 | 30 | 3·0912 | 3·0912 |

## JOINT LIVES:—Two Females.

### Difference of Age 33 Years.
### Difference of Age 74 Years.

**Difference of Age 33 Years.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 33 | 0 | 868,314 | 12,240,700 |
| 34 | 1 | 721,316 | 11,372,386 |
| 35 | 2 | 649,478 | 10,651,070 |
| 36 | 3 | 601,208 | 10,001,592 |
| 37 | 4 | 562,866 | 9,400,384 |
| 38 | 5 | 530,354 | 8,837,518 |
| 39 | 6 | 501,841 | 8,307,164 |
| 40 | 7 | 476,053 | 7,805,323 |
| 41 | 8 | 452,144 | 7,329,270 |
| 42 | 9 | 429,922 | 6,877,126 |
| 43 | 10 | 409,114 | 6,447,204 |
| 44 | 11 | 389,495 | 6,038,090 |
| 45 | 12 | 370,884 | 5,648,595 |
| 46 | 13 | 353,131 | 5,277,711 |
| 47 | 14 | 336,121 | 4,924,580 |
| 48 | 15 | 319,760 | 4,588,459 |
| 49 | 16 | 303,978 | 4,268,699 |
| 50 | 17 | 288,725 | 3,964,721 |
| 51 | 18 | 273,964 | 3,675,996 |
| 52 | 19 | 259,673 | 3,402,032 |
| 53 | 20 | 245,839 | 3,142,359 |
| 54 | 21 | 232,459 | 2,896,520 |
| 55 | 22 | 219,305 | 2,664,061 |
| 56 | 23 | 206,574 | 2,444,756 |
| 57 | 24 | 194,270 | 2,238,182 |
| 58 | 25 | 182,392 | 2,043,912 |
| 59 | 26 | 170,934 | 1,861,520 |
| 60 | 27 | 159,888 | 1,690,586 |
| 61 | 28 | 149,246 | 1,530,698 |
| 62 | 29 | 138,996 | 1,381,452 |
| 63 | 30 | 129,131 | 1,242,456 |
| 64 | 31 | 119,641 | 1,113,325 |
| 65 | 32 | 110,519 | 993,684 |
| 66 | 33 | 101,760 | 883,165 |
| 67 | 34 | 93,360·3 | 781,404·5 |
| 68 | 35 | 85,318·6 | 688,044·2 |
| 69 | 36 | 77,635·8 | 602,725·6 |
| 70 | 37 | 70,314·7 | 525,089·8 |
| 71 | 38 | 63,359·5 | 454,775·1 |
| 72 | 39 | 56,776·2 | 391,415·6 |
| 73 | 40 | 50,571·3 | 334,639·4 |
| 74 | 41 | 44,751·5 | 284,068·1 |
| 75 | 42 | 39,323·1 | 239,316·6 |
| 76 | 43 | 34,291·4 | 199,993·5 |
| 77 | 44 | 29,659·9 | 165,702·1 |
| 78 | 45 | 25,429·5 | 136,042·2 |
| 79 | 46 | 21,598·1 | 110,612·7 |
| 80 | 47 | 18,160·1 | 89,014·6 |
| 81 | 48 | 15,105·9 | 70,854·5 |
| 82 | 49 | 12,422·1 | 55,748·6 |
| 83 | 50 | 10,091·2 | 43,326·5 |
| 84 | 51 | 8,092·08 | 33,235·27 |
| 85 | 52 | 6,400·33 | 25,143·19 |
| 86 | 53 | 4,989·03 | 18,742·86 |
| 87 | 54 | 3,829·46 | 13,753·83 |
| 88 | 55 | 2,887·52 | 9,924·37 |
| 89 | 56 | 2,138·55 | 7,036·85 |
| 90 | 57 | 1,554·21 | 4,898·30 |
| 91 | 58 | 1,107·29 | 3,344·09 |
| 92 | 59 | 772·532 | 2,236·804 |
| 93 | 60 | 527·225 | 1,464·272 |
| 94 | 61 | 351·561 | 937·047 |
| 95 | 62 | 228·774 | 585·486 |
| 96 | 63 | 145·102 | 356·712 |
| 97 | 64 | 89·5837 | 211·6101 |
| 98 | 65 | 53·7638 | 122·0264 |
| 99 | 66 | 31·3217 | 68·2626 |
| 100 | 67 | 17·6873 | 36·9409 |
| 101 | 68 | 9·6669 | 19·2536 |
| 102 | 69 | 5·1056 | 9·5867 |
| 103 | 70 | 2·6016 | 4·4811 |
| 104 | 71 | 1·2769 | 1·8795 |
| 105 | 72 | ·6026 | ·6026 |

**Difference of Age 74 Years.**

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 74 | 0 | 152,223 | 828,831 |
| 75 | 1 | 117,269 | 676,608 |
| 76 | 2 | 97,226·6 | 559,339·0 |
| 77 | 3 | 82,239·7 | 462,112·4 |
| 78 | 4 | 69,777·4 | 379,872·7 |
| 79 | 5 | 59,059·0 | 310,095·3 |
| 80 | 6 | 49,725·3 | 251,036·3 |
| 81 | 7 | 41,548·6 | 201,311·0 |
| 82 | 8 | 34,385·2 | 159,762·4 |
| 83 | 9 | 28,162·9 | 125,377·2 |
| 84 | 10 | 22,803·8 | 97,214·3 |
| 85 | 11 | 18,234·8 | 74,410·5 |
| 86 | 12 | 14,384·4 | 56,175·7 |
| 87 | 13 | 11,182·0 | 41,791·3 |
| 88 | 14 | 8,557·10 | 30,609·25 |
| 89 | 15 | 6,439·50 | 22,052·15 |
| 90 | 16 | 4,760·37 | 15,612·65 |
| 91 | 17 | 3,453·30 | 10,852·28 |
| 92 | 18 | 2,455·73 | 7,398·98 |
| 93 | 19 | 1,710·11 | 4,943·25 |
| 94 | 20 | 1,164·97 | 3,233·14 |
| 95 | 21 | 775·531 | 2,068·172 |
| 96 | 22 | 504·238 | 1,292·641 |
| 97 | 23 | 319·863 | 788·403 |
| 98 | 24 | 197·748 | 468·540 |
| 99 | 25 | 119·013 | 270·792 |
| 100 | 26 | 69·6502 | 151·7792 |
| 101 | 27 | 39·5900 | 82·1290 |
| 102 | 28 | 21·8308 | 42·5390 |
| 103 | 29 | 11·6639 | 20·7082 |
| 104 | 30 | 6·0307 | 9·0443 |
| 105 | 31 | 3·0136 | 3·0136 |

## JOINT LIVES:—Two Females.

**Difference of Age 34 Years.**

**Difference of Age 73 Years.**

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 34 Years.** | |
| 34 | 0 | 846,026 | 11,817,605 |
| 35 | 1 | 702,655 | 10,971,579 |
| 36 | 2 | 632,540 | 10,268,924 |
| 37 | 3 | 585,399 | 9,636,384 |
| 38 | 4 | 547,939 | 9,050,985 |
| 39 | 5 | 516,166 | 8,503,046 |
| 40 | 6 | 488,293 | 7,986,880 |
| 41 | 7 | 463,080 | 7,498,587 |
| 42 | 8 | 439,702 | 7,035,507 |
| 43 | 9 | 417,972 | 6,595,805 |
| 44 | 10 | 397,621 | 6,177,833 |
| 45 | 11 | 378,433 | 5,780,212 |
| 46 | 12 | 360,229 | 5,401,779 |
| 47 | 13 | 342,865 | 5,041,550 |
| 48 | 14 | 326,227 | 4,698,685 |
| 49 | 15 | 310,225 | 4,372,458 |
| 50 | 16 | 294,792 | 4,062,233 |
| 51 | 17 | 279,877 | 3,767,441 |
| 52 | 18 | 265,446 | 3,487,564 |
| 53 | 19 | 251,477 | 3,222,118 |
| 54 | 20 | 237,958 | 2,970,641 |
| 55 | 21 | 224,543 | 2,732,683 |
| 56 | 22 | 211,554 | 2,508,140 |
| 57 | 23 | 198,996 | 2,296,586 |
| 58 | 24 | 186,867 | 2,097,590 |
| 59 | 25 | 175,163 | 1,910,723 |
| 60 | 26 | 163,876 | 1,735,560 |
| 61 | 27 | 152,997 | 1,571,684 |
| 62 | 28 | 142,518 | 1,418,687 |
| 63 | 29 | 132,428 | 1,276,169 |
| 64 | 30 | 122,720 | 1,143,741 |
| 65 | 31 | 113,385 | 1,021,021 |
| 66 | 32 | 104,420 | 907,636 |
| 67 | 33 | 95,819·8 | 803,216·1 |
| 68 | 34 | 87,584·5 | 707,396·3 |
| 69 | 35 | 79,714·7 | 619,811·8 |
| 70 | 36 | 72,213·5 | 540,097·1 |
| 71 | 37 | 65,085·5 | 467,883·6 |
| 72 | 38 | 58,336·9 | 402,798·1 |
| 73 | 39 | 51,974·3 | 344,461·2 |
| 74 | 40 | 46,005·1 | 292,486·9 |
| 75 | 41 | 40,435·8 | 246,481·8 |
| 76 | 42 | 35,271·9 | 206,046·0 |
| 77 | 43 | 30,517·2 | 170,774·1 |
| 78 | 44 | 26,172·9 | 140,256·9 |
| 79 | 45 | 22,237·0 | 114,084·0 |
| 80 | 46 | 18,703·9 | 91,847·0 |
| 81 | 47 | 15,564·1 | 73,143·1 |
| 82 | 48 | 12,803·9 | 57,579·0 |
| 83 | 49 | 10,405·7 | 44,775·1 |
| 84 | 50 | 8,347·89 | 34,369·43 |
| 85 | 51 | 6,605·71 | 26,021·54 |
| 86 | 52 | 5,151·63 | 19,415·83 |
| 87 | 53 | 3,956·28 | 14,264·20 |
| 88 | 54 | 2,989·31 | 10,307·92 |
| 89 | 55 | 2,216·90 | 7,318·61 |
| 90 | 56 | 1,613·40 | 5,101·71 |
| 91 | 57 | 1,151·16 | 3,488·31 |
| 92 | 58 | 804·417 | 2,337·147 |
| 93 | 59 | 549·934 | 1,532·730 |
| 94 | 60 | 367·395 | 982·796 |
| 95 | 61 | 239·574 | 615·401 |
| 96 | 62 | 152·298 | 375·827 |
| 97 | 63 | 94·2640 | 223·5293 |
| 98 | 64 | 56·7301 | 129·2653 |
| 99 | 65 | 33·1513 | 72·5352 |
| 100 | 66 | 18·7839 | 39·3839 |
| 101 | 67 | 10·3044 | 20·6000 |
| 102 | 68 | 5·4646 | 10·2956 |
| 103 | 69 | 2·7970 | 4·8310 |
| 104 | 70 | 1·3795 | 2·0340 |
| 105 | 71 | ·6545 | ·6545 |

**Difference of Age 73 Years.**

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | | |
| 73 | 0 | 167,332 | 947,430 |
| 74 | 1 | 129,785 | 780,098 |
| 75 | 2 | 108,394 | 650,313 |
| 76 | 3 | 92,410·7 | 541,918·7 |
| 77 | 4 | 79,074·0 | 449,508·0 |
| 78 | 5 | 67,538·1 | 370,434·0 |
| 79 | 6 | 57,419·9 | 302,895·9 |
| 80 | 7 | 48,478·8 | 245,476·0 |
| 81 | 8 | 40,567·4 | 196,997·2 |
| 82 | 9 | 33,620·4 | 156,429·8 |
| 83 | 10 | 27,566·1 | 122,809·4 |
| 84 | 11 | 22,337·8 | 95,243·3 |
| 85 | 12 | 17,871·0 | 72,905·5 |
| 86 | 13 | 14,101·0 | 55,034·5 |
| 87 | 14 | 10,962·1 | 40,933·5 |
| 88 | 15 | 8,387·45 | 29,971·44 |
| 89 | 16 | 6,309·83 | 21,583·99 |
| 90 | 17 | 4,662·40 | 15,274·16 |
| 91 | 18 | 3,380·34 | 10,611·76 |
| 92 | 19 | 2,402·32 | 7,231·42 |
| 93 | 20 | 1,671·77 | 4,829·10 |
| 94 | 21 | 1,138·05 | 3,157·33 |
| 95 | 22 | 757·439 | 2,019·282 |
| 96 | 23 | 492·368 | 1,261·843 |
| 97 | 24 | 312·267 | 769·475 |
| 98 | 25 | 193·012 | 457·208 |
| 99 | 26 | 116·140 | 264·196 |
| 100 | 27 | 67·9554 | 148·0563 |
| 101 | 28 | 38·6192 | 80·1009 |
| 102 | 29 | 21·2913 | 41·4817 |
| 103 | 30 | 11·3735 | 20·1904 |
| 104 | 31 | 5·8794 | 8·8169 |
| 105 | 32 | 2·9375 | 2·9375 |

## JOINT LIVES:—TWO FEMALES.

**Difference of Age 35 Years.**

**Difference of Age 72 Years.**

**Difference of Age 35 Years.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 35 | 0 | 824,139 | 11,402,432 |
| 36 | 1 | 684,330 | 10,578,293 |
| 37 | 2 | 615,907 | 9,893,963 |
| 38 | 3 | 569,875 | 9,278,056 |
| 39 | 4 | 533,280 | 8,708,181 |
| 40 | 5 | 502,232 | 8,174,901 |
| 41 | 6 | 474,987 | 7,672,669 |
| 42 | 7 | 450,338 | 7,197,682 |
| 43 | 8 | 427,480 | 6,747,344 |
| 44 | 9 | 406,230 | 6,319,864 |
| 45 | 10 | 386,328 | 5,913,634 |
| 46 | 11 | 367,561 | 5,527,306 |
| 47 | 12 | 349,756 | 5,159,745 |
| 48 | 13 | 332,773 | 4,809,989 |
| 49 | 14 | 316,500 | 4,477,216 |
| 50 | 15 | 300,850 | 4,160,716 |
| 51 | 16 | 285,758 | 3,859,866 |
| 52 | 17 | 271,175 | 3,574,108 |
| 53 | 18 | 257,068 | 3,302,933 |
| 54 | 19 | 243,416 | 3,045,865 |
| 55 | 20 | 229,855 | 2,802,449 |
| 56 | 21 | 216,607 | 2,572,594 |
| 57 | 22 | 203,793 | 2,355,987 |
| 58 | 23 | 191,412 | 2,152,194 |
| 59 | 24 | 179,460 | 1,960,782 |
| 60 | 25 | 167,930 | 1,781,322 |
| 61 | 26 | 156,813 | 1,613,392 |
| 62 | 27 | 146,101 | 1,456,579 |
| 63 | 28 | 135,783 | 1,310,478 |
| 64 | 29 | 125,853 | 1,174,695 |
| 65 | 30 | 116,303 | 1,048,842 |
| 66 | 31 | 107,128 | 932,539 |
| 67 | 32 | 98,324·2 | 825,411·3 |
| 68 | 33 | 89,891·9 | 727,087·1 |
| 69 | 34 | 81,831·8 | 637,195·2 |
| 70 | 35 | 74,147·2 | 555,363·4 |
| 71 | 36 | 66,843·2 | 481,216·2 |
| 72 | 37 | 59,926·0 | 414,373·0 |
| 73 | 38 | 53,403·0 | 354,447·0 |
| 74 | 39 | 47,281·5 | 301,044·0 |
| 75 | 40 | 41,568·5 | 253,762·5 |
| 76 | 41 | 36,269·9 | 212,194·0 |
| 77 | 42 | 31,389·8 | 175,924·1 |
| 78 | 43 | 26,929·4 | 144,534·3 |
| 79 | 44 | 22,887·0 | 117,604·9 |
| 80 | 45 | 19,257·1 | 94,717·9 |
| 81 | 46 | 16,030·1 | 75,460·8 |
| 82 | 47 | 13,192·2 | 59,430·7 |
| 83 | 48 | 10,725·5 | 46,238·5 |
| 84 | 49 | 8,608·02 | 35,513·03 |
| 85 | 50 | 6,814·53 | 26,905·01 |
| 86 | 51 | 5,316·93 | 20,090·48 |
| 87 | 52 | 4,085·22 | 14,773·55 |
| 88 | 53 | 3,088·32 | 10,688·33 |
| 89 | 54 | 2,295·06 | 7,600·01 |
| 90 | 55 | 1,672·51 | 5,304·95 |
| 91 | 56 | 1,195·00 | 3,632·44 |
| 92 | 57 | 836·288 | 2,437·437 |
| 93 | 58 | 572·631 | 1,601·149 |
| 94 | 59 | 383·219 | 1,028·518 |
| 95 | 60 | 250·364 | 645·299 |
| 96 | 61 | 159·488 | 394·935 |
| 97 | 62 | 98·9393 | 235·4466 |
| 98 | 63 | 59·6940 | 136·5073 |
| 99 | 64 | 34·9803 | 76·8133 |
| 100 | 65 | 19·8811 | 41·8330 |
| 101 | 66 | 10·9432 | 21·9519 |
| 102 | 67 | 5·8249 | 11·0087 |
| 103 | 68 | 2·9936 | 5·1838 |
| 104 | 69 | 1·4831 | 2·1902 |
| 105 | 70 | ·7071 | ·7071 |

**Difference of Age 72 Years.**

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,}$ |
|---|---|---|---|
| 72 | 0 | 182,792 | 1,075;702 |
| 73 | 1 | 142,666 | 892,910 |
| 74 | 2 | 119,963 | 750,244 |
| 75 | 3 | 103,025 | 630,281 |
| 76 | 4 | 88,853·5 | 527,256·4 |
| 77 | 5 | 76,536·3 | 438,402·9 |
| 78 | 6 | 65,663·7 | 361,866·6 |
| 79 | 7 | 55,980·5 | 296,202·9 |
| 80 | 8 | 47,333·9 | 240,222·4 |
| 81 | 9 | 39,665·0 | 192,888·5 |
| 82 | 10 | 32,907·9 | 153,223·5 |
| 83 | 11 | 27,002·7 | 120,315·6 |
| 84 | 12 | 21,892·2 | 93,312·9 |
| 85 | 13 | 17,518·9 | 71,420·7 |
| 86 | 14 | 13,823·6 | 53,901·8 |
| 87 | 15 | 10,744·7 | 40,078·2 |
| 88 | 16 | 8,218·55 | 29,333·47 |
| 89 | 17 | 6,179·97 | 21,114·92 |
| 90 | 18 | 4,563·89 | 14,934·95 |
| 91 | 19 | 3,306·82 | 10,371·06 |
| 92 | 20 | 2,348·46 | 7,064·24 |
| 93 | 21 | 1,633·14 | 4,715·78 |
| 94 | 22 | 1,111·50 | 3,082·64 |
| 95 | 23 | 739·608 | 1,971·138 |
| 96 | 24 | 480·676 | 1,231·530 |
| 97 | 25 | 304·790 | 750·854 |
| 98 | 26 | 188·353 | 446·064 |
| 99 | 27 | 113·314 | 257·711 |
| 100 | 28 | 66·2891 | 144·3968 |
| 101 | 29 | 37·6650 | 78·1077 |
| 102 | 30 | 20·7612 | 40·4427 |
| 103 | 31 | 11·0881 | 19·6815 |
| 104 | 32 | 5·7308 | 8·5934 |
| 105 | 33 | 2·8626 | 2·8626 |

## JOINT LIVES:—Two Females.

**Difference of Age 36 Years.**

**Difference of Age 71 Years.**

| Ages *x* | Ages *y* | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Difference of Age 36 Years.** | |
| 36 | 0 | 802,646 | 10,995,064 |
| 37 | 1 | 666,336 | 10,192,418 |
| 38 | 2 | 599,574 | 9,526,082 |
| 39 | 3 | 554,630 | 8,926,508 |
| 40 | 4 | 518,884 | 8,371,878 |
| 41 | 5 | 488,546 | 7,852,994 |
| 42 | 6 | 461,917 | 7,364,448 |
| 43 | 7 | 437,820 | 6,902,531 |
| 44 | 8 | 415,471 | 6,464,711 |
| 45 | 9 | 394,692 | 6,049,240 |
| 46 | 10 | 375,229 | 5,654,548 |
| 47 | 11 | 356,875 | 5,279,319 |
| 48 | 12 | 339,461 | 4,922,444 |
| 49 | 13 | 322,850 | 4,582,983 |
| 50 | 14 | 306,935 | 4,260,133 |
| 51 | 15 | 291,631 | 3,953,198 |
| 52 | 16 | 276,874 | 3,661,567 |
| 53 | 17 | 262,617 | 3,384,693 |
| 54 | 18 | 248,827 | 3,122,076 |
| 55 | 19 | 235,126 | 2,873,249 |
| 56 | 20 | 221,731 | 2,638,123 |
| 57 | 21 | 208,661 | 2,416,392 |
| 58 | 22 | 196,026 | 2,207,731 |
| 59 | 23 | 183,825 | 2,011,705 |
| 60 | 24 | 172,049 | 1,827,880 |
| 61 | 25 | 160,692 | 1,655,831 |
| 62 | 26 | 149,744 | 1,495,139 |
| 63 | 27 | 139,197 | 1,345.395 |
| 64 | 28 | 129,042 | 1,206,198 |
| 65 | 29 | 119,272 | 1,077,156 |
| 66 | 30 | 109,884 | 957,884 |
| 67 | 31 | 100,874 | 848,000 |
| 68 | 32 | 92,241·3 | 747,126·2 |
| 69 | 33 | 83,987·6 | 654,884·9 |
| 70 | 34 | 76,116·4 | 570,897·3 |
| 71 | 35 | 68,633·1 | 494,780·9 |
| 72 | 36 | 61,544·4 | 426,147·8 |
| 73 | 37 | 54,857·8 | 364,603·4 |
| 74 | 38 | 48,581·1 | 309,745·6 |
| 75 | 39 | 42,721·8 | 261,164·5 |
| 76 | 40 | 37,286·0 | 218,442·7 |
| 77 | 41 | 32,277·9 | 181,156·7 |
| 78 | 42 | 27,699·3 | 148,878·8 |
| 79 | 43 | 23,548·5 | 121,179·5 |
| 80 | 44 | 19,820·0 | 97,631·0 |
| 81 | 45 | 16,504·2 | 77,811·0 |
| 82 | 46 | 13,587·2 | 61,306·8 |
| 83 | 47 | 11,050·8 | 47,719·6 |
| 84 | 48 | 8,872·58 | 36,668·76 |
| 85 | 49 | 7,026·88 | 27,796·18 |
| 86 | 50 | 5,485·02 | 20,769·30 |
| 87 | 51 | 4,216·31 | 15,284·28 |
| 88 | 52 | 3,188·97 | 11,067·97 |
| 89 | 53 | 2,371·07 | 7,879·00 |
| 90 | 54 | 1,731·48 | 5,507·93 |
| 91 | 55 | 1,238·78 | 3,776·45 |
| 92 | 56 | 868·137 | 2,537·669 |
| 93 | 57 | 595·319 | 1,669·532 |
| 94 | 58 | 399·036 | 1,074·213 |
| 95 | 59 | 261·148 | 675·177 |
| 96 | 60 | 166·671 | 414·029 |
| 97 | 61 | 103·610 | 247·358 |
| 98 | 62 | 62·6547 | 143·7476 |
| 99 | 63 | 36·8079 | 81·0929 |
| 100 | 64 | 20·9780 | 44·2850 |
| 101 | 65 | 11·5825 | 23·3070 |
| 102 | 66 | 6·1860 | 11·7245 |
| 103 | 67 | 3·1910 | 5·5385 |
| 104 | 68 | 1·5873 | 2·3475 |
| 105 | 69 | ·7602 | ·7602 |

**Difference of Age 71 Years.**

| Ages *x* | Ages *y* | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 71 | 0 | 198,530 | 1,213,627 |
| 72 | 1 | 155,847 | 1,015,097 |
| 73 | 2 | 131,869 | 859,250 |
| 74 | 3 | 114,020 | 727,381 |
| 75 | 4 | 99,058·9 | 613,361·4 |
| 76 | 5 | 86,001·9 | 514.302·5 |
| 77 | 6 | 74,412·1 | 428,300·6 |
| 78 | 7 | 64,017·6 | 353,888·5 |
| 79 | 8 | 54,658·4 | 289,870·9 |
| 80 | 9 | 46,281·0 | 235,212·5 |
| 81 | 10 | 38,824·5 | 188,931·5 |
| 82 | 11 | 32,235·4 | 150,107·0 |
| 83 | 12 | 26,464·1 | 117,871·6 |
| 84 | 13 | 21,460·9 | 91,407·5 |
| 85 | 14 | 17,174·3 | 69,946·6 |
| 86 | 15 | 13,549·5 | 52,772·3 |
| 87 | 16 | 10,528·4 | 39,222·8 |
| 88 | 17 | 8,049·41 | 28,694·44 |
| 89 | 18 | 6,049·40 | 20,645·03 |
| 90 | 19 | 4,464·63 | 14,595·63 |
| 91 | 20 | 3,232·69 | 10,131·00 |
| 92 | 21 | 2,294·19 | 6,898·31 |
| 93 | 22 | 1,595·04 | 4,604·12 |
| 94 | 23 | 1,085·33 | 3,009·08 |
| 95 | 24 | 722·046 | 1,923·752 |
| 96 | 25 | 469·167 | 1,201·706 |
| 97 | 26 | 297·432 | 732·539 |
| 98 | 27 | 183·770 | 435·107 |
| 99 | 28 | 110·536 | 251·337 |
| 100 | 29 | 64·6511 | 140·8006 |
| 101 | 30 | 36·7272 | 76·1495 |
| 102 | 31 | 20·2404 | 39·4223 |
| 103 | 32 | 10·8079 | 19·1819 |
| 104 | 33 | 5·5848 | 8·3740 |
| 105 | 34 | 2·7892 | 2·7892 |

## JOINT LIVES:—Two Females.

**Difference of Age 37 Years.**

**Difference of Age 70 Years.**

### Difference of Age 37 Years.

| Ages $x$ | Ages $y$ | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| 37 | 0 | 781,540 | 10,595,396 |
| 38 | 1 | 648,665 | 9,813,856 |
| 39 | 2 | 583,534 | 9,165,191 |
| 40 | 3 | 539,658 | 8,581,657 |
| 41 | 4 | 504,745 | 8,041,999 |
| 42 | 5 | 475,103 | 7,537,254 |
| 43 | 6 | 449,077 | 7,062,151 |
| 44 | 7 | 425,521 | 6,613,074 |
| 45 | 8 | 403,671 | 6,187,553 |
| 46 | 9 | 383,353 | 5,783,882 |
| 47 | 10 | 364,321 | 5,400,529 |
| 48 | 11 | 346,371 | 5,036,208 |
| 49 | 12 | 329,339 | 4,689,837 |
| 50 | 13 | 313,094 | 4,360,498 |
| 51 | 14 | 297,529 | 4,047,404 |
| 52 | 15 | 282,564 | 3,749,875 |
| 53 | 16 | 268,135 | 3,467,311 |
| 54 | 17 | 254,198 | 3,199,176 |
| 55 | 18 | 240,354 | 2,944,978 |
| 56 | 19 | 226,816 | 2,704,624 |
| 57 | 20 | 213,597 | 2,477,808 |
| 58 | 21 | 200,709 | 2,264,211 |
| 59 | 22 | 188,256 | 2,063,502 |
| 60 | 23 | 176,234 | 1,875,246 |
| 61 | 24 | 164,634 | 1,699,012 |
| 62 | 25 | 153,448 | 1,534,378 |
| 63 | 26 | 142,668 | 1,380,930 |
| 64 | 27 | 132,285 | 1,238,262 |
| 65 | 28 | 122,294 | 1,105,977 |
| 66 | 29 | 112,690 | 983,683 |
| 67 | 30 | 103,470 | 870,993 |
| 68 | 31 | 94,633·4 | 767,522·5 |
| 69 | 32 | 86,182·7 | 672,889·1 |
| 70 | 33 | 78,121·7 | 586,706·4 |
| 71 | 34 | 70,455·8 | 508,584·7 |
| 72 | 35 | 63,192·4 | 438,128·9 |
| 73 | 36 | 56,339·2 | 374,936·5 |
| 74 | 37 | 49,904·5 | 318,597·3 |
| 75 | 38 | 43,896·1 | 268,692·8 |
| 76 | 39 | 38,320·4 | 224,796·7 |
| 77 | 40 | 33,182·2 | 186,476·3 |
| 78 | 41 | 28,483·1 | 153,294·1 |
| 79 | 42 | 24,221·8 | 124,811·0 |
| 80 | 43 | 20,392·9 | 100,589·2 |
| 81 | 44 | 16,986·7 | 80,196·3 |
| 82 | 45 | 13,989·1 | 63,209·6 |
| 83 | 46 | 11,381·7 | 49,220·5 |
| 84 | 47 | 9,141·67 | 37,838·80 |
| 85 | 48 | 7,242·85 | 28,697·13 |
| 86 | 49 | 5,655·94 | 21,454·28 |
| 87 | 50 | 4,349·60 | 15,798·34 |
| 88 | 51 | 3,291·30 | 11,448·74 |
| 89 | 52 | 2,448·34 | 8,157·44 |
| 90 | 53 | 1,788·82 | 5,709·10 |
| 91 | 54 | 1,282·46 | 3,920·28 |
| 92 | 55 | 899·943 | 2,637·815 |
| 93 | 56 | 617·991 | 1,737·872 |
| 94 | 57 | 414·846 | 1,119·881 |
| 95 | 58 | 271·926 | 705·035 |
| 96 | 59 | 173·850 | 433·109 |
| 97 | 60 | 108·276 | 259·259 |
| 98 | 61 | 65·6123 | 150·9831 |
| 99 | 62 | 38·6335 | 85·3708 |
| 100 | 63 | 22·0740 | 46·7373 |
| 101 | 64 | 12·2215 | 24·6633 |
| 102 | 65 | 6·5474 | 12·4418 |
| 103 | 66 | 3·3888 | 5·8944 |
| 104 | 67 | 1·6920 | 2·5056 |
| 105 | 68 | ·8136 | ·8136 |

### Difference of Age 70 Years.

| Ages $x$ | Ages $y$ | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| 70 | 0 | 214,480 | 1,361,138 |
| 71 | 1 | 169,265 | 1,146,658 |
| 72 | 2 | 144,053 | 977,393 |
| 73 | 3 | 125,337 | 833,340 |
| 74 | 4 | 109,631 | 708,003 |
| 75 | 5 | 95,879·8 | 598,372·0 |
| 76 | 6 | 83,615·1 | 502,492·2 |
| 77 | 7 | 72,546·8 | 418,877·1 |
| 78 | 8 | 62,505·7 | 346,330·3 |
| 79 | 9 | 53,442·6 | 283,824·6 |
| 80 | 10 | 45,300·3 | 230,382·0 |
| 81 | 11 | 38,031·1 | 185,081·7 |
| 82 | 12 | 31,592·4 | 147,050·6 |
| 83 | 13 | 25,942·7 | 115,458·2 |
| 84 | 14 | 21,038·7 | 89,515·5 |
| 85 | 15 | 16,833·8 | 68,476·8 |
| 86 | 16 | 13,276·7 | 51,643·0 |
| 87 | 17 | 10,311·7 | 38,366·3 |
| 88 | 18 | 7,879·35 | 28,054·55 |
| 89 | 19 | 5,917·83 | 20,175·20 |
| 90 | 20 | 4,364·54 | 14,257·37 |
| 91 | 21 | 3,157·98 | 9,892·83 |
| 92 | 22 | 2,240·67 | 6,734·85 |
| 93 | 23 | 1,557·49 | 4,494·18 |
| 94 | 24 | 1,059·56 | 2,936·69 |
| 95 | 25 | 704·756 | 1,877·127 |
| 96 | 26 | 457·841 | 1,172·371 |
| 97 | 27 | 290·195 | 714·530 |
| 98 | 28 | 179·264 | 424·335 |
| 99 | 29 | 107·804 | 245·071 |
| 100 | 30 | 63·0414 | 137·2671 |
| 101 | 31 | 35·8058 | 74·2257 |
| 102 | 32 | 19·7288 | 38·4199 |
| 103 | 33 | 10·5326 | 18·6911 |
| 104 | 34 | 5·4415 | 8·1585 |
| 105 | 35 | 2·7170 | 2·7170 |

## JOINT LIVES:—Two Females.

### Difference of Age 38 Years.

### Difference of Age 69 Years.

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 38 Years.** | |
| 38 | 0 | 760,815 | 10,203,313 |
| 39 | 1 | 631,312 | 9,442,498 |
| 40 | 2 | 567,782 | 8,811,186 |
| 41 | 3 | 524,952 | 8,243,404 |
| 42 | 4 | 490,856 | 7,718,452 |
| 43 | 5 | 461,896 | 7,227,596 |
| 44 | 6 | 436,462 | 6,765,700 |
| 45 | 7 | 413,435 | 6,329,238 |
| 46 | 8 | 392,074 | 5,915,803 |
| 47 | 9 | 372,208 | 5,523,729 |
| 48 | 10 | 353,597 | 5,151,521 |
| 49 | 11 | 336,043 | 4,797,924 |
| 50 | 12 | 319,387 | 4,461,881 |
| 51 | 13 | 303,499 | 4,142,494 |
| 52 | 14 | 288,279 | 3,838,995 |
| 53 | 15 | 273,645 | 3,550,716 |
| 54 | 16 | 259,539 | 3,277,071 |
| 55 | 17 | 245,541 | 3,017,532 |
| 56 | 18 | 231,859 | 2,771,991 |
| 57 | 19 | 218,495 | 2,540,132 |
| 58 | 20 | 205,457 | 2,321,637 |
| 59 | 21 | 192,753 | 2,116,180 |
| 60 | 22 | 180,483 | 1,923,427 |
| 61 | 23 | 168,639 | 1,742,944 |
| 62 | 24 | 157,213 | 1,574,305 |
| 63 | 25 | 146,197 | 1,417,092 |
| 64 | 26 | 135,585 | 1,270,895 |
| 65 | 27 | 125,369 | 1,135,310 |
| 66 | 28 | 115,545 | 1,009,941 |
| 67 | 29 | 106,112 | 894,396 |
| 68 | 30 | 97,068·5 | 788,284·0 |
| 69 | 31 | 88,417·7 | 691,215·5 |
| 70 | 32 | 80,163·5 | 602,797·8 |
| 71 | 33 | 72,312·0 | 522,634·3 |
| 72 | 34 | 64,870·6 | 450,322·3 |
| 73 | 35 | 57,847·8 | 385,451·7 |
| 74 | 36 | 51,252·2 | 327,603·9 |
| 75 | 37 | 45,091·9 | 276,351·7 |
| 76 | 38 | 39,373·8 | 231,259·8 |
| 77 | 39 | 34,102·8 | 191,886·0 |
| 78 | 40 | 29,281·0 | 157,783·2 |
| 79 | 41 | 24,907·2 | 128,502·2 |
| 80 | 42 | 20,976·0 | 103,595·0 |
| 81 | 43 | 17,477·7 | 82,619·0 |
| 82 | 44 | 14,398·0 | 65,141·3 |
| 83 | 45 | 11,718·3 | 50,743·3 |
| 84 | 46 | 9,415·40 | 39,024·95 |
| 85 | 47 | 7,462·51 | 29,609·55 |
| 86 | 48 | 5,829·77 | 22,147·04 |
| 87 | 49 | 4,485·14 | 16,317·27 |
| 88 | 50 | 3,395·34 | 11,832·13 |
| 89 | 51 | 2,526·91 | 8,436·79 |
| 90 | 52 | 1,847·12 | 5,909·88 |
| 91 | 53 | 1,324·93 | 4,062·76 |
| 92 | 54 | 931·670 | 2,737·825 |
| 93 | 55 | 640·632 | 1,806·155 |
| 94 | 56 | 430·645 | 1,165·523 |
| 95 | 57 | 282·700 | 734·878 |
| 96 | 58 | 181·025 | 452·178 |
| 97 | 59 | 112·940 | 271·153 |
| 98 | 60 | 68·5675 | 158·2131 |
| 99 | 61 | 40·4572 | 89·6456 |
| 100 | 62 | 23·1688 | 49·1884 |
| 101 | 63 | 12·8600 | 26·0196 |
| 102 | 64 | 6·9086 | 13·1596 |
| 103 | 65 | 3·5868 | 6·2510 |
| 104 | 66 | 1·7969 | 2·6642 |
| 105 | 67 | ·8673 | ·8673 |

**Difference of Age 69 Years.**

| $x$ | $y$ | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 69 | 0 | 230,585 | 1,518,123 |
| 70 | 1 | 182,865 | 1,287,538 |
| 71 | 2 | 156,455 | 1,104,673 |
| 72 | 3 | 136,917 | 948,218 |
| 73 | 4 | 120,513 | 811,301 |
| 74 | 5 | 106,113 | 690,788 |
| 75 | 6 | 93,218·8 | 584,674·6 |
| 76 | 7 | 81,519·0 | 491,455·8 |
| 77 | 8 | 70,833·5 | 409,936·8 |
| 78 | 9 | 61,115·4 | 339,103·3 |
| 79 | 10 | 52,310·1 | 277,987·9 |
| 80 | 11 | 44,374·5 | 225,677·8 |
| 81 | 12 | 37,272·4 | 181,303·3 |
| 82 | 13 | 30,969·9 | 144,030·9 |
| 83 | 14 | 25,432·4 | 113,061·0 |
| 84 | 15 | 20,621·6 | 87,628·6 |
| 85 | 16 | 16,494·8 | 67,007·0 |
| 86 | 17 | 13,003·4 | 50,512·2 |
| 87 | 18 | 10,093·8 | 37,508·8 |
| 88 | 19 | 7,707·98 | 27,415·01 |
| 89 | 20 | 5,785·16 | 19,707·03 |
| 90 | 21 | 4,263·67 | 13,921·87 |
| 91 | 22 | 3,084·31 | 9,658·20 |
| 92 | 23 | 2,187·92 | 6,573·89 |
| 93 | 24 | 1,520·51 | 4,385·97 |
| 94 | 25 | 1,034·19 | 2,865·46 |
| 95 | 26 | 687·743 | 1,831·272 |
| 96 | 27 | 446·700 | 1,143·529 |
| 97 | 28 | 283·079 | 696·829 |
| 98 | 29 | 174·834 | 413·750 |
| 99 | 30 | 105·120 | 238·916 |
| 100 | 31 | 61·4599 | 133·7959 |
| 101 | 32 | 34·9007 | 72·3360 |
| 102 | 33 | 19·2263 | 37·4353 |
| 103 | 34 | 10·2622 | 18·2090 |
| 104 | 35 | 5·3007 | 7·9468 |
| 105 | 36 | 2·6461 | 2·6461 |

## JOINT LIVES:—Two Females.

### Difference of Age 39 Years.

### Difference of Age 68 Years.

| Ages | | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| $x$ | $y$ | Difference of Age 39 Years. | |
| 39 | 0 | 740,461 | 9,818,707 |
| 40 | 1 | 614,270 | 9,078,246 |
| 41 | 2 | 552,310 | 8,463,976 |
| 42 | 3 | 510,507 | 7,911,666 |
| 43 | 4 | 477,212 | 7,401,159 |
| 44 | 5 | 448,921 | 6,923,947 |
| 45 | 6 | 424,065 | 6,475,026 |
| 46 | 7 | 401,558 | 6,050,961 |
| 47 | 8 | 380,676 | 5,649,403 |
| 48 | 9 | 361,252 | 5,268,727 |
| 49 | 10 | 343,053 | 4,907,475 |
| 50 | 11 | 325,888 | 4,564,422 |
| 51 | 12 | 309,599 | 4,238,534 |
| 52 | 13 | 294,063 | 3,928,935 |
| 53 | 14 | 279,180 | 3,634,872 |
| 54 | 15 | 264,873 | 3,355,692 |
| 55 | 16 | 250,701 | 3,090,819 |
| 56 | 17 | 236,863 | 2,840,118 |
| 57 | 18 | 223,353 | 2,603,255 |
| 58 | 19 | 210,168 | 2,379,902 |
| 59 | 20 | 197,313 | 2,169,734 |
| 60 | 21 | 184,794 | 1,972,421 |
| 61 | 22 | 172,704 | 1,787,627 |
| 62 | 23 | 161,037 | 1,614,923 |
| 63 | 24 | 149,784 | 1,453,886 |
| 64 | 25 | 138,939 | 1,304,102 |
| 65 | 26 | 128,495 | 1,165,163 |
| 66 | 27 | 118,450 | 1,036,668 |
| 67 | 28 | 108,800 | 918,218 |
| 68 | 29 | 99,547·0 | 809,417·6 |
| 69 | 30 | 90,692·8 | 709,870·6 |
| 70 | 31 | 82,242·3 | 619,177·8 |
| 71 | 32 | 74,201·9 | 536,935·5 |
| 72 | 33 | 66,579·6 | 462,733·6 |
| 73 | 34 | 59,384·2 | 396,154·0 |
| 74 | 35 | 52,624·6 | 336,769·8 |
| 75 | 36 | 46,309·6 | 284,145·2 |
| 76 | 37 | 40,446·4 | 237,835·6 |
| 77 | 38 | 35,040·2 | 197,389·2 |
| 78 | 39 | 30,093·4 | 162,349·0 |
| 79 | 40 | 25,604·9 | 132,255·6 |
| 80 | 41 | 21,569·5 | 106,650·7 |
| 81 | 42 | 17,977·4 | 85,081·2 |
| 82 | 43 | 14,814·2 | 67,103·8 |
| 83 | 44 | 12,060·9 | 52,289·6 |
| 84 | 45 | 9,693·89 | 40,228·71 |
| 85 | 46 | 7,685·96 | 30,534·82 |
| 86 | 47 | 6,006·57 | 22,848·86 |
| 87 | 48 | 4,622·98 | 16,842·29 |
| 88 | 49 | 3,501·15 | 12,219·31 |
| 89 | 50 | 2,606·79 | 8,718·16 |
| 90 | 51 | 1,906·39 | 6,111·37 |
| 91 | 52 | 1,368·11 | 4,204·98 |
| 92 | 53 | 962·525 | 2,836·866 |
| 93 | 54 | 663·217 | 1,874·341 |
| 94 | 55 | 446·422 | 1,211·124 |
| 95 | 56 | 293·466 | 764·702 |
| 96 | 57 | 188·197 | 471·236 |
| 97 | 58 | 117·601 | 283·039 |
| 98 | 59 | 71·5208 | 165·4377 |
| 99 | 60 | 42·2794 | 93·9169 |
| 100 | 61 | 24·2625 | 51·6375 |
| 101 | 62 | 13·4979 | 27·3750 |
| 102 | 63 | 7·2695 | 13·8771 |
| 103 | 64 | 3·7847 | 6·6076 |
| 104 | 65 | 1·9019 | 2·8229 |
| 105 | 66 | ·9210 | ·9210 |
| | | Difference of Age 68 Years. | |
| 68 | 0 | 246,795 | 1,684,435 |
| 69 | 1 | 196,595 | 1,437,640 |
| 70 | 2 | 169,025 | 1,241,045 |
| 71 | 3 | 148,706 | 1,072,020 |
| 72 | 4 | 131,647 | 923,314 |
| 73 | 5 | 116,645 | 791,667 |
| 74 | 6 | 103,168 | 675,022 |
| 75 | 7 | 90,882·0 | 571,854·1 |
| 76 | 8 | 79,593·8 | 480,972·1 |
| 77 | 9 | 69,257·9 | 401,378·3 |
| 78 | 10 | 59,820·3 | 332,120·4 |
| 79 | 11 | 51,241·1 | 272,300·1 |
| 80 | 12 | 43,489·3 | 221,059·0 |
| 81 | 13 | 36,538·0 | 177,569·7 |
| 82 | 14 | 30,360·7 | 141,031·7 |
| 83 | 15 | 24,928·2 | 110,671·0 |
| 84 | 16 | 20,206·4 | 85,742·8 |
| 85 | 17 | 16,155·4 | 65,536·4 |
| 86 | 18 | 12,728·7 | 49,381·0 |
| 87 | 19 | 9,874·29 | 36,652·33 |
| 88 | 20 | 7,535·17 | 26,778·04 |
| 89 | 21 | 5,651·47 | 19,242·87 |
| 90 | 22 | 4,164·21 | 13,591·40 |
| 91 | 23 | 3,011·71 | 9,427·19 |
| 92 | 24 | 2,135·97 | 6,415·48 |
| 93 | 25 | 1,484·10 | 4,279·51 |
| 94 | 26 | 1,009·22 | 2,795·41 |
| 95 | 27 | 671·009 | 1,786·191 |
| 96 | 28 | 435·747 | 1,115·182 |
| 97 | 29 | 276·084 | 679·435 |
| 98 | 30 | 170·481 | 403·351 |
| 99 | 31 | 102·483 | 232·870 |
| 100 | 32 | 59·9064 | 130·3867 |
| 101 | 33 | 34·0118 | 70·4803 |
| 102 | 34 | 18·7328 | 36·4685 |
| 103 | 35 | 9·9967 | 17·7357 |
| 104 | 36 | 5·1624 | 7·7390 |
| 105 | 37 | 2·5766 | 2·5766 |

## JOINT LIVES:—TWO FEMALES.

### Difference of Age 40 Years.

### Difference of Age 67 Years.

**Difference of Age 40 Years.**

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | | |
| 40 | 0 | 720,472 | 9,441,476 |
| 41 | 1 | 597,531 | 8,721,004 |
| 42 | 2 | 537,112 | 8,123,473 |
| 43 | 3 | 496,316 | 7,586,361 |
| 44 | 4 | 463,806 | 7,090,045 |
| 45 | 5 | 436,171 | 6,626,239 |
| 46 | 6 | 411,883 | 6,190,068 |
| 47 | 7 | 389,883 | 5,778,185 |
| 48 | 8 | 369,471 | 5,388,302 |
| 49 | 9 | 350,481 | 5,018,831 |
| 50 | 10 | 332,686 | 4,668,350 |
| 51 | 11 | 315,901 | 4,335,664 |
| 52 | 12 | 299,973 | 4,019,763 |
| 53 | 13 | 284,782 | 3,719,790 |
| 54 | 14 | 270,231 | 3,435,008 |
| 55 | 15 | 255,853 | 3,164,777 |
| 56 | 16 | 241,841 | 2,908,924 |
| 57 | 17 | 228,174 | 2,667,083 |
| 58 | 18 | 214,841 | 2,438,909 |
| 59 | 19 | 201,838 | 2,224,068 |
| 60 | 20 | 189,165 | 2,022,230 |
| 61 | 21 | 176,829 | 1,833,065 |
| 62 | 22 | 164,919 | 1,656,236 |
| 63 | 23 | 153,427 | 1,491,317 |
| 64 | 24 | 142,347 | 1,337,890 |
| 65 | 25 | 131,674 | 1,195,543 |
| 66 | 26 | 121,404 | 1,063,869 |
| 67 | 27 | 111,535 | 942,465 |
| 68 | 28 | 102,069 | 830,930 |
| 69 | 29 | 93,008·5 | 728,861·2 |
| 70 | 30 | 84,358·6 | 635,852·7 |
| 71 | 31 | 76,126·2 | 551,494·1 |
| 72 | 32 | 68,319·7 | 475,367·9 |
| 73 | 33 | 60,948·6 | 407,048·2 |
| 74 | 34 | 54,022·2 | 346,099·6 |
| 75 | 35 | 47,549·7 | 292,077·4 |
| 76 | 36 | 41,538·6 | 244,527·7 |
| 77 | 37 | 35,994·7 | 202,989·1 |
| 78 | 38 | 30,920·6 | 166,994·4 |
| 79 | 39 | 26,315·3 | 136,073·8 |
| 80 | 40 | 22,173·7 | 109,758·5 |
| 81 | 41 | 18,486·1 | 87,584·8 |
| 82 | 42 | 15,237·8 | 69,098·7 |
| 83 | 43 | 12,409·5 | 53,860·9 |
| 84 | 44 | 9,977·26 | 41,451·35 |
| 85 | 45 | 7,913·29 | 31,474·09 |
| 86 | 46 | 6,186·43 | 23,560·80 |
| 87 | 47 | 4,763·19 | 17,374·37 |
| 88 | 48 | 3,608·75 | 12,611·18 |
| 89 | 49 | 2,688·02 | 9,002·43 |
| 90 | 50 | 1,966·66 | 6,314·41 |
| 91 | 51 | 1,412·01 | 4,347·75 |
| 92 | 52 | 993·894 | 2,935·739 |
| 93 | 53 | 685·182 | 1,941·845 |
| 94 | 54 | 462·161 | 1,256·663 |
| 95 | 55 | 304·218 | 794·502 |
| 96 | 56 | 195·365 | 490·284 |
| 97 | 57 | 122·261 | 294·919 |
| 98 | 58 | 74·4727 | 172·6576 |
| 99 | 59 | 44·1004 | 98·1849 |
| 100 | 60 | 25·3553 | 54·0845 |
| 101 | 61 | 14·1350 | 28·7292 |
| 102 | 62 | 7·6301 | 14·5942 |
| 103 | 63 | 3·9824 | 6·9641 |
| 104 | 64 | 2·0068 | 2·9817 |
| 105 | 65 | ·9749 | ·9749 |

**Difference of Age 67 Years.**

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | | |
| 67 | 0 | 263,070 | 1,859,908 |
| 68 | 1 | 210,416 | 1,596,838 |
| 69 | 2 | 181,717 | 1,386,422 |
| 70 | 3 | 160,653 | 1,204,705 |
| 71 | 4 | 142,981 | 1,044,052 |
| 72 | 5 | 127,422 | 901,071 |
| 73 | 6 | 113,408 | 773,649 |
| 74 | 7 | 100,582 | 660,241 |
| 75 | 8 | 88,735·7 | 559,658·7 |
| 76 | 9 | 77,823·4 | 470,923·0 |
| 77 | 10 | 67,790·2 | 393,099·6 |
| 78 | 11 | 58,597·8 | 325,309·4 |
| 79 | 12 | 50,218·9 | 266,711·6 |
| 80 | 13 | 42,632·4 | 216,492·7 |
| 81 | 14 | 35,819·3 | 173,860·3 |
| 82 | 15 | 29,758·8 | 138,041·0 |
| 83 | 16 | 24,426·2 | 108,282·2 |
| 84 | 17 | 19,790·5 | 83,856·0 |
| 85 | 18 | 15,814·0 | 64,065·5 |
| 86 | 19 | 12,451·9 | 48,251·5 |
| 87 | 20 | 9,652·91 | 35,799·58 |
| 88 | 21 | 7,361·04 | 26,146·67 |
| 89 | 22 | 5,519·62 | 18,785·63 |
| 90 | 23 | 4,066·18 | 13,266·01 |
| 91 | 24 | 2,940·19 | 9,199·83 |
| 92 | 25 | 2,084·82 | 6,259·64 |
| 93 | 26 | 1,448·27 | 4,174·82 |
| 94 | 27 | 984·667 | 2,726·546 |
| 95 | 28 | 654·555 | 1,741·879 |
| 96 | 29 | 424·979 | 1,087·324 |
| 97 | 30 | 269·210 | 662·345 |
| 98 | 31 | 166·204 | 393·135 |
| 99 | 32 | 99·8927 | 226·9311 |
| 100 | 33 | 58·3806 | 127·0384 |
| 101 | 34 | 33·1388 | 68·6578 |
| 102 | 35 | 18·2481 | 35·5190 |
| 103 | 36 | 9·7360 | 17·2709 |
| 104 | 37 | 5·0267 | 7·5349 |
| 105 | 38 | 2·5082 | 2·5082 |

## JOINT LIVES:—Two Females.

### Difference of Age 41 Years.

### Difference Of Age 66 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| x | y | **Difference of Age 41 Years.** | |
| 41 | 0 | 700,839 | 9,071,521 |
| 42 | 1 | 581,089 | 8,370,682 |
| 43 | 2 | 522,182 | 7,789,593 |
| 44 | 3 | 482,374 | 7,267,411 |
| 45 | 4 | 450,633 | 6,785,037 |
| 46 | 5 | 423,640 | 6,334,404 |
| 47 | 6 | 399,908 | 5,910,764 |
| 48 | 7 | 378,407 | 5,510,856 |
| 49 | 8 | 358,454 | 5,132,449 |
| 50 | 9 | 339,889 | 4,773,995 |
| 51 | 10 | 322,492 | 4,434,106 |
| 52 | 11 | 306,079 | 4,111,614 |
| 53 | 12 | 290,506 | 3,805,535 |
| 54 | 13 | 275,653 | 3,515,029 |
| 55 | 14 | 261,028 | 3,239,376 |
| 56 | 15 | 246,811 | 2,978,348 |
| 57 | 16 | 232,969 | 2,731,537 |
| 58 | 17 | 219,478 | 2,498,568 |
| 59 | 18 | 206,325 | 2,279,090 |
| 60 | 19 | 193,503 | 2,072,765 |
| 61 | 20 | 181,013 | 1,879,262 |
| 62 | 21 | 168,858 | 1,698,249 |
| 63 | 22 | 157,126 | 1,529,391 |
| 64 | 23 | 145,809 | 1,372,265 |
| 65 | 24 | 134,904 | 1,226,456 |
| 66 | 25 | 124,407 | 1,091,552 |
| 67 | 26 | 114,317 | 967,145 |
| 68 | 27 | 104,635 | 852,828 |
| 69 | 28 | 95,365·0 | 748,192·6 |
| 70 | 29 | 86,512·6 | 652,827·6 |
| 71 | 30 | 78,085·1 | 566,315·0 |
| 72 | 31 | 70,091·4 | 488,229·9 |
| 73 | 32 | 62,541·6 | 418,138·5 |
| 74 | 33 | 55,445·4 | 355,596·9 |
| 75 | 34 | 48,812·5 | 300,151·5 |
| 76 | 35 | 42,650·9 | 251,339·0 |
| 77 | 36 | 36,966·7 | 208,688·1 |
| 78 | 37 | 31,762·9 | 171,721·4 |
| 79 | 38 | 27,038·6 | 139,958·5 |
| 80 | 39 | 22,788·9 | 112,919·9 |
| 81 | 40 | 19,003·9 | 90,131·0 |
| 82 | 41 | 15,668·9 | 71,127·1 |
| 83 | 42 | 12,764·3 | 55,458·2 |
| 84 | 43 | 10,265·6 | 42,693·9 |
| 85 | 44 | 8,144·62 | 32,428·28 |
| 86 | 45 | 6,369·41 | 24,283·66 |
| 87 | 46 | 4,905·81 | 17,914·25 |
| 88 | 47 | 3,718·20 | 13,008·44 |
| 89 | 48 | 2,770·63 | 9,290·24 |
| 90 | 49 | 2,027·94 | 6,519·61 |
| 91 | 50 | 1,456·65 | 4,491·67 |
| 92 | 51 | 1,025·79 | 3,035·02 |
| 93 | 52 | 707·512 | 2,009·234 |
| 94 | 53 | 477·467 | 1,301·722 |
| 95 | 54 | 314·943 | 824·255 |
| 96 | 55 | 202·522 | 509·312 |
| 97 | 56 | 126·917 | 306·790 |
| 98 | 57 | 77·4233 | 179·8733 |
| 99 | 58 | 45·9206 | 102·4500 |
| 100 | 59 | 26·4473 | 56·5294 |
| 101 | 60 | 14·7717 | 30·0821 |
| 102 | 61 | 7·9903 | 15·3104 |
| 103 | 62 | 4·1799 | 7·3201 |
| 104 | 63 | 2·1116 | 3·1402 |
| 105 | 64 | 1·0286 | 1·0286 |

**Difference of Age 66 Years.**

| x | y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 66 | 0 | 279,379 | 2,044,353 |
| 67 | 1 | 224,292 | 1,764,974 |
| 68 | 2 | 194,492 | 1,540,682 |
| 69 | 3 | 172,716 | 1,346,190 |
| 70 | 4 | 154,469 | 1,173,474 |
| 71 | 5 | 138,393 | 1,019,005 |
| 72 | 6 | 123,886 | 880,612 |
| 73 | 7 | 110,565 | 756,726 |
| 74 | 8 | 98,206·4 | 646,161·4 |
| 75 | 9 | 86,761·9 | 547,955·0 |
| 76 | 10 | 76,174·2 | 461,193·1 |
| 77 | 11 | 66,404·8 | 385,018·9 |
| 78 | 12 | 57,428·8 | 318,614·1 |
| 79 | 13 | 49,229·4 | 261,185·3 |
| 80 | 14 | 41,793·8 | 211,955·9 |
| 81 | 15 | 35,109·2 | 170,162·1 |
| 82 | 16 | 29,159·5 | 135,052·9 |
| 83 | 17 | 23,923·5 | 105,893·4 |
| 84 | 18 | 19,372·4 | 81,969·9 |
| 85 | 19 | 15,470·1 | 62,597·5 |
| 86 | 20 | 12,172·7 | 47,127·4 |
| 87 | 21 | 9,429·84 | 34,954·65 |
| 88 | 22 | 7,189·31 | 25,524·81 |
| 89 | 23 | 5,389·69 | 18,335·50 |
| 90 | 24 | 3,969·63 | 12,945·81 |
| 91 | 25 | 2,869·79 | 8,976·18 |
| 92 | 26 | 2,034·50 | 6,106·39 |
| 93 | 27 | 1,413·03 | 4,071·89 |
| 94 | 28 | 960·522 | 2,658·860 |
| 95 | 29 | 638·381 | 1,698·338 |
| 96 | 30 | 414·398 | 1,059·957 |
| 97 | 31 | 262·457 | 645·559 |
| 98 | 32 | 162·003 | 383·102 |
| 99 | 33 | 97·3484 | 221·0986 |
| 100 | 34 | 56·8820 | 123·7502 |
| 101 | 35 | 32·2815 | 66·8682 |
| 102 | 36 | 17·7722 | 34·5867 |
| 103 | 37 | 9·4800 | 16·8145 |
| 104 | 38 | 4·8934 | 7·3345 |
| 105 | 39 | 2·4411 | 2·4411 |

## JOINT LIVES:—Two Females.

**Difference of Age 42 Years.**

**Difference of Age 65 Years.**

### Difference of Age 42 Years.

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 42 | 0 | 681,555 | 8,708,746 |
| 43 | 1 | 564,936 | 8,027,191 |
| 44 | 2 | 507,513 | 7,462,255 |
| 45 | 3 | 468,674 | 6,954,742 |
| 46 | 4 | 437,687 | 6,486,068 |
| 47 | 5 | 411,324 | 6,048,381 |
| 48 | 6 | 388,137 | 5,637,057 |
| 49 | 7 | 367,124 | 5,248,920 |
| 50 | 8 | 347,621 | 4,881,796 |
| 51 | 9 | 329,474 | 4,534,175 |
| 52 | 10 | 312,465 | 4,204,701 |
| 53 | 11 | 296,419 | 3,892,236 |
| 54 | 12 | 281,193 | 3,595,817 |
| 55 | 13 | 266,266 | 3,314,624 |
| 56 | 14 | 251,803 | 3,048,358 |
| 57 | 15 | 237,756 | 2,796,555 |
| 58 | 16 | 224,090 | 2,558,799 |
| 59 | 17 | 210,779 | 2,334,709 |
| 60 | 18 | 197,806 | 2,123,930 |
| 61 | 19 | 185,164 | 1,926,124 |
| 62 | 20 | 172,853 | 1,740,960 |
| 63 | 21 | 160,879 | 1,568,107 |
| 64 | 22 | 149,325 | 1,407,228 |
| 65 | 23 | 138,185 | 1,257,903 |
| 66 | 24 | 127,459 | 1,119,718 |
| 67 | 25 | 117,145 | 992,259 |
| 68 | 26 | 107,244 | 875,114 |
| 69 | 27 | 97,762·3 | 767,870·3 |
| 70 | 28 | 88,704·4 | 670,108·0 |
| 71 | 29 | 80,078·9 | 581,403·6 |
| 72 | 30 | 71,895·1 | 501,324·7 |
| 73 | 31 | 64,163·4 | 429,429·6 |
| 74 | 32 | 56,894·5 | 365,266·2 |
| 75 | 33 | 50,098·4 | 308,371·7 |
| 76 | 34 | 43,783·7 | 258,273·3 |
| 77 | 35 | 37,956·6 | 214,489·6 |
| 78 | 36 | 32,620·6 | 176,533·0 |
| 79 | 37 | 27,775·2 | 143,912·4 |
| 80 | 38 | 23,415·3 | 116,137·2 |
| 81 | 39 | 19,531·2 | 92,721·9 |
| 82 | 40 | 16,107·9 | 73,190·7 |
| 83 | 41 | 13,125·4 | 57,082·8 |
| 84 | 42 | 10,559·2 | 43,957·4 |
| 85 | 43 | 8,380·03 | 33,398·20 |
| 86 | 44 | 6,555·60 | 25,018·17 |
| 87 | 45 | 5,050·92 | 18,462·57 |
| 88 | 46 | 3,829·53 | 13,411·65 |
| 89 | 47 | 2,854·66 | 9,582·12 |
| 90 | 48 | 2,090·27 | 6,727·46 |
| 91 | 49 | 1,502·04 | 4,637·19 |
| 92 | 50 | 1,058·22 | 3,135·15 |
| 93 | 51 | 730·216 | 2,076·930 |
| 94 | 52 | 493·027 | 1,346·714 |
| 95 | 53 | 325·373 | 853·687 |
| 96 | 54 | 209·662 | 528·314 |
| 97 | 55 | 131·567 | 318·652 |
| 98 | 56 | 80·3719 | 187·0850 |
| 99 | 57 | 47·7400 | 106·7131 |
| 100 | 58 | 27·5389 | 58·9731 |
| 101 | 59 | 15·4079 | 31·4342 |
| 102 | 60 | 8·3502 | 16·0263 |
| 103 | 61 | 4·3773 | 7·6761 |
| 104 | 62 | 2·2164 | 3·2988 |
| 105 | 63 | 1·0824 | 1·0824 |

### Difference of Age 65 Years.

| Ages x | Ages y | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|
| 65 | 0 | 295,698 | 2,237,569 |
| 66 | 1 | 238,196 | 1,941,871 |
| 67 | 2 | 207,317 | 1,703,675 |
| 68 | 3 | 184,858 | 1,496,358 |
| 69 | 4 | 166,068 | 1,311,500 |
| 70 | 5 | 149,512 | 1,145,432 |
| 71 | 6 | 134,552 | 995,920 |
| 72 | 7 | 120,780 | 861,368 |
| 73 | 8 | 107,954 | 740,588 |
| 74 | 9 | 96,022·0 | 632,634·4 |
| 75 | 10 | 84,923·3 | 536,612·4 |
| 76 | 11 | 74,617·5 | 451,689·1 |
| 77 | 12 | 65,080·1 | 377,071·6 |
| 78 | 13 | 56,297·3 | 311,991·5 |
| 79 | 14 | 48,261·1 | 255,694·2 |
| 80 | 15 | 40,965·3 | 207,433·1 |
| 81 | 16 | 34,402·2 | 166,467·8 |
| 82 | 17 | 28,559·4 | 132,065·6 |
| 83 | 18 | 23,418·0 | 103,506·2 |
| 84 | 19 | 18,951·1 | 80,088·2 |
| 85 | 20 | 15,123·3 | 61,137·1 |
| 86 | 21 | 11,891·4 | 46,013·8 |
| 87 | 22 | 9,209·85 | 34,122·44 |
| 88 | 23 | 7,020·07 | 24,912·59 |
| 89 | 24 | 5,261·71 | 17,892·52 |
| 90 | 25 | 3,874·58 | 12,630·81 |
| 91 | 26 | 2,800·51 | 8,756·23 |
| 92 | 27 | 1,984·99 | 5,955·72 |
| 93 | 28 | 1,378·38 | 3,970·73 |
| 94 | 29 | 936·788 | 2,592·349 |
| 95 | 30 | 622·487 | 1,655·561 |
| 96 | 31 | 404·003 | 1,033·074 |
| 97 | 32 | 255·823 | 629·071 |
| 98 | 33 | 157·877 | 373·248 |
| 99 | 34 | 94·8496 | 215·3709 |
| 100 | 35 | 55·4105 | 120·5213 |
| 101 | 36 | 31·4396 | 65·1108 |
| 102 | 37 | 17·3049 | 33·6712 |
| 103 | 38 | 9·2286 | 16·3663 |
| 104 | 39 | 4·7625 | 7·1377 |
| 105 | 40 | 2·3752 | 2·3752 |

## JOINT LIVES:—Two Females.

### Difference of Age 43 Years.

### Difference of Age 64 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | Difference of Age 43 Years. | |
| 43 | 0 | 662,609 | 8,353,053 |
| 44 | 1 | 549,066 | 7,690,444 |
| 45 | 2 | 493,099 | 7,141,378 |
| 46 | 3 | 455,209 | 6,648,279 |
| 47 | 4 | 424,962 | 6,193,070 |
| 48 | 5 | 399,217 | 5,768,108 |
| 49 | 6 | 376,564 | 5,368,891 |
| 50 | 7 | 356,030 | 4,992,327 |
| 51 | 8 | 336,969 | 4,636,297 |
| 52 | 9 | 319,230 | 4,299,328 |
| 53 | 10 | 302,603 | 3,980,098 |
| 54 | 11 | 286,917 | 3,677,495 |
| 55 | 12 | 271,617 | 3,390,578 |
| 56 | 13 | 256,855 | 3,118,961 |
| 57 | 14 | 242,565 | 2,862,106 |
| 58 | 15 | 228,695 | 2,619,541 |
| 59 | 16 | 215,208 | 2,390,846 |
| 60 | 17 | 202,075 | 2,175,638 |
| 61 | 18 | 189,281 | 1,973,563 |
| 62 | 19 | 176,817 | 1,784,282 |
| 63 | 20 | 164,685 | 1,607,465 |
| 64 | 21 | 152,891 | 1,442,780 |
| 65 | 22 | 141,517 | 1,289,889 |
| 66 | 23 | 130,559 | 1,148,372 |
| 67 | 24 | 120,018 | 1,017,813 |
| 68 | 25 | 109,897 | 897,795 |
| 69 | 26 | 100,200 | 787,898 |
| 70 | 27 | 90,934·3 | 687,697·9 |
| 71 | 28 | 82,107·7 | 596,763·6 |
| 72 | 29 | 73,730·8 | 514,655·9 |
| 73 | 30 | 65,814·5 | 440,925·1 |
| 74 | 31 | 58,370·0 | 375,110·6 |
| 75 | 32 | 51,407·8 | 316,740·6 |
| 76 | 33 | 44,937·1 | 265,332·8 |
| 77 | 34 | 38,964·7 | 220,395·7 |
| 78 | 35 | 33,494·2 | 181,431·0 |
| 79 | 36 | 28,525·3 | 147,936·8 |
| 80 | 37 | 24,053·2 | 119,411·5 |
| 81 | 38 | 20,068·0 | 95,358·3 |
| 82 | 39 | 16,554·8 | 75,290·3 |
| 83 | 40 | 13,493·1 | 58,735·5 |
| 84 | 41 | 10,857·9 | 45,242·4 |
| 85 | 42 | 8,619·63 | 34,384·50 |
| 86 | 43 | 6,745·08 | 25,764·87 |
| 87 | 44 | 5,198·57 | 19,019·79 |
| 88 | 45 | 3,942·80 | 13,821·22 |
| 89 | 46 | 2,940·14 | 9,878·42 |
| 90 | 47 | 2,153·66 | 6,938·28 |
| 91 | 48 | 1,548·20 | 4,784·62 |
| 92 | 49 | 1,091·19 | 3,236·42 |
| 93 | 50 | 753·300 | 2,145·226 |
| 94 | 51 | 508·848 | 1,391·926 |
| 95 | 52 | 335·977 | 883·078 |
| 96 | 53 | 216·606 | 547·101 |
| 97 | 54 | 136·205 | 330·495 |
| 98 | 55 | 83·3165 | 194·2897 |
| 99 | 56 | 49·5581 | 110·9732 |
| 100 | 57 | 28·6300 | 61·4151 |
| 101 | 58 | 16·0438 | 32·7851 |
| 102 | 59 | 8·7098 | 16·7413 |
| 103 | 60 | 4·5744 | 8·0315 |
| 104 | 61 | 2·3210 | 3·4571 |
| 105 | 62 | 1·1361 | 1·1361 |

Difference of Age 64 Years.

| $x$ | $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 64 | 0 | 312,013 | 2,439,355 |
| 65 | 1 | 252,110 | 2,127,342 |
| 66 | 2 | 220,170 | 1,875,232 |
| 67 | 3 | 197,048 | 1,655,062 |
| 68 | 4 | 177,742 | 1,458,014 |
| 69 | 5 | 160,738 | 1,280,272 |
| 70 | 6 | 145,362 | 1,119,534 |
| 71 | 7 | 131,179 | 974,172 |
| 72 | 8 | 117,928 | 842,993 |
| 73 | 9 | 105,553 | 725,065 |
| 74 | 10 | 93,987·1 | 619,512·3 |
| 75 | 11 | 83,187·8 | 525,525·2 |
| 76 | 12 | 73,129·0 | 442,337·4 |
| 77 | 13 | 63,797·9 | 369,208·4 |
| 78 | 14 | 55,189·9 | 305,410·5 |
| 79 | 15 | 47,304·3 | 250,220·6 |
| 80 | 16 | 40,140 3 | 202,916·3 |
| 81 | 17 | 33,694·1 | 162,776·0 |
| 82 | 18 | 27,956·0 | 129,081·9 |
| 83 | 19 | 22,908·7 | 101,125·9 |
| 84 | 20 | 18,526·2 | 78,217·2 |
| 85 | 21 | 14,773·8 | 59,691·0 |
| 86 | 22 | 11,614·0 | 44,917·2 |
| 87 | 23 | 8,993·05 | 33,303·20 |
| 88 | 24 | 6,853·38 | 24,310·15 |
| 89 | 25 | 5,135·72 | 17,456·77 |
| 90 | 26 | 3,781·04 | 12,321·05 |
| 91 | 27 | 2,732·37 | 8,540·01 |
| 92 | 28 | 1,936·32 | 5,807·64 |
| 93 | 29 | 1,344·32 | 3,871·32 |
| 94 | 30 | 913·464 | 2,527·003 |
| 95 | 31 | 606·871 | 1,613·539 |
| 96 | 32 | 393·791 | 1,006·668 |
| 97 | 33 | 249·307 | 612·877 |
| 98 | 34 | 153·824 | 363·570 |
| 99 | 35 | 92·3958 | 209·7462 |
| 100 | 36 | 53·9654 | 117·3504 |
| 101 | 37 | 30·6129 | 63·3850 |
| 102 | 38 | 16·8460 | 32·7721 |
| 103 | 39 | 8·9817 | 15·9261 |
| 104 | 40 | 4·6339 | 6·9444 |
| 105 | 41 | 2·3105 | 2·3105 |

## JOINT LIVES:—TWO FEMALES.

**Difference of Age 44 Years.**

**Difference of Age 63 Years.**

### Difference of Age 44 Years.

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 44 | 0 | 643,996 | 8,004,359 |
| 45 | 1 | 533,472 | 7,360,363 |
| 46 | 2 | 478,933 | 6,826,891 |
| 47 | 3 | 441,975 | 6,347,958 |
| 48 | 4 | 412,453 | 5,905,983 |
| 49 | 5 | 387,313 | 5,493,530 |
| 50 | 6 | 365,184 | 5,106,217 |
| 51 | 7 | 345,119 | 4,741,033 |
| 52 | 8 | 326,492 | 4,395,914 |
| 53 | 9 | 309,154 | 4,069,422 |
| 54 | 10 | 292,902 | 3,760,268 |
| 55 | 11 | 277,146 | 3,467,366 |
| 56 | 12 | 262,018 | 3,190,220 |
| 57 | 13 | 247,432 | 2,928,202 |
| 58 | 14 | 233,321 | 2,680,770 |
| 59 | 15 | 219,630 | 2,447,449 |
| 60 | 16 | 206,321 | 2,227,819 |
| 61 | 17 | 193,366 | 2,021,498 |
| 62 | 18 | 180,748 | 1,828,132 |
| 63 | 19 | 168,462 | 1,647,384 |
| 64 | 20 | 156,508 | 1,478,922 |
| 65 | 21 | 144,897 | 1,322,414 |
| 66 | 22 | 133,706 | 1,177,517 |
| 67 | 23 | 122,938 | 1,043,811 |
| 68 | 24 | 112,593 | 920,873 |
| 69 | 25 | 102,679 | 808,280 |
| 70 | 26 | 93,202·1 | 705,600·5 |
| 71 | 27 | 84,171·7 | 612,398·4 |
| 72 | 28 | 75,598·8 | 528,226·7 |
| 73 | 29 | 67,494·9 | 452,627·9 |
| 74 | 30 | 59,871·9 | 385,133·0 |
| 75 | 31 | 52,740·9 | 325,261·1 |
| 76 | 32 | 46,111·6 | 272,520·2 |
| 77 | 33 | 39,991·2 | 226,408·6 |
| 78 | 34 | 34,383·7 | 186,417·4 |
| 79 | 35 | 29,289·1 | 152,033·7 |
| 80 | 36 | 24,702·7 | 122,744·6 |
| 81 | 37 | 20,614·7 | 98,041·9 |
| 82 | 38 | 17,009·8 | 77,427·2 |
| 83 | 39 | 13,867·5 | 60,417·4 |
| 84 | 40 | 11,162·1 | 46,549·9 |
| 85 | 41 | 8,863·52 | 35,387·81 |
| 86 | 42 | 6,937·94 | 26,524·29 |
| 87 | 43 | 5,348·82 | 19,586·35 |
| 88 | 44 | 4,058·06 | 14,237·53 |
| 89 | 45 | 3,027·10 | 10,179·47 |
| 90 | 46 | 2,218·15 | 7,152·37 |
| 91 | 47 | 1,595·16 | 4,934·22 |
| 92 | 48 | 1,124·73 | 3,339·06 |
| 93 | 49 | 776·774 | 2,214·330 |
| 94 | 50 | 524·934 | 1,437·556 |
| 95 | 51 | 346·758 | 912·622 |
| 96 | 52 | 223·665 | 565·864 |
| 97 | 53 | 140·716 | 342·199 |
| 98 | 54 | 86·2537 | 201·4831 |
| 99 | 55 | 51·3737 | 115·2294 |
| 100 | 56 | 29·7203 | 63·8557 |
| 101 | 57 | 16·6795 | 34·1354 |
| 102 | 58 | 9·0693 | 17·4559 |
| 103 | 59 | 4·7714 | 8·3866 |
| 104 | 60 | 2·4255 | 3·6152 |
| 105 | 61 | 1·1897 | 1·1897 |

### Difference of Age 63 Years.

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 63 | 0 | 328,314 | 2,649,504 |
| 64 | 1 | 266,020 | 2,321,190 |
| 65 | 2 | 233,030 | 2,055,170 |
| 66 | 3 | 209,264 | 1,822,140 |
| 67 | 4 | 189,463 | 1,612,876 |
| 68 | 5 | 172,038 | 1,423,413 |
| 69 | 6 | 156,277 | 1,251,375 |
| 70 | 7 | 141,718 | 1,095,098 |
| 71 | 8 | 128,081 | 953,380 |
| 72 | 9 | 115,305 | 825,299 |
| 73 | 10 | 103,316 | 709,994 |
| 74 | 11 | 92,066·4 | 606,677·8 |
| 75 | 12 | 81,528·3 | 514,611·4 |
| 76 | 13 | 71,688·1 | 433,083·1 |
| 77 | 14 | 62,543·0 | 361,395·0 |
| 78 | 15 | 54,095·8 | 298,852·0 |
| 79 | 16 | 46,351·7 | 244,756·2 |
| 80 | 17 | 39,314·2 | 198,404·5 |
| 81 | 18 | 32,982·3 | 159,090·3 |
| 82 | 19 | 27,348·0 | 126,108·0 |
| 83 | 20 | 22,395·1 | 98,760·0 |
| 84 | 21 | 18,098·1 | 76,364·9 |
| 85 | 22 | 14,429·1 | 58,266·8 |
| 86 | 23 | 11,340·6 | 43,837·7 |
| 87 | 24 | 8,779·51 | 32,497·07 |
| 88 | 25 | 6,689·27 | 23,717·56 |
| 89 | 26 | 5,011·74 | 17,028·29 |
| 90 | 27 | 3,689·04 | 12,016·55 |
| 91 | 28 | 2,665·37 | 8,327·51 |
| 92 | 29 | 1,888·47 | 5,662·14 |
| 93 | 30 | 1,310·85 | 3,773·67 |
| 94 | 31 | 890·548 | 2,462·815 |
| 95 | 32 | 591·531 | 1,572·267 |
| 96 | 33 | 383·761 | 980·736 |
| 97 | 34 | 242·907 | 596·975 |
| 98 | 35 | 149·845 | 354·068 |
| 99 | 36 | 89·9862 | 204·2228 |
| 100 | 37 | 52·5463 | 114·2366 |
| 101 | 38 | 29·8011 | 61·6903 |
| 102 | 39 | 16·3953 | 31·8892 |
| 103 | 40 | 8·7393 | 15·4939 |
| 104 | 41 | 4·5077 | 6·7546 |
| 105 | 42 | 2·2469 | 2·2469 |

## JOINT LIVES:—Two Females.

### Difference of Age 45 Years.

### Difference of Age 62 Years.

| Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 45 Years.** | |
| 45 | 0 | 625,705 | 7,662,582 |
| 46 | 1 | 518,146 | 7,036,877 |
| 47 | 2 | 465,009 | 6,518,731 |
| 48 | 3 | 428,966 | 6,053,722 |
| 49 | 4 | 400,155 | 5,624,756 |
| 50 | 5 | 375,609 | 5,224,601 |
| 51 | 6 | 353,993 | 4,848,992 |
| 52 | 7 | 334,389 | 4,494,999 |
| 53 | 8 | 316,187 | 4,160,610 |
| 54 | 9 | 299,244 | 3,844,423 |
| 55 | 10 | 282,928 | 3,545,179 |
| 56 | 11 | 267,351 | 3,262,251 |
| 57 | 12 | 252,405 | 2,994,900 |
| 58 | 13 | 238,003 | 2,742,495 |
| 59 | 14 | 224,073 | 2,504,492 |
| 60 | 15 | 210,561 | 2,280,419 |
| 61 | 16 | 197,429 | 2,069,858 |
| 62 | 17 | 184,649 | 1,872,429 |
| 63 | 18 | 172,207 | 1,687,780 |
| 64 | 19 | 160,097 | 1,515,573 |
| 65 | 20 | 148,325 | 1,355,476 |
| 66 | 21 | 136,900 | 1,207,151 |
| 67 | 22 | 125,901 | 1,070,251 |
| 68 | 23 | 115,332 | 944,350 |
| 69 | 24 | 105,198 | 829,018 |
| 70 | 25 | 95,507·7 | 723,819·9 |
| 71 | 26 | 86,270·9 | 628,312·2 |
| 72 | 27 | 77,499·2 | 542,041·3 |
| 73 | 28 | 69,205·0 | 464,542·1 |
| 74 | 29 | 61,400·7 | 395,337·1 |
| 75 | 30 | 54,098·1 | 333,936·4 |
| 76 | 31 | 47,307·4 | 279,838·3 |
| 77 | 32 | 41,036·4 | 232,530·9 |
| 78 | 33 | 35,289·5 | 191,494·5 |
| 79 | 34 | 30,067·0 | 156,205·0 |
| 80 | 35 | 25,364·2 | 126,138·0 |
| 81 | 36 | 21,171·4 | 100,773·8 |
| 82 | 37 | 17,473·2 | 79,602·4 |
| 83 | 38 | 14,248·7 | 62,129·2 |
| 84 | 39 | 11,471·8 | 47,880·5 |
| 85 | 40 | 9,111·82 | 36,408·68 |
| 86 | 41 | 7,134·25 | 27,296·86 |
| 87 | 42 | 5,501·76 | 20,162·61 |
| 88 | 43 | 4,175·35 | 14,660·85 |
| 89 | 44 | 3,115·59 | 10,485·50 |
| 90 | 45 | 2,283·76 | 7,369·91 |
| 91 | 46 | 1,642·92 | 5,086·15 |
| 92 | 47 | 1,158·84 | 3,443·23 |
| 93 | 48 | 800·647 | 2,284·392 |
| 94 | 49 | 541·292 | 1,483·745 |
| 95 | 50 | 357·720 | 942·453 |
| 96 | 51 | 230·842 | 584·733 |
| 97 | 52 | 145·302 | 353·891 |
| 98 | 53 | 89·1103 | 208·5894 |
| 99 | 54 | 53·1849 | 119·4791 |
| 100 | 55 | 30·8092 | 66·2942 |
| 101 | 56 | 17·3147 | 35·4850 |
| 102 | 57 | 9·4286 | 18·1703 |
| 103 | 58 | 4·9684 | 8·7417 |
| 104 | 59 | 2·5300 | 3·7733 |
| 105 | 60 | 1·2433 | 1·2433 |
| | | **Difference of Age 62 Years.** | |
| 62 | 0 | 344,597 | 2,867,811 |
| 63 | 1 | 279,918 | 2,523,214 |
| 64 | 2 | 245,887 | 2,243,296 |
| 65 | 3 | 221,488 | 1,997,409 |
| 66 | 4 | 201,209 | 1,775,921 |
| 67 | 5 | 183,383 | 1,574,712 |
| 68 | 6 | 167,263 | 1,391,329 |
| 69 | 7 | 152,359 | 1,224,066 |
| 70 | 8 | 138,371 | 1,071,707 |
| 71 | 9 | 125,232 | 933,336 |
| 72 | 10 | 112,861 | 808,104 |
| 73 | 11 | 101,204 | 695,243 |
| 74 | 12 | 90,229·8 | 594,038·9 |
| 75 | 13 | 79,921·9 | 503,809·1 |
| 76 | 14 | 70,278·0 | 423,887·2 |
| 77 | 15 | 61,303·1 | 353,609·2 |
| 78 | 16 | 53,006·5 | 292,306·1 |
| 79 | 17 | 45,397·8 | 239,299·6 |
| 80 | 18 | 38,483·6 | 193,901·8 |
| 81 | 19 | 32,264·9 | 155,418·2 |
| 82 | 20 | 26,734·9 | 123,153·3 |
| 83 | 21 | 21,877·6 | 96,418·4 |
| 84 | 22 | 17,675·9 | 74,540·8 |
| 85 | 23 | 14,089·5 | 56,864·9 |
| 86 | 24 | 11,071·3 | 42,775·4 |
| 87 | 25 | 8,569·28 | 31,704·14 |
| 88 | 26 | 6,527·79 | 23,134·86 |
| 89 | 27 | 4,889·79 | 16,607·07 |
| 90 | 28 | 3,598·58 | 11,717·28 |
| 91 | 29 | 2,599·51 | 8,118·70 |
| 92 | 30 | 1,841·45 | 5,519·19 |
| 93 | 31 | 1,277·97 | 3,677·74 |
| 94 | 32 | 868·038 | 2,399·771 |
| 95 | 33 | 576·464 | 1,531·733 |
| 96 | 34 | 373·910 | 955·269 |
| 97 | 35 | 236·623 | 581·359 |
| 98 | 36 | 145·937 | 344·736 |
| 99 | 37 | 87·6200 | 198·7986 |
| 100 | 38 | 51·1529 | 111·1786 |
| 101 | 39 | 29·0038 | 60·0257 |
| 102 | 40 | 15·9527 | 31·0219 |
| 103 | 41 | 8·5011 | 15·0692 |
| 104 | 42 | 4·3836 | 6·5681 |
| 105 | 43 | 2·1845 | 2·1845 |

## JOINT LIVES:—TWO FEMALES.

**Difference of Age 46 Years.**

**Difference of Age 61 Years.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 46 Years.** | |
| 46 | 0 | 607,729 | 7,327,638 |
| 47 | 1 | 503,082 | 6,719,909 |
| 48 | 2 | 451,321 | 6,216,827 |
| 49 | 3 | 416,175 | 5,765,506 |
| 50 | 4 | 388,063 | 5,349,331 |
| 51 | 5 | 364,098 | 4,961,268 |
| 52 | 6 | 342,987 | 4,597,170 |
| 53 | 7 | 323,835 | 4,254,183 |
| 54 | 8 | 306,051 | 3,930,348 |
| 55 | 9 | 289,054 | 3,624,297 |
| 56 | 10 | 272,929 | 3,335,243 |
| 57 | 11 | 257,543 | 3,062,314 |
| 58 | 12 | 242,786 | 2,804,771 |
| 59 | 13 | 228,569 | 2,561,985 |
| 60 | 14 | 214,820 | 2,333,416 |
| 61 | 15 | 201,486 | 2,118,596 |
| 62 | 16 | 188,529 | 1,917,110 |
| 63 | 17 | 175,924 | 1,728,581 |
| 64 | 18 | 163,657 | 1,552,657 |
| 65 | 19 | 151,726 | 1,389,000 |
| 66 | 20 | 140,139 | 1,237,274 |
| 67 | 21 | 128,909 | 1,097,135 |
| 68 | 22 | 118,112 | 968,226 |
| 69 | 23 | 107,757 | 850,114 |
| 70 | 24 | 97,850·7 | 742,356·9 |
| 71 | 25 | 88,405·0 | 644,506·2 |
| 72 | 26 | 79,432·0 | 556,101·2 |
| 73 | 27 | 70,944·6 | 476,669·2 |
| 74 | 28 | 62,956·3 | 405,724·6 |
| 75 | 29 | 55,479·4 | 342,768·3 |
| 76 | 30 | 48,524·7 | 287,288·9 |
| 77 | 31 | 42,100·6 | 238,764·2 |
| 78 | 32 | 36,211·9 | 196,663·6 |
| 79 | 33 | 30,859·1 | 160,451·7 |
| 80 | 34 | 26,037·8 | 129,592·6 |
| 81 | 35 | 21,738·3 | 103,554·8 |
| 82 | 36 | 17,945·0 | 81,816·5 |
| 83 | 37 | 14,636·8 | 63,871·5 |
| 84 | 38 | 11,787·1 | 49,234·7 |
| 85 | 39 | 9,364·62 | 37,447·62 |
| 86 | 40 | 7,334·11 | 28,083·00 |
| 87 | 41 | 5,657·43 | 20,748·89 |
| 88 | 42 | 4,294·73 | 15,091·46 |
| 89 | 43 | 3,205·64 | 10,796·73 |
| 90 | 44 | 2,350·52 | 7,591·09 |
| 91 | 45 | 1,691·51 | 5,240·57 |
| 92 | 46 | 1,193·54 | 3,549·06 |
| 93 | 47 | 824·929 | 2,355·519 |
| 94 | 48 | 557·928 | 1,530·590 |
| 95 | 49 | 368·868 | 972·662 |
| 96 | 50 | 238·140 | 603·794 |
| 97 | 51 | 149·965 | 365·654 |
| 98 | 52 | 92·0145 | 215·6894 |
| 99 | 53 | 54·9463 | 123·6749 |
| 100 | 54 | 31·8954 | 68·7286 |
| 101 | 55 | 17·9491 | 36·8332 |
| 102 | 56 | 9·7877 | 18·8841 |
| 103 | 57 | 5·1652 | 9·0964 |
| 104 | 58 | 2·6344 | 3·9312 |
| 105 | 59 | 1·2968 | 1·2968 |

**Difference of Age 61 Years.**

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | | |
| 61 | 0 | 360,864 | 3,094,083 |
| 62 | 1 | 293,801 | 2,733,219 |
| 63 | 2 | 258,734 | 2,439,418 |
| 64 | 3 | 233,708 | 2,180,684 |
| 65 | 4 | 212,962 | 1,946,976 |
| 66 | 5 | 194,751 | 1,734,014 |
| 67 | 6 | 178,293 | 1,539,263 |
| 68 | 7 | 163,070 | 1,360,970 |
| 69 | 8 | 148,761 | 1,197,900 |
| 70 | 9 | 135,293 | 1,049,139 |
| 71 | 10 | 122,578 | 913,846 |
| 72 | 11 | 110,555 | 791,268 |
| 73 | 12 | 99,185·4 | 680,712·5 |
| 74 | 13 | 88,452·0 | 581,527·1 |
| 75 | 14 | 78,349·8 | 493,075·1 |
| 76 | 15 | 68,884·7 | 414,725·3 |
| 77 | 16 | 60,068·6 | 345,840·6 |
| 78 | 17 | 51,915·5 | 285,772·0 |
| 79 | 18 | 44,438·6 | 233,856·5 |
| 80 | 19 | 37,646·6 | 189,417·9 |
| 81 | 20 | 31,541·6 | 151,771·3 |
| 82 | 21 | 26,117·1 | 120,229·7 |
| 83 | 22 | 21,367·2 | 94,112·6 |
| 84 | 23 | 17,259·8 | 72,745·4 |
| 85 | 24 | 13,754·9 | 55,485·6 |
| 86 | 25 | 10,806·2 | 41,730·7 |
| 87 | 26 | 8,362·42 | 30,924·50 |
| 88 | 27 | 6,368·96 | 22,562·08 |
| 89 | 28 | 4,769·89 | 16,193·12 |
| 90 | 29 | 3,509·66 | 11,423·23 |
| 91 | 30 | 2,534·78 | 7,913·57 |
| 92 | 31 | 1,795·26 | 5,378·79 |
| 93 | 32 | 1,245·67 | 3,583·53 |
| 94 | 33 | 845·928 | 2,337·856 |
| 95 | 34 | 561·667 | 1,491·928 |
| 96 | 35 | 364·237 | 930·261 |
| 97 | 36 | 230·452 | 566·024 |
| 98 | 37 | 142·100 | 335·572 |
| 99 | 38 | 85·2964 | 193·4718 |
| 100 | 39 | 49·7844 | 108·1754 |
| 101 | 40 | 28·2209 | 58·3910 |
| 102 | 41 | 15·5180 | 30·1701 |
| 103 | 42 | 8·2672 | 14·6521 |
| 104 | 43 | 4·2618 | 6·3849 |
| 105 | 44 | 2·1231 | 2·1231 |

## JOINT LIVES:—Two Females.

**Difference of Age 47 Years.**

**Difference of Age 60 Years.**

### Difference of Age 47 Years.

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 47 | 0 | 590,061 | 6,999,456 |
| 48 | 1 | 488,274 | 6,409,395 |
| 49 | 2 | 437,864 | 5,921,121 |
| 50 | 3 | 403,598 | 5,483,257 |
| 51 | 4 | 376,171 | 5,079,659 |
| 52 | 5 | 352,778 | 4,703,488 |
| 53 | 6 | 332,162 | 4,350,710 |
| 54 | 7 | 313,454 | 4,018,548 |
| 55 | 8 | 295,629 | 3,705,094 |
| 56 | 9 | 278,838 | 3,409,465 |
| 57 | 10 | 262,916 | 3,130,627 |
| 58 | 11 | 247,728 | 2,867,711 |
| 59 | 12 | 233,163 | 2,619,983 |
| 60 | 13 | 219,131 | 2,386,820 |
| 61 | 14 | 205,562 | 2,167,689 |
| 62 | 15 | 192,404 | 1,962,127 |
| 63 | 16 | 179,620 | 1,769,723 |
| 64 | 17 | 167,189 | 1,590,103 |
| 65 | 18 | 155,100 | 1,422,914 |
| 66 | 19 | 143,353 | 1,267,814 |
| 67 | 20 | 131,958 | 1,124,461 |
| 68 | 21 | 120,934 | 992,503 |
| 69 | 22 | 110,355 | 871,569 |
| 70 | 23 | 100,231 | 761,214 |
| 71 | 24 | 90,573·8 | 660,983·2 |
| 72 | 25 | 81,396·9 | 570,409·4 |
| 73 | 26 | 72,714·0 | 489,012·5 |
| 74 | 27 | 64,538·9 | 416,298·5 |
| 75 | 28 | 56,885·0 | 351,759·6 |
| 76 | 29 | 49,763·7 | 294,874·6 |
| 77 | 30 | 43,183·9 | 245,110·9 |
| 78 | 31 | 37,150·9 | 201,927·0 |
| 79 | 32 | 31,665·6 | 164,776·1 |
| 80 | 33 | 26,723·8 | 133,110·5 |
| 81 | 34 | 22,315·7 | 106,386·7 |
| 82 | 35 | 18,425·6 | 84,071·0 |
| 83 | 36 | 15,032·1 | 65,645·4 |
| 84 | 37 | 12,108·2 | 50,613·3 |
| 85 | 38 | 9,622·02 | 38,505·10 |
| 86 | 39 | 7,537·58 | 28,883·08 |
| 87 | 40 | 5,815·91 | 21,345·50 |
| 88 | 41 | 4,416·25 | 15,529·59 |
| 89 | 42 | 3,297·30 | 11,113·34 |
| 90 | 43 | 2,418·46 | 7,816·04 |
| 91 | 44 | 1,740·96 | 5,397·58 |
| 92 | 45 | 1,228·84 | 3,656·62 |
| 93 | 46 | 849·630 | 2,427·784 |
| 94 | 47 | 574·849 | 1,578·154 |
| 95 | 48 | 380·204 | 1,003·305 |
| 96 | 49 | 245·561 | 623·101 |
| 97 | 50 | 154·705 | 377·540 |
| 98 | 51 | 94·9671 | 222·8350 |
| 99 | 52 | 56·7370 | 127·8679 |
| 100 | 53 | 32·9517 | 71·1309 |
| 101 | 54 | 18·5819 | 38·1792 |
| 102 | 55 | 10·1463 | 19·5973 |
| 103 | 56 | 5·3619 | 9·4510 |
| 104 | 57 | 2·7388 | 4·0891 |
| 105 | 58 | 1·3503 | 1·3503 |

### Difference of Age 60 Years.

| Ages $x$ | Ages $y$ | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| 60 | 0 | 377,118 | 3,328,127 |
| 61 | 1 | 307,670 | 2,951,009 |
| 62 | 2 | 271,566 | 2,643,339 |
| 63 | 3 | 245,918 | 2,371,773 |
| 64 | 4 | 224,712 | 2,125,855 |
| 65 | 5 | 206,127 | 1,901,143 |
| 66 | 6 | 189,346 | 1,695,016 |
| 67 | 7 | 173,824 | 1,505,670 |
| 68 | 8 | 159,219 | 1,331,846 |
| 69 | 9 | 145,452 | 1,172,627 |
| 70 | 10 | 132,426 | 1,027,175 |
| 71 | 11 | 120,073 | 894,749 |
| 72 | 12 | 108,349 | 774,676 |
| 73 | 13 | 97,231·2 | 666,326·7 |
| 74 | 14 | 86,712·1 | 569,095·5 |
| 75 | 15 | 76,796·6 | 482,383·4 |
| 76 | 16 | 67,497·6 | 405,586·8 |
| 77 | 17 | 58,832·3 | 338,089·2 |
| 78 | 18 | 50,818·7 | 279,256·9 |
| 79 | 19 | 43,472·1 | 228,438·2 |
| 80 | 20 | 36,802·6 | 184,966·1 |
| 81 | 21 | 30,812·7 | 148,163·5 |
| 82 | 22 | 25,507·8 | 117,350·8 |
| 83 | 23 | 20,864·2 | 91,843·0 |
| 84 | 24 | 16,849·9 | 70,978·8 |
| 85 | 25 | 13,425·5 | 54,128·9 |
| 86 | 26 | 10,545·3 | 40,703·4 |
| 87 | 27 | 8,158·94 | 30,158·09 |
| 88 | 28 | 6,212·78 | 21,999·15 |
| 89 | 29 | 4,652·03 | 15,786·37 |
| 90 | 30 | 3,422·28 | 11,134·34 |
| 91 | 31 | 2,471·19 | 7,712·06 |
| 92 | 32 | 1,749·88 | 5,240·87 |
| 93 | 33 | 1,213·94 | 3,490·99 |
| 94 | 34 | 824·215 | 2,277·053 |
| 95 | 35 | 547·137 | 1,452·838 |
| 96 | 36 | 354·738 | 905·701 |
| 97 | 37 | 224·392 | 550·963 |
| 98 | 38 | 138·331 | 326·571 |
| 99 | 39 | 83·0145 | 188·2400 |
| 100 | 40 | 48·4405 | 105·2255 |
| 101 | 41 | 27·4518 | 56·7850 |
| 102 | 42 | 15·0910 | 29·3332 |
| 103 | 43 | 8·0374 | 14·2422 |
| 104 | 44 | 4·1420 | 6·2048 |
| 105 | 45 | 2·0628 | 2·0628 |

## JOINT LIVES:—TWO FEMALES.

### Difference of Age 48 Years.

### Difference of Age 59 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 48 Years.** | |
| 48 | 0 | 572,693 | 6,677,953 |
| 49 | 1 | 473,715 | 6,105,260 |
| 50 | 2 | 424,632 | 5,631,545 |
| 51 | 3 | 391,230 | 5,206,913 |
| 52 | 4 | 364,475 | 4,815,683 |
| 53 | 5 | 341,644 | 4,451,208 |
| 54 | 6 | 321,514 | 4,109,564 |
| 55 | 7 | 302,780 | 3,788,050 |
| 56 | 8 | 285,181 | 3,485,270 |
| 57 | 9 | 268,608 | 3,200,089 |
| 58 | 10 | 252,896 | 2,931,481 |
| 59 | 11 | 237,909 | 2,678,585 |
| 60 | 12 | 223,535 | 2,440,676 |
| 61 | 13 | 209,686 | 2,217,141 |
| 62 | 14 | 196,295 | 2,007,455 |
| 63 | 15 | 183,312 | 1,811,160 |
| 64 | 16 | 170,702 | 1,627,848 |
| 65 | 17 | 158,447 | 1,457,146 |
| 66 | 18 | 146,540 | 1,298,699 |
| 67 | 19 | 134,984 | 1,152,159 |
| 68 | 20 | 123,794 | 1,017,175 |
| 69 | 21 | 112,990 | 893,381 |
| 70 | 22 | 102,647 | 780,391 |
| 71 | 23 | 92,776·9 | 677,743·6 |
| 72 | 24 | 83,393·8 | 584,966·7 |
| 73 | 25 | 74,512·7 | 501,572·9 |
| 74 | 26 | 66,148·4 | 427,060·2 |
| 75 | 27 | 58,315·0 | 360,911·8 |
| 76 | 28 | 51,024·5 | 302,596·8 |
| 77 | 29 | 44,286·6 | 251,572·3 |
| 78 | 30 | 38,106·9 | 207,285·7 |
| 79 | 31 | 32,486·8 | 169,178·8 |
| 80 | 32 | 27,422·2 | 136,692·0 |
| 81 | 33 | 22,903·5 | 109,269·8 |
| 82 | 34 | 18,914·9 | 86,366·3 |
| 83 | 35 | 15,434·6 | 67,451·4 |
| 84 | 36 | 12,435·2 | 52,016·8 |
| 85 | 37 | 9,884·14 | 39,581·64 |
| 86 | 38 | 7,744·77 | 29,697·50 |
| 87 | 39 | 5,977·27 | 21,952·73 |
| 88 | 40 | 4,539·97 | 15,975·46 |
| 89 | 41 | 3,390·60 | 11,435·49 |
| 90 | 42 | 2,487·60 | 8,044·89 |
| 91 | 43 | 1,791·28 | 5,557·29 |
| 92 | 44 | 1,264·76 | 3,766·01 |
| 93 | 45 | 874·760 | 2,501·250 |
| 94 | 46 | 592·062 | 1,626·490 |
| 95 | 47 | 391·735 | 1,034·428 |
| 96 | 48 | 253·108 | 642·693 |
| 97 | 49 | 159·526 | 389·585 |
| 98 | 50 | 97·9693 | 230·0591 |
| 99 | 51 | 58·5576 | 132·0898 |
| 100 | 52 | 34·0256 | 73·5322 |
| 101 | 53 | 19·1973 | 39·5066 |
| 102 | 54 | 10·5040 | 20·3093 |
| 103 | 55 | 5·5584 | 9·8053 |
| 104 | 56 | 2·8431 | 4·2469 |
| 105 | 57 | 1·4038 | 1·4038 |

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| $x$ | $y$ | **Difference of Age 59 Years.** | |
| 59 | 0 | 393,360 | 3,569,760 |
| 60 | 1 | 321,528 | 3,176,400 |
| 61 | 2 | 284,386 | 2,854,872 |
| 62 | 3 | 258,115 | 2,570,486 |
| 63 | 4 | 236,452 | 2,312,371 |
| 64 | 5 | 217,500 | 2,075,919 |
| 65 | 6 | 200,407 | 1,858,419 |
| 66 | 7 | 184,600 | 1,658,012 |
| 67 | 8 | 169,719 | 1,473,412 |
| 68 | 9 | 155,677 | 1,303,693 |
| 69 | 10 | 142,370 | 1,148,016 |
| 70 | 11 | 129,720 | 1,005,646 |
| 71 | 12 | 117,678 | 875,926 |
| 72 | 13 | 106,214 | 758,248 |
| 73 | 14 | 95,318·6 | 652,034·1 |
| 74 | 15 | 84,993·1 | 556,715·5 |
| 75 | 16 | 75,250·1 | 471,722·4 |
| 76 | 17 | 66,108·4 | 396,472·3 |
| 77 | 18 | 57,589·4 | 330,363·9 |
| 78 | 19 | 49,713·4 | 272,774·5 |
| 79 | 20 | 42,497·5 | 223,061·1 |
| 80 | 21 | 35,952·1 | 180,563·6 |
| 81 | 22 | 30,093·9 | 144,611·5 |
| 82 | 23 | 24,907·3 | 114,517·6 |
| 83 | 24 | 20,368·8 | 89,610·3 |
| 84 | 25 | 16,446·4 | 69,241·5 |
| 85 | 26 | 13,101·4 | 52,795·1 |
| 86 | 27 | 10,288·8 | 39,693·7 |
| 87 | 28 | 7,958·87 | 29,404·91 |
| 88 | 29 | 6,059·26 | 21,446·04 |
| 89 | 30 | 4,536·20 | 15,386·78 |
| 90 | 31 | 3,336·42 | 10,850·58 |
| 91 | 32 | 2,408·73 | 7,514·16 |
| 92 | 33 | 1,705·31 | 5,105·43 |
| 93 | 34 | 1,182·78 | 3,400·12 |
| 94 | 35 | 802·892 | 2,217·344 |
| 95 | 36 | 532·868 | 1,414·452 |
| 96 | 37 | 345·410 | 881·584 |
| 97 | 38 | 218·442 | 536·174 |
| 98 | 39 | 134·631 | 317·732 |
| 99 | 40 | 80·7735 | 183·1014 |
| 100 | 41 | 47·1205 | 102·3279 |
| 101 | 42 | 26·6964 | 55·2074 |
| 102 | 43 | 14·6715 | 28·5110 |
| 103 | 44 | 7·8116 | 13·8395 |
| 104 | 45 | 4·0244 | 6·0279 |
| 105 | 46 | 2·0035 | 2·0035 |

## JOINT LIVES:—TWO FEMALES.

### Difference of Age 49 Years.

### Difference of Age 58 Years.

| Ages x | Ages y | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|
| | | **Difference of Age 49 Years.** | |
| 49 | 0 | 555,616 | 6,363,069 |
| 50 | 1 | 459,399 | 5,807,453 |
| 51 | 2 | 411,619 | 5,348,054 |
| 52 | 3 | 379,067 | 4,936,435 |
| 53 | 4 | 352,972 | 4,557,368 |
| 54 | 5 | 330,692 | 4,204,396 |
| 55 | 6 | 310,565 | 3,873,704 |
| 56 | 7 | 292,079 | 3,563,139 |
| 57 | 8 | 274,719 | 3,271,060 |
| 58 | 9 | 258,372 | 2,996,341 |
| 59 | 10 | 242,872 | 2,737,969 |
| 60 | 11 | 228,085 | 2,495,097 |
| 61 | 12 | 213,901 | 2,267,012 |
| 62 | 13 | 200,234 | 2,053,111 |
| 63 | 14 | 187,019 | 1,852,877 |
| 64 | 15 | 174,210 | 1,665,858 |
| 65 | 16 | 161,777 | 1,491,648 |
| 66 | 17 | 149,703 | 1,329,871 |
| 67 | 18 | 137,985 | 1,180,168 |
| 68 | 19 | 126,633 | 1,042,183 |
| 69 | 20 | 115,663 | 915,550 |
| 70 | 21 | 105,099 | 799,887 |
| 71 | 22 | 95,013·5 | 694,788·1 |
| 72 | 23 | 85,422·2 | 599,774·6 |
| 73 | 24 | 76,340·7 | 514,352·4 |
| 74 | 25 | 67,784·8 | 438,011·7 |
| 75 | 26 | 59,769·3 | 370,226·9 |
| 76 | 27 | 52,307·2 | 310,457·6 |
| 77 | 28 | 45,408·6 | 258,150·4 |
| 78 | 29 | 39,079·9 | 212,741·8 |
| 79 | 30 | 33,322·7 | 173,661·9 |
| 80 | 31 | 28,133·4 | 140,339·2 |
| 81 | 32 | 23,502·2 | 112,205·8 |
| 82 | 33 | 19,413·2 | 88,703·6 |
| 83 | 34 | 15,844·5 | 69,290·4 |
| 84 | 35 | 12,768·2 | 53,445·9 |
| 85 | 36 | 10,151·1 | 40,677·7 |
| 86 | 37 | 7,955·75 | 30,526·60 |
| 87 | 38 | 6,141·57 | 22,570·85 |
| 88 | 39 | 4,665·92 | 16,429·28 |
| 89 | 40 | 3,485·58 | 11,763·36 |
| 90 | 41 | 2,557·99 | 8,277·78 |
| 91 | 42 | 1,842·50 | 5,719·79 |
| 92 | 43 | 1,301·32 | 3,877·29 |
| 93 | 44 | 900·331 | 2,575·965 |
| 94 | 45 | 609·574 | 1,675·634 |
| 95 | 46 | 403·465 | 1,066·060 |
| 96 | 47 | 260·784 | 662·595 |
| 97 | 48 | 164·429 | 401·811 |
| 98 | 49 | 101·022 | 237·382 |
| 99 | 50 | 60·4088 | 136·3599 |
| 100 | 51 | 35·1174 | 75·9511 |
| 101 | 52 | 19·8229 | 40·8337 |
| 102 | 53 | 10·8519 | 21·0108 |
| 103 | 54 | 5·7543 | 10·1589 |
| 104 | 55 | 2·9473 | 4·4046 |
| 105 | 56 | 1·4573 | 1·4573 |
| | | **Difference of Age 58 Years.** | |
| 58 | 0 | 409,596 | 3,818,797 |
| 59 | 1 | 335,376 | 3,409,201 |
| 60 | 2 | 297,195 | 3,073,825 |
| 61 | 3 | 270,299 | 2,776,630 |
| 62 | 4 | 248,179 | 2,506,331 |
| 63 | 5 | 228,863 | 2,258,152 |
| 64 | 6 | 211,464 | 2,029,289 |
| 65 | 7 | 195,383 | 1,817,825 |
| 66 | 8 | 180,240 | 1,622,442 |
| 67 | 9 | 165,944 | 1,442,202 |
| 68 | 10 | 152,378 | 1,276,258 |
| 69 | 11 | 139,460 | 1,123,880 |
| 70 | 12 | 127,132 | 984,420 |
| 71 | 13 | 115,359 | 857,288 |
| 72 | 14 | 104,125 | 741,929 |
| 73 | 15 | 93,429·0 | 637,803·8 |
| 74 | 16 | 83,281·5 | 544,374·8 |
| 75 | 17 | 73,701·4 | 461,093·3 |
| 76 | 18 | 64,711·7 | 387,391·9 |
| 77 | 19 | 56,336·8 | 322,680·2 |
| 78 | 20 | 48,598·9 | 266,343·4 |
| 79 | 21 | 41,515·4 | 217,744·5 |
| 80 | 22 | 35,113·4 | 176,229·1 |
| 81 | 23 | 29,385·4 | 141,115·7 |
| 82 | 24 | 24,315·9 | 111,730·3 |
| 83 | 25 | 19,881·0 | 87,414·4 |
| 84 | 26 | 16,049·4 | 67,533·4 |
| 85 | 27 | 12,782·6 | 51,484·0 |
| 86 | 28 | 10,036·5 | 38,701·4 |
| 87 | 29 | 7,762·21 | 28,664·90 |
| 88 | 30 | 5,908·40 | 20,902·69 |
| 89 | 31 | 4,422·40 | 14,994·29 |
| 90 | 32 | 3,252·09 | 10,571·89 |
| 91 | 33 | 2,347·38 | 7,319·80 |
| 92 | 34 | 1,661·53 | 4,972·42 |
| 93 | 35 | 1,152·18 | 3,310·89 |
| 94 | 36 | 781·953 | 2,158·707 |
| 95 | 37 | 518·856 | 1,376·754 |
| 96 | 38 | 336·250 | 857·898 |
| 97 | 39 | 212·598 | 521·648 |
| 98 | 40 | 130·996 | 309·050 |
| 99 | 41 | 78·5725 | 178·0540 |
| 100 | 42 | 45·8239 | 99·4815 |
| 101 | 43 | 25·9544 | 53·6576 |
| 102 | 44 | 14·2594 | 27·7032 |
| 103 | 45 | 7·5897 | 13·4438 |
| 104 | 46 | 3·9088 | 5·8541 |
| 105 | 47 | 1·9453 | 1·9453 |

## JOINT LIVES:—Two Females.

### Difference of Age 50 Years.

### Difference of Age 51 Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ | Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|---|---|---|---|
| *x* | *y* | **Difference of Age 50 Years.** | | *x* | *y* | **Difference of Age 51 Years.** | |
| 50 | 0 | 538,826 | 6,054,731 | 51 | 0 | 522,314 | 5,752,870 |
| 51 | 1 | 445,321 | 5,515,905 | 52 | 1 | 431,476 | 5,230,556 |
| 52 | 2 | 398,822 | 5,070,584 | 53 | 2 | 386,234 | 4,799,080 |
| 53 | 3 | 367,103 | 4,671,762 | 54 | 3 | 355,334 | 4,412,846 |
| 54 | 4 | 341,657 | 4,304,659 | 55 | 4 | 330,022 | 4,057,512 |
| 55 | 5 | 319,430 | 3,963,002 | 56 | 5 | 308,141 | 3,727,490 |
| 56 | 6 | 299,589 | 3,643,572 | 57 | 6 | 288,598 | 3,419,349 |
| 57 | 7 | 281,364 | 3,343,983 | 58 | 7 | 270,641 | 3,130,751 |
| 58 | 8 | 264,249 | 3,062,619 | 59 | 8 | 253,775 | 2,860,110 |
| 59 | 9 | 248,130 | 2,798,370 | 60 | 9 | 237,884 | 2,606,335 |
| 60 | 10 | 232,843 | 2,550,240 | 61 | 10 | 222,808 | 2,368,451 |
| 61 | 11 | 218,255 | 2,317,397 | 62 | 11 | 208,416 | 2,145,643 |
| 62 | 12 | 204,258 | 2,099,142 | 63 | 12 | 194,606 | 1,937,227 |
| 63 | 13 | 190,772 | 1,894,884 | 64 | 13 | 181,300 | 1,742,621 |
| 64 | 14 | 177,734 | 1,704,112 | 65 | 14 | 168,441 | 1,561,321 |
| 65 | 15 | 165,101 | 1,526,378 | 66 | 15 | 155,989 | 1,392,880 |
| 66 | 16 | 152,848 | 1,361,277 | 67 | 16 | 143,926 | 1,236,891 |
| 67 | 17 | 140,964 | 1,208,429 | 68 | 17 | 132,243 | 1,092,965 |
| 68 | 18 | 129,449 | 1,067,465 | 69 | 18 | 120,946 | 960,722 |
| 69 | 19 | 118,316 | 938,016 | 70 | 19 | 110,052 | 839,776 |
| 70 | 20 | 107,585 | 819,700 | 71 | 20 | 99,584·3 | 729,723·9 |
| 71 | 21 | 97,283·0 | 712,115·1 | 72 | 21 | 89,571·1 | 630,139·6 |
| 72 | 22 | 87,481·5 | 614,832·1 | 73 | 22 | 80,082·7 | 540,568·5 |
| 73 | 23 | 78,197·5 | 527,350·6 | 74 | 23 | 71,136·9 | 460,485·8 |
| 74 | 24 | 69,447·7 | 449,153·1 | 75 | 24 | 62,750·4 | 389,348·9 |
| 75 | 25 | 61,247·8 | 379,705·4 | 76 | 25 | 54,937·9 | 326,598·5 |
| 76 | 26 | 53,611·6 | 318,457·6 | 77 | 26 | 47,711·0 | 271,660·6 |
| 77 | 27 | 46,550·1 | 264,846·0 | 78 | 27 | 41,077·3 | 223,949·6 |
| 78 | 28 | 40,070·0 | 218,295·9 | 79 | 28 | 35,039·4 | 182,872·3 |
| 79 | 29 | 34,173·6 | 178,225·9 | 80 | 29 | 29,594·1 | 147,832·9 |
| 80 | 30 | 28,857·3 | 144,052·3 | 81 | 30 | 24,732·1 | 118,238·8 |
| 81 | 31 | 24,111·6 | 115,195·0 | 82 | 31 | 20,437·2 | 93,506·7 |
| 82 | 32 | 19,920·6 | 91,083·4 | 83 | 32 | 16,687·0 | 73,069·5 |
| 83 | 33 | 16,261·9 | 71,162·8 | 84 | 33 | 13,452·6 | 56,382·5 |
| 84 | 34 | 13,107·3 | 54,900·9 | 85 | 34 | 10,699·7 | 42,929·9 |
| 85 | 35 | 10,422·9 | 41,793·6 | 86 | 35 | 8,389·39 | 32,230·20 |
| 86 | 36 | 8,170·60 | 31,370·71 | 87 | 36 | 6,479·25 | 23,840·81 |
| 87 | 37 | 6,308·88 | 23,200·11 | 88 | 37 | 4,924·78 | 17,361·56 |
| 88 | 38 | 4,794·18 | 16,891·23 | 89 | 38 | 3,680·75 | 12,436·78 |
| 89 | 39 | 3,582·28 | 12,097·05 | 90 | 39 | 2,702·61 | 8,756·03 |
| 90 | 40 | 2,629·65 | 8,514·77 | 91 | 40 | 1,947·71 | 6,053·42 |
| 91 | 41 | 1,894·63 | 5,885·12 | 92 | 41 | 1,376·40 | 4,105·71 |
| 92 | 42 | 1,338·52 | 3,990·49 | 93 | 42 | 952·840 | 2,729·307 |
| 93 | 43 | 926·354 | 2,651·970 | 94 | 43 | 645·527 | 1,776·467 |
| 94 | 44 | 627·393 | 1,725·616 | 95 | 44 | 427·541 | 1,130·940 |
| 95 | 45 | 415·398 | 1,098·223 | 96 | 45 | 276·537 | 703·399 |
| 96 | 46 | 268·592 | 682·825 | 97 | 46 | 174·489 | 426·862 |
| 97 | 47 | 169·416 | 414·233 | 98 | 47 | 107·285 | 252·373 |
| 98 | 48 | 104·127 | 244·817 | 99 | 48 | 64·2057 | 145·0879 |
| 99 | 49 | 62·2912 | 140·6901 | 100 | 49 | 37·3565 | 80·8822 |
| 100 | 50 | 36·2276 | 78·3989 | 101 | 50 | 21·1058 | 43·5257 |
| 101 | 51 | 20·4590 | 42·1713 | 102 | 51 | 11·5651 | 22·4199 |
| 102 | 52 | 11·2055 | 21·7123 | 103 | 52 | 6·1386 | 10·8548 |
| 103 | 53 | 5·9449 | 10·5068 | 104 | 53 | 3·1522 | 4·7162 |
| 104 | 54 | 3·0512 | 4·5619 | 105 | 54 | 1·5640 | 1·5640 |
| 105 | 55 | 1·5107 | 1·5107 | | | | |

## JOINT LIVES:—Two Females.

### Difference of Age 52 Years.

### Difference of Age 53 Years.

| Ages | | $D_{x, y}$ | $N_{x, y}$ | Ages | | $D_{x, y}$ | $N_{x, y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | Difference of Age 52 Years. | | $x$ | $y$ | Difference of Age 53 Years. | |
| 52 | 0 | 506,075 | 5,457,418 | 53 | 0 | 490,102 | 5,168,295 |
| 53 | 1 | 417,857 | 4,951,343 | 54 | 1 | 404,462 | 4,678,193 |
| 54 | 2 | 373,853 | 4,533,486 | 55 | 2 | 361,122 | 4,273,731 |
| 55 | 3 | 343,234 | 4,159,633 | 56 | 3 | 331,103 | 3,912,609 |
| 56 | 4 | 318,358 | 3,816,399 | 57 | 4 | 306,679 | 3,581,506 |
| 57 | 5 | 296,836 | 3,498,041 | 58 | 5 | 285,524 | 3,274,827 |
| 58 | 6 | 277,600 | 3,201,205 | 59 | 6 | 266,596 | 2,989,303 |
| 59 | 7 | 259,913 | 2,923,605 | 60 | 7 | 249,181 | 2,722,707 |
| 60 | 8 | 243,296 | 2,663,692 | 61 | 8 | 232,810 | 2,473,526 |
| 61 | 9 | 227,632 | 2,420,396 | 62 | 9 | 217,371 | 2,240,716 |
| 62 | 10 | 212,764 | 2,192,764 | 63 | 10 | 202,710 | 2,023,345 |
| 63 | 11 | 198,568 | 1,980,000 | 64 | 11 | 188,709 | 1,820,635 |
| 64 | 12 | 184,944 | 1,781,432 | 65 | 12 | 175,274 | 1,631,926 |
| 65 | 13 | 171,820 | 1,596,488 | 66 | 13 | 162,338 | 1,456,652 |
| 66 | 14 | 159,144 | 1,424,668 | 67 | 14 | 149,854 | 1,294,314 |
| 67 | 15 | 146,884 | 1,265,524 | 68 | 15 | 137,797 | 1,144,460 |
| 68 | 16 | 135,022 | 1,118,640 | 69 | 16 | 126,153 | 1,006,663 |
| 69 | 17 | 123,557 | 983,618 | 70 | 17 | 114,927 | 880,510 |
| 70 | 18 | 112,499 | 860,061 | 71 | 18 | 104,133 | 765,583 |
| 71 | 19 | 101,868 | 747,562 | 72 | 19 | 93,792·8 | 661,449·5 |
| 72 | 20 | 91,690·0 | 645,694·2 | 73 | 20 | 83,935·2 | 567,656·7 |
| 73 | 21 | 81,995·5 | 554,004·2 | 74 | 21 | 74,592·0 | 483,721·5 |
| 74 | 22 | 72,851·9 | 472,008·7 | 75 | 22 | 65,826·2 | 409,129·5 |
| 75 | 23 | 64,276·7 | 399,156·8 | 76 | 23 | 57,654·7 | 343,303·3 |
| 76 | 24 | 56,285·6 | 334,880·1 | 77 | 24 | 50,090·7 | 285,648·6 |
| 77 | 25 | 48,891·2 | 278,594·5 | 78 | 25 | 43,143·2 | 235,557·9 |
| 78 | 26 | 42,101·7 | 229,703·3 | 79 | 26 | 36,816·0 | 192,414·7 |
| 79 | 27 | 35,920·2 | 187,601·6 | 80 | 27 | 31,106·7 | 155,598·7 |
| 80 | 28 | 30,343·9 | 151,681·4 | 81 | 28 | 26,006·2 | 124,492·0 |
| 81 | 29 | 25,363·6 | 121,337·5 | 82 | 29 | 21,498·4 | 98,485·8 |
| 82 | 30 | 20,963·1 | 95,973·9 | 83 | 30 | 17,560·2 | 76,987·4 |
| 83 | 31 | 17,119·7 | 75,010·8 | 84 | 31 | 14,162·1 | 59,427·2 |
| 84 | 32 | 13,804·2 | 57,891·1 | 85 | 32 | 11,268·6 | 45,265·1 |
| 85 | 33 | 10,981·6 | 44,086·9 | 86 | 33 | 8,839·07 | 33,996·48 |
| 86 | 34 | 8,612·19 | 33,105·33 | 87 | 34 | 6,829·43 | 25,157·41 |
| 87 | 35 | 6,652·75 | 24,493·14 | 88 | 35 | 5,193·21 | 18,327·98 |
| 88 | 36 | 5,057·77 | 17,840·39 | 89 | 36 | 3,883·13 | 13,134·77 |
| 89 | 37 | 3,781·02 | 12,782·62 | 90 | 37 | 2,852·54 | 9,251·64 |
| 90 | 38 | 2,776·89 | 9,001·60 | 91 | 38 | 2,056·77 | 6,399·10 |
| 91 | 39 | 2,001·74 | 6,224·71 | 92 | 39 | 1,454·21 | 4,342·33 |
| 92 | 40 | 1,414·96 | 4,222·97 | 93 | 40 | 1,007·25 | 2,888·12 |
| 93 | 41 | 979·801 | 2,808·009 | 94 | 41 | 682·771 | 1,880·867 |
| 94 | 42 | 663·983 | 1,828·208 | 95 | 42 | 452·477 | 1,198·096 |
| 95 | 43 | 439·899 | 1,164·225 | 96 | 43 | 292·847 | 745·619 |
| 96 | 44 | 284·621 | 724·326 | 97 | 44 | 184·901 | 452·772 |
| 97 | 45 | 179·650 | 439·705 | 98 | 45 | 113·766 | 267·871 |
| 98 | 46 | 110·497 | 260·055 | 99 | 46 | 68·1337 | 154·1046 |
| 99 | 47 | 66·1529 | 149·5581 | 100 | 47 | 39·6724 | 85·9709 |
| 100 | 48 | 38·5046 | 83·4052 | 101 | 48 | 22·4323 | 46·2985 |
| 101 | 49 | 21·7635 | 44·9006 | 102 | 49 | 12·3025 | 23·8662 |
| 102 | 50 | 11·9307 | 23·1371 | 103 | 50 | 6·5359 | 11·5637 |
| 103 | 51 | 6·3356 | 11·2064 | 104 | 51 | 3·3594 | 5·0278 |
| 104 | 52 | 3·2550 | 4·8708 | 105 | 52 | 1·6684 | 1·6684 |
| 105 | 53 | 1·6158 | 1·6158 | | | | |

## JOINT LIVES:—Two Females.

### Difference of Age 54 Years.

### Difference of Age 55 Years.

| Ages |  | $D_{x,y}$ | $N_{x,y}$ | Ages |  | $D_{x,y}$ | $N_{x,y}$ |
|---|---|---|---|---|---|---|---|
| x | y | Difference of Age 54 Years. |  | x | y | Difference of Age 55 Years. |  |
| 54 | 0 | 474,391 | 4,885,396 | 55 | 0 | 458,236 | 4,608,560 |
| 55 | 1 | 390,689 | 4,411,005 | 56 | 1 | 376,881 | 4,150,324 |
| 56 | 2 | 348,359 | 4,020,316 | 57 | 2 | 335,579 | 3,773,443 |
| 57 | 3 | 318,956 | 3,671,957 | 58 | 3 | 306,801 | 3,437,864 |
| 58 | 4 | 294,991 | 3,353,001 | 59 | 4 | 283,298 | 3,131,063 |
| 59 | 5 | 274,206 | 3,058,010 | 60 | 5 | 262,884 | 2,847,765 |
| 60 | 6 | 255,588 | 2,783,804 | 61 | 6 | 244,572 | 2,584,881 |
| 61 | 7 | 238,441 | 2,528,216 | 62 | 7 | 227,693 | 2,340,309 |
| 62 | 8 | 222,316 | 2,289,775 | 63 | 8 | 211,810 | 2,112,616 |
| 63 | 9 | 207,099 | 2,067,459 | 64 | 9 | 196,816 | 1,900,806 |
| 64 | 10 | 192,645 | 1,860,360 | 65 | 10 | 182,572 | 1,703,990 |
| 65 | 11 | 178,841 | 1,667,715 | 66 | 11 | 168,971 | 1,521,418 |
| 66 | 12 | 165,600 | 1,488,874 | 67 | 12 | 155,934 | 1,352,447 |
| 67 | 13 | 152,861 | 1,323,274 | 68 | 13 | 143,404 | 1,196,513 |
| 68 | 14 | 140,584 | 1,170,413 | 69 | 14 | 131,350 | 1,053,109 |
| 69 | 15 | 128,746 | 1,029,829 | 70 | 15 | 119,754 | 921,759 |
| 70 | 16 | 117,342 | 901,083 | 71 | 16 | 108,616 | 802,005 |
| 71 | 17 | 106,380 | 783,741 | 72 | 17 | 97,947·4 | 693,388·7 |
| 72 | 18 | 95,878·0 | 677,360·5 | 73 | 18 | 87,769·1 | 595,441·3 |
| 73 | 19 | 85,860·2 | 581,482·5 | 74 | 19 | 78,107·7 | 507,672·2 |
| 74 | 20 | 76,356·5 | 495,622·3 | 75 | 20 | 68,992·9 | 429,564·5 |
| 75 | 21 | 67,398·5 | 419,265·8 | 76 | 21 | 60,454·9 | 360,571·6 |
| 76 | 22 | 59,044·6 | 351,867·3 | 77 | 22 | 52,545·9 | 300,116·7 |
| 77 | 23 | 51,309·0 | 292,822·7 | 78 | 23 | 45,276·7 | 247,570·8 |
| 78 | 24 | 44,201·6 | 241,513·7 | 79 | 24 | 38,652·3 | 202,294·1 |
| 79 | 25 | 37,726·8 | 197,312·1 | 80 | 25 | 32,671·2 | 163,641·8 |
| 80 | 26 | 31,882·5 | 159,585·3 | 81 | 26 | 27,324·8 | 130,970·6 |
| 81 | 27 | 26,659·9 | 127,702·8 | 82 | 27 | 22,597·2 | 103,645·8 |
| 82 | 28 | 22,043·0 | 101,042·9 | 83 | 28 | 18,464·9 | 81,048·6 |
| 83 | 29 | 18,008·6 | 78,999·9 | 84 | 29 | 14,897·5 | 62,583·7 |
| 84 | 30 | 14,526·6 | 60,991·3 | 85 | 30 | 11,858·3 | 47,686·2 |
| 85 | 31 | 11,560·8 | 46,464·7 | 86 | 31 | 9,305·30 | 35,827·85 |
| 86 | 32 | 9,070·09 | 34,903·90 | 87 | 32 | 7,192·55 | 26,522·55 |
| 87 | 33 | 7,009·35 | 25,833·81 | 88 | 33 | 5,471·57 | 19,330·00 |
| 88 | 34 | 5,331·13 | 18,824·46 | 89 | 34 | 4,093·00 | 13,858·43 |
| 89 | 35 | 3,987·11 | 13,493·33 | 90 | 35 | 3,008·02 | 9,765·43 |
| 90 | 36 | 2,929·57 | 9,506·22 | 91 | 36 | 2,169·85 | 6,757·41 |
| 91 | 37 | 2,112·80 | 6,576·65 | 92 | 37 | 1,534·89 | 4,587·56 |
| 92 | 38 | 1,494·19 | 4,463·85 | 93 | 38 | 1,063·65 | 3,052·67 |
| 93 | 39 | 1,035·19 | 2,969·66 | 94 | 39 | 721·371 | 1,989·024 |
| 94 | 40 | 701·898 | 1,934·465 | 95 | 40 | 478·314 | 1,267·653 |
| 95 | 41 | 465·280 | 1,232·567 | 96 | 41 | 309·743 | 789·339 |
| 96 | 42 | 301·220 | 767·287 | 97 | 42 | 195·685 | 479·596 |
| 97 | 43 | 190·246 | 466·067 | 98 | 43 | 120·476 | 283·911 |
| 98 | 44 | 117·091 | 275·821 | 99 | 44 | 72·1996 | 163·4351 |
| 99 | 45 | 70·1490 | 158·7298 | 100 | 45 | 42·0689 | 91·2355 |
| 100 | 46 | 40·8603 | 88·5808 | 101 | 46 | 23·8047 | 49·1666 |
| 101 | 47 | 23·1127 | 47·7205 | 102 | 47 | 13·0652 | 25·3619 |
| 102 | 48 | 12·6806 | 24·6078 | 103 | 48 | 6·9467 | 12·2967 |
| 103 | 49 | 6·7396 | 11·9272 | 104 | 49 | 3·5736 | 5·3500 |
| 104 | 50 | 3·4656 | 5·1876 | 105 | 50 | 1·7764 | 1·7764 |
| 105 | 51 | 1·7220 | 1·7220 |  |  |  |  |

## JOINT LIVES:—Two Females.

### Difference of Age 56 Years.

### Difference of Age 57* Years.

| Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ | Ages | | $D_{x,\,y}$ | $N_{x,\,y}$ |
|---|---|---|---|---|---|---|---|
| $x$ | $y$ | **Difference of Age 56 Years.** | | $x$ | $y$ | **Difference of Age 57* Years.** | |
| 56 | 0 | 442,041 | 4,338,383 | 57 | 0 | 425,824 | 4,075,066 |
| 57 | 1 | 363,055 | 3,896,342 | 58 | 1 | 349,219 | 3,649,242 |
| 58 | 2 | 322,790 | 3,533,287 | 59 | 2 | 309,995 | 3,300,023 |
| 59 | 3 | 294,640 | 3,210,497 | 60 | 3 | 282,474 | 2,990,028 |
| 60 | 4 | 271,600 | 2,915,857 | 61 | 4 | 259,895 | 2,707,554 |
| 61 | 5 | 251,554 | 2,644,257 | 62 | 5 | 240,214 | 2,447,659 |
| 62 | 6 | 233,548 | 2,392,703 | 63 | 6 | 222,511 | 2,207,445 |
| 63 | 7 | 216,933 | 2,159,155 | 64 | 7 | 206,163 | 1,984,934 |
| 64 | 8 | 201,294 | 1,942,222 | 65 | 8 | 190,769 | 1,778,771 |
| 65 | 9 | 186,525 | 1,740,928 | 66 | 9 | 176,231 | 1,588,002 |
| 66 | 10 | 172,496 | 1,554,403 | 67 | 10 | 162,427 | 1,411,771 |
| 67 | 11 | 159,108 | 1,381,907 | 68 | 11 | 149,264 | 1,249,344 |
| 68 | 12 | 146,287 | 1,222,799 | 69 | 12 | 136,678 | 1,100,080 |
| 69 | 13 | 133,985 | 1,076,512 | 70 | 13 | 124,627 | 963,402 |
| 70 | 14 | 122,176 | 942,527 | 71 | 14 | 113,090 | 838,775 |
| 71 | 15 | 110,848 | 820,351 | 72 | 15 | 102,061 | 725,685 |
| 72 | 16 | 100,006 | 709,503 | 73 | 16 | 91,547·6 | 623,623·9 |
| 73 | 17 | 89,663·4 | 609,497·2 | 74 | 17 | 81,567·5 | 532,076·3 |
| 74 | 18 | 79,844·2 | 519,833·8 | 75 | 18 | 72,144·3 | 450,508·8 |
| 75 | 19 | 70,575·2 | 439,989·6 | 76 | 19 | 63,304·3 | 378,364·5 |
| 76 | 20 | 61,885·0 | 369,414·4 | 77 | 20 | 55,073·8 | 315,060·2 |
| 77 | 21 | 53,801·1 | 307,529·4 | 78 | 21 | 47,475·8 | 259,986·4 |
| 78 | 22 | 46,368·2 | 253,728·3 | 79 | 22 | 40,546·9 | 212,510·6 |
| 79 | 23 | 39,592·4 | 207,360·1 | 80 | 23 | 34,286·8 | 171,963·7 |
| 80 | 24 | 33,472·7 | 167,767·7 | 81 | 24 | 28,687·7 | 137,676·9 |
| 81 | 25 | 28,000·7 | 134,295·0 | 82 | 25 | 23,733·6 | 108,989·2 |
| 82 | 26 | 23,160·7 | 106,294·3 | 83 | 26 | 19,401·1 | 85,255·6 |
| 83 | 27 | 18,929·0 | 83,133·6 | 84 | 27 | 15,658·9 | 65,854·5 |
| 84 | 28 | 15,274·9 | 64,204·6 | 85 | 28 | 12,469·2 | 50,195·6 |
| 85 | 29 | 12,161·1 | 48,929·7 | 86 | 29 | 9,788·46 | 37,726·39 |
| 86 | 30 | 9,544·75 | 36,768·62 | 87 | 30 | 7,568·95 | 27,937·93 |
| 87 | 31 | 7,379·07 | 27,223·87 | 88 | 31 | 5,760·18 | 20,368·98 |
| 88 | 32 | 5,614·58 | 19,844·80 | 89 | 32 | 4,310·62 | 14,608·80 |
| 89 | 33 | 4,200·82 | 14,230·22 | 90 | 33 | 3,169·26 | 10,298·18 |
| 90 | 34 | 3,087·91 | 10,029·40 | 91 | 34 | 2,287·12 | 7,128·92 |
| 91 | 35 | 2,227·96 | 6,941·49 | 92 | 35 | 1,618·55 | 4,841·80 |
| 92 | 36 | 1,576·34 | 4,713·53 | 93 | 36 | 1,122·13 | 3,223·25 |
| 93 | 37 | 1,092·62 | 3,137·19 | 94 | 37 | 761·391 | 2,101·123 |
| 94 | 38 | 741·200 | 2,044·569 | 95 | 38 | 505·096 | 1,339·732 |
| 95 | 39 | 491·584 | 1,303·369 | 96 | 39 | 327·255 | 834·636 |
| 96 | 40 | 318·420 | 811·785 | 97 | 40 | 206·859 | 507·381 |
| 97 | 41 | 201·222 | 493·365 | 98 | 41 | 127·427 | 300·522 |
| 98 | 42 | 123·920 | 292·143 | 99 | 42 | 76·4104 | 173·0950 |
| 99 | 43 | 74·2864 | 168·2227 | 100 | 43 | 44·5501 | 96·6846 |
| 100 | 44 | 43·2986 | 93·9363 | 101 | 44 | 25·2253 | 52·1345 |
| 101 | 45 | 24·5088 | 50·6377 | 102 | 45 | 13·8544 | 26·9092 |
| 102 | 46 | 13·4564 | 26·1289 | 103 | 46 | 7·3717 | 13·0548 |
| 103 | 47 | 7·1574 | 12·6725 | 104 | 47 | 3·7951 | 5·6831 |
| 104 | 48 | 3·6834 | 5·5151 | 105 | 48 | 1·8880 | 1·8880 |
| 105 | 49 | 1·8317 | 1·8317 | | | | |

* **Note.**—The Columns $D_{x,y}$ and $N_{x,y}$ for **Difference of Age 58 Years** are printed on page 601 ; and the corresponding Columns for **Difference of Age 59–105 Years** will be found by reading the Tables backwards from p. 600 to p. 554.

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